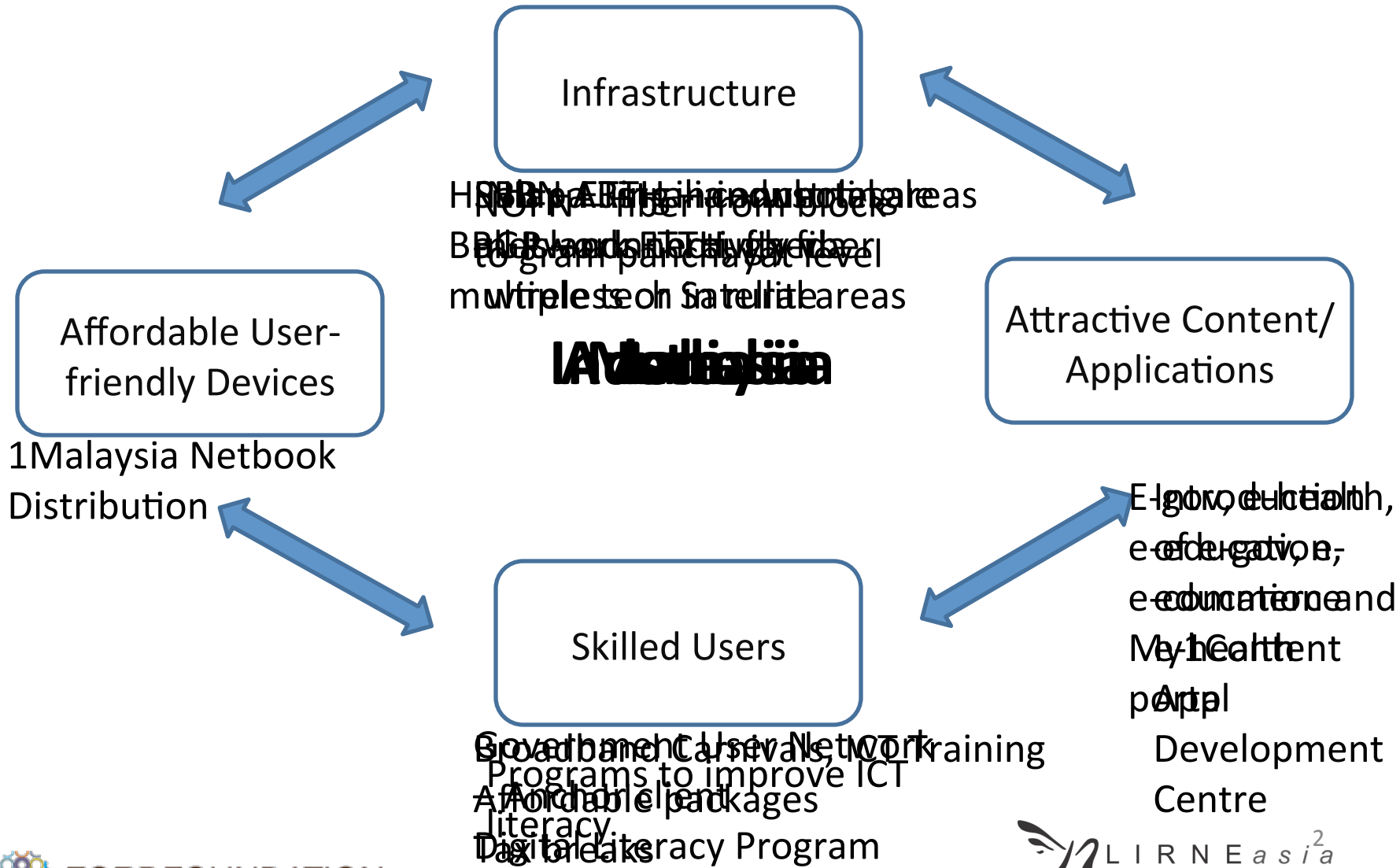# Comparative analysis of four Government Broadband Initiatives: India, Malaysia, Indonesia and Australia
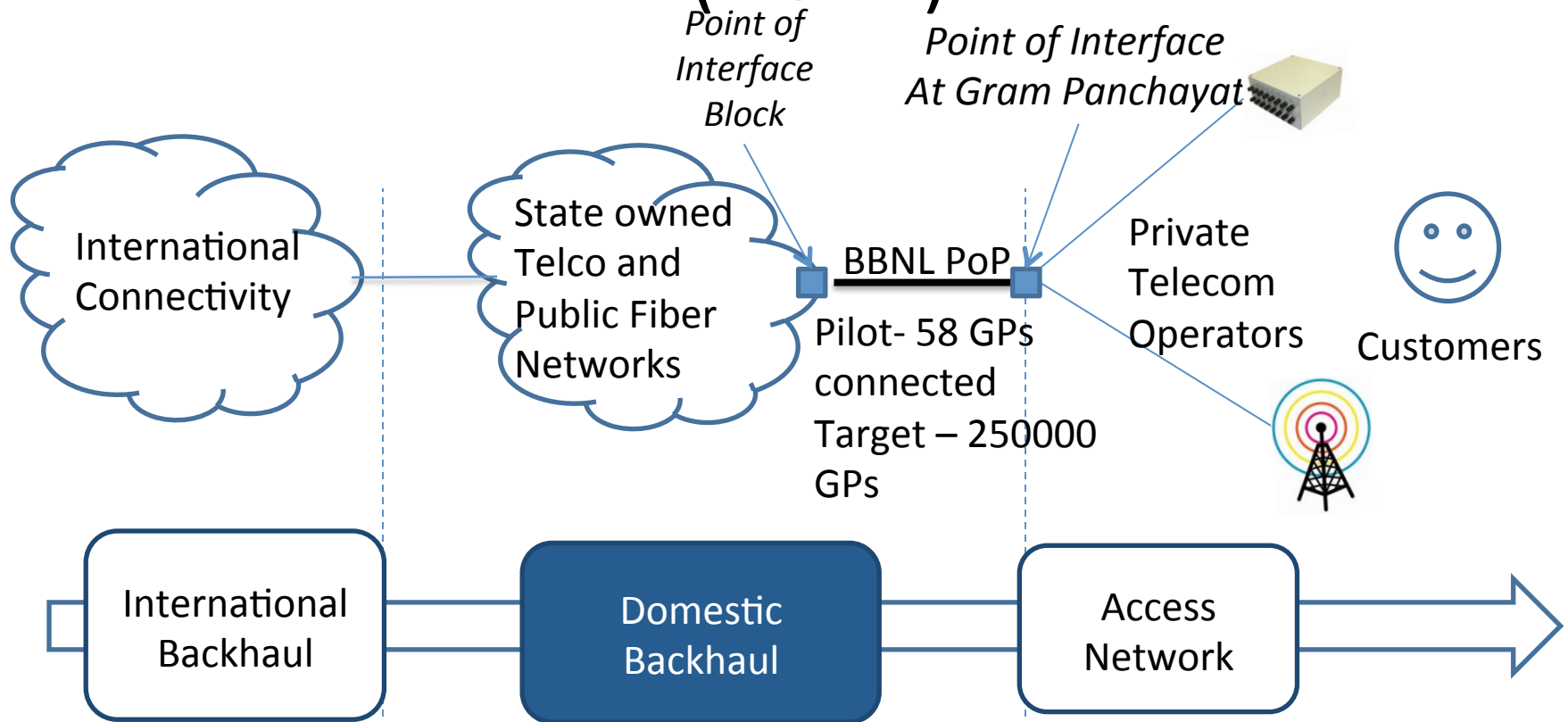
Rohan Samarajiva, Vigneswara Ilavarasan

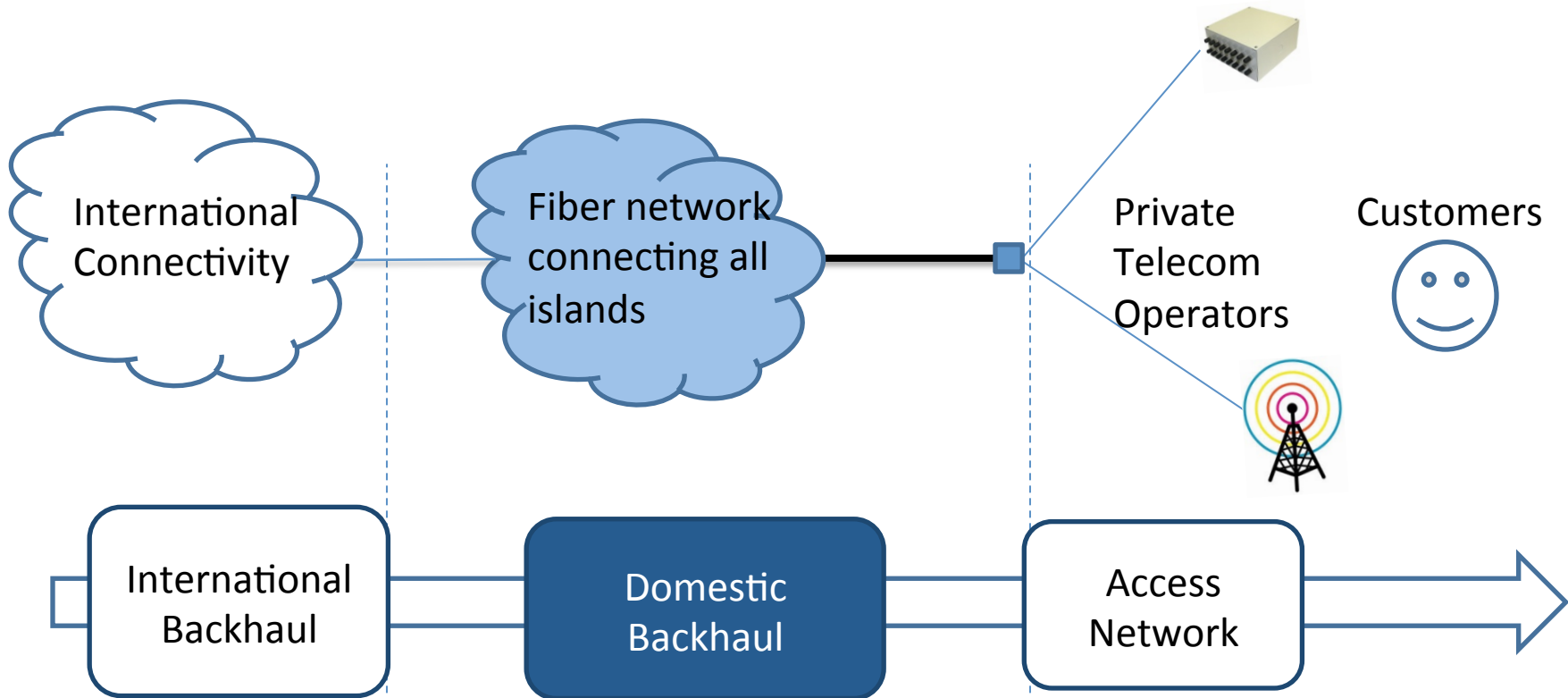Marawila, 25- 29 September, 2015

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Internet Ecosystem

Infrastructure

Affordable User-friendly Devices

Attractive Content/Applications

Skilled Users

1Malaysia Netbook Distribution

2

India – National Optical Fiber Network (NOFN)

Point of Interface Block

Point of Interface At Gram Panchayat

International Connectivity

State owned Telco and Public Fiber Networks

BBNL PoP

Pilot- 58 GPs connected Target – 250000 GPs

Private Telecom Operators

Customers

| International Backhaul | Domestic Backhaul | Access Network |

Implemented by BBNL – SPV (BSNL, Railtel, PowerGrid), wholesale bandwidth provider. Costing 4.6 B USD. Digital India Cost – 18 B USD.
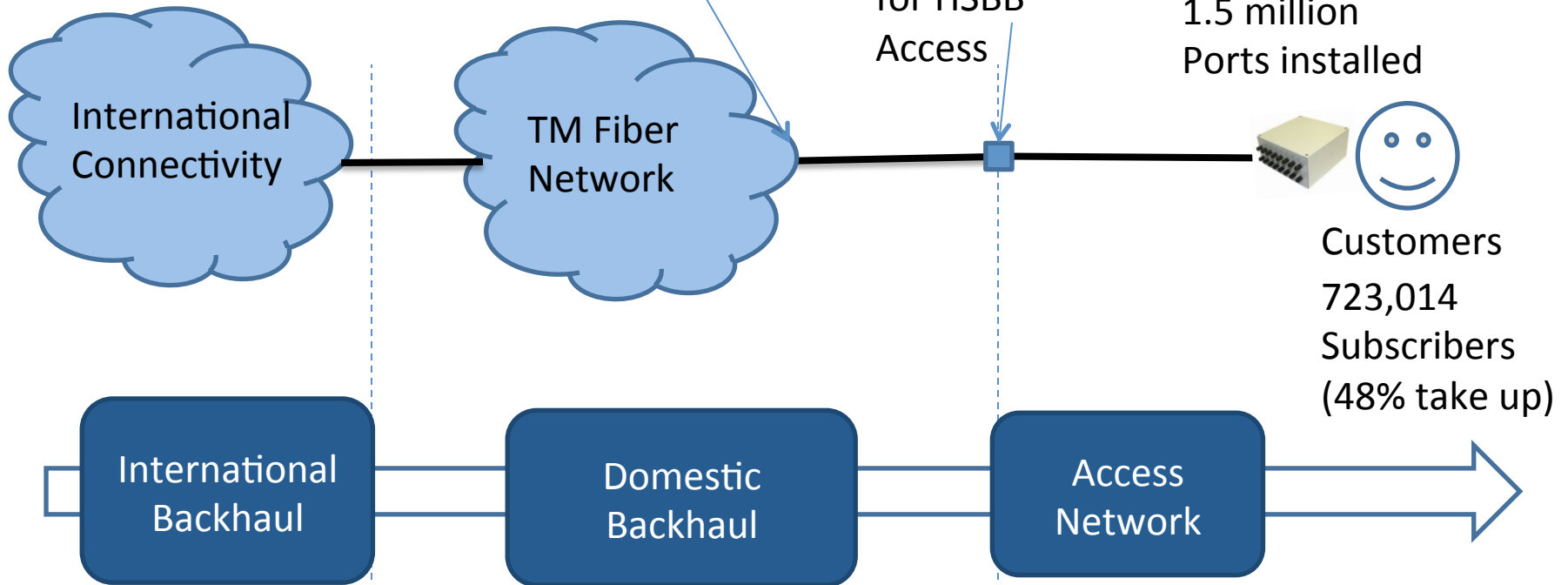
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Indonesia – Palapa Ring

International Connectivity

Fiber network connecting all islands

Private Telecom Operators

Customers

International Backhaul

Domestic Backhaul

Access Network

446 cities implemented by PT Telekom, incumbent. 51 in least commercial cities to be implemented through government subsidized auctions. Estimated cost 1B USD.

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Malaysia – High Speed Broadband Network (HSBB)
as at April 2014

1.74Tbps total
International
BW Capacity
(from 682Gbps)

25 Operators for
HSBB Transmission

5 Operators
for HSBB
Access

1.5 million
Ports installed

International Connectivity

TM Fiber Network

Customers
723,014
Subscribers
(48% take up)

International Backhaul

Domestic Backhaul

Access Network

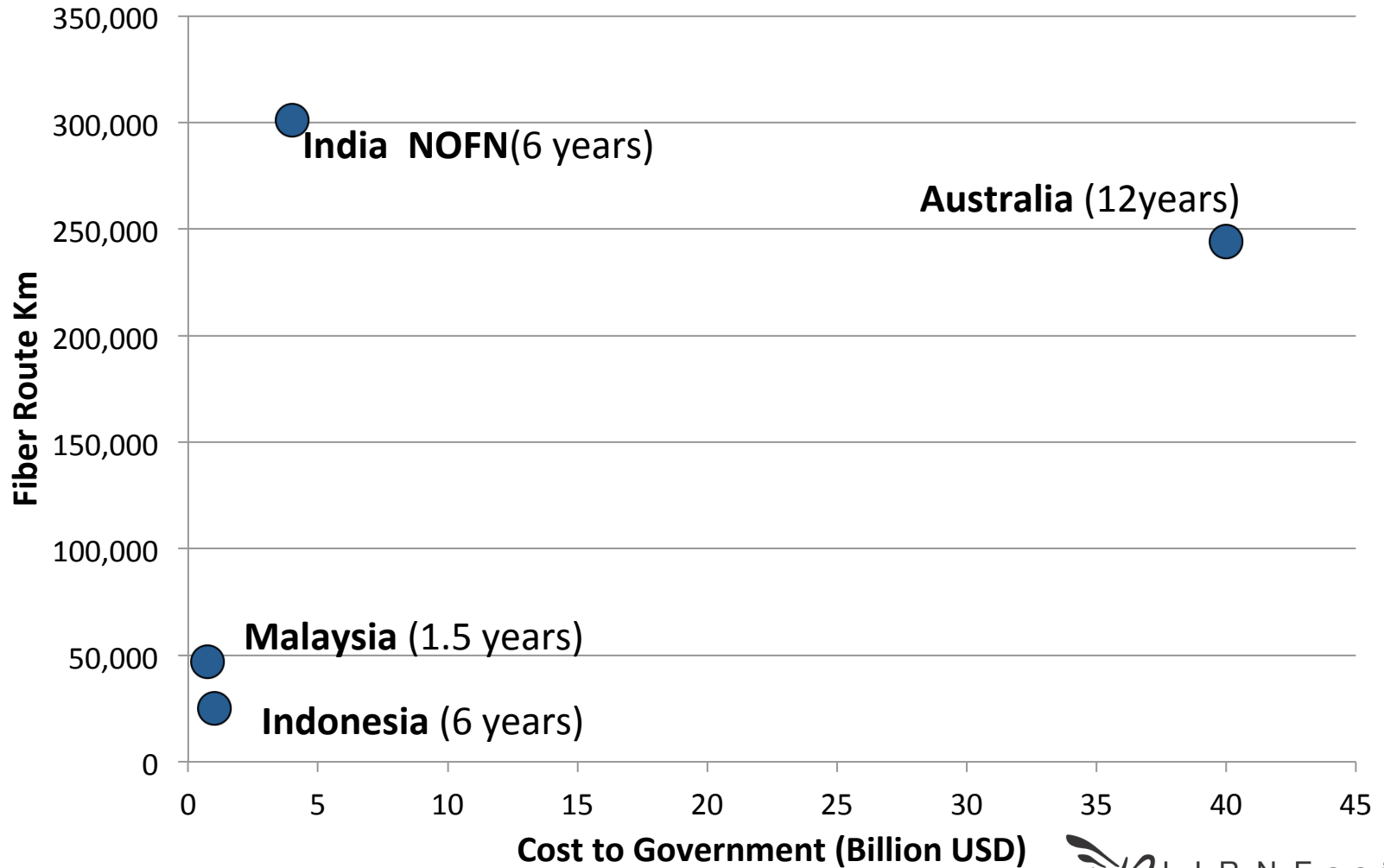Implemented by Telekom Malaysia, as a PPP with Gov. Total cost 3.5B USD, out of which Gov spent 0.75B. Conditions to access network commercially negotiated Broadband for General Population – subsidizes BB in rural areas using USP

Australia – National Broadband Network (NBN)
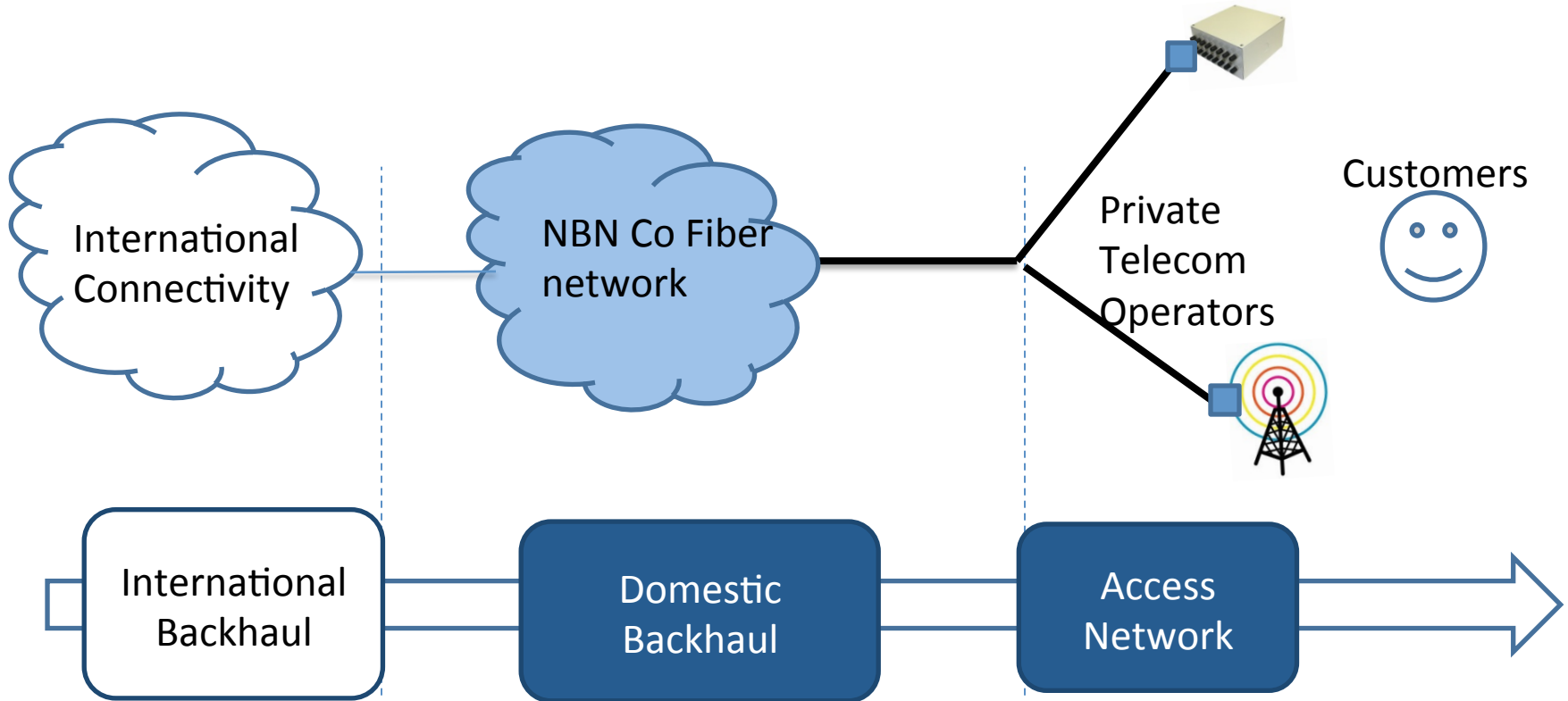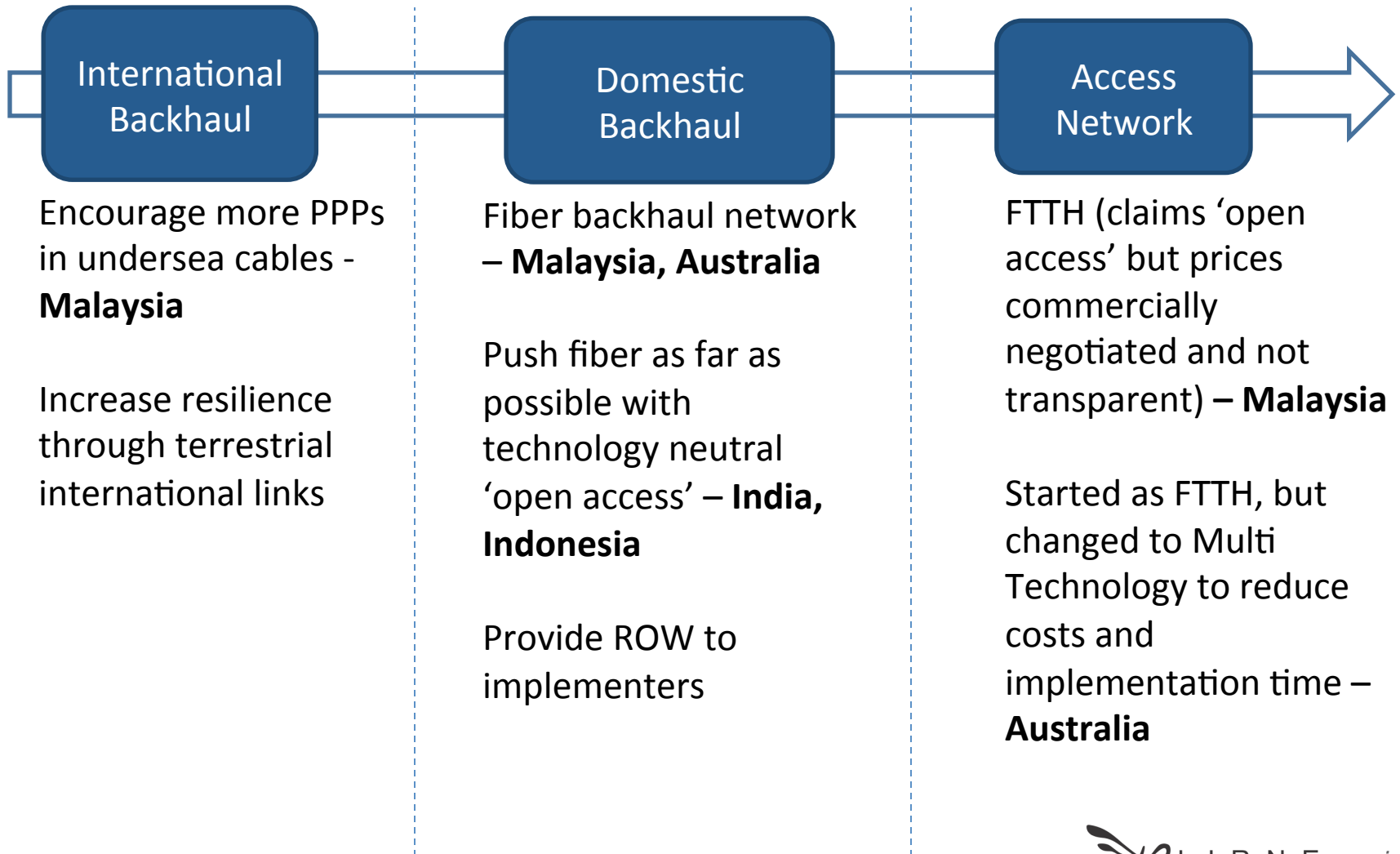

Implemented by NBN Co (wholesale-only SPV, providing retail telecom SPs with access). Estimated cost 40B USD. Was planned as FTTH initially in 2009 but after Gov changed from Labor to Coalition, in 2013, multi technology approach favored. Companies Act and Access Act in place to ensure transparent and non discriminatory process.

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Cost vs Fiber deployed

Chart: X-axis "Cost to Government (Billion USD)" ranging from 0 to 45. Y-axis "Fiber Route Km" ranging from 0 to 350,000.

- India NOFN (6 years): approximately 4 Billion USD, ~301,000 Fiber Route Km
- Australia (12 years): approximately 40 Billion USD, ~244,000 Fiber Route Km
- Malaysia (1.5 years): approximately 0.7 Billion USD, ~48,000 Fiber Route Km
- Indonesia (6 years): approximately 1 Billion USD, ~25,000 Fiber Route Km

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Comparison of Gov Initiatives

International Backhaul → **Domestic Backhaul** → **Access Network** →

Encourage more PPPs in undersea cables - **Malaysia**

Increase resilience through terrestrial international links

Fiber backhaul network – **Malaysia, Australia**

Push fiber as far as possible with technology neutral 'open access' – **India, Indonesia**

Provide ROW to implementers

FTTH (claims 'open access' but prices commercially negotiated and not transparent) – **Malaysia**

Started as FTTH, but changed to Multi Technology to reduce costs and implementation time – **Australia**

	Cost to Gov. (USD Bil.)	Implementation Entity	Scope of Project	Open Access?	Timely implementation
India	4.6	BSNL SPV	Connectivity from Block to 250,000 GP 301,000 km fiber	Conditions being discussed, Tariff on web	Delayed (2016)
Malaysia	0.75	TM (selected with no tender process, other operators not considered) PPP	FTTH in high industrial areas only 46,986 km fiber	No transparent conditions or pricing, but other operators have signed up	Completed on time (2010)
Australia	40	NBN Co Wholesale only SPV	Connectivity of whole country through FTTH, fixed wireless and satellite 255,000 km fiber	Clear legislation on non discriminatory open access and transparent pricing	Delayed (2019)
Indonesia	1	PT Telekom (other operators not considered)	Connectivity of Eastern non commercial cities 25,000 km fiber	Conditions have not been agreed	Delayed (2015)

Conclusion

- Mobile Vs fixed BB negotiations & aspirations
- Willingness to pay for high-speed BB -> marginal
- Need for demand-side stimulation
  - including, training, awareness campaigns, affordable user-friendly devices and attractive local language content.
- Technology neutrality & longevity?
- Open transparent tender process when selecting implementer
- Open access to fiber backhaul network with transparent, non-discriminatory conditions and pricing.

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Useful Reading

- Analysys Mason. (2010). *Deployment models and required investments for developing rural broadband infrastructure in India.* Gurgaon: Analysys Mason.

- KPMG and CII. (2013). *Creating viable business models for inclusive growth through the National Optical Fiber Network,* New Delhi: Confederation of Indian Industries.

- Kelly, T and Rossotto, C. M. (Eds). (2010). *Broadband strategies handbook.* Washington: The World Bank.

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Q?