

Digital Thailand

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Dr John Ure

Director, TPRC Pte Ltd (Singapore)
Associate Professor and Director
Technology Research Project (TRP)
Social Science Research Centre
University of Hong Kong

<http://www.trpc.biz>

The challenge of going digital

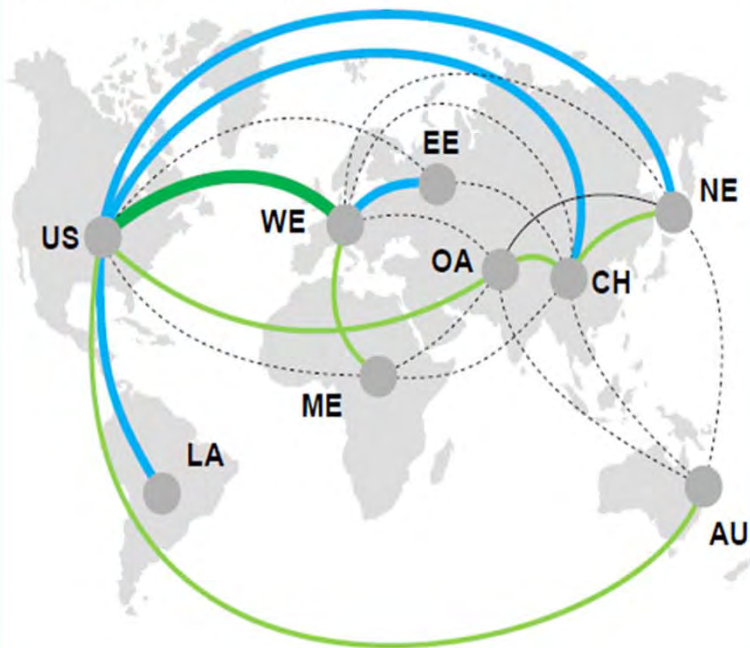
1. We live in a world digital economy
2. ASEAN has 2 challenges
 - To bridge the digital divided within and between AMS
 - Shift gears from an Internet economy to a digital economy and society
3. Masterplans and national plans cannot be successful without *interconnectivity* (economies of scale) and interoperability of platforms and apps (economies of scope)

Growing global data and comms traffic

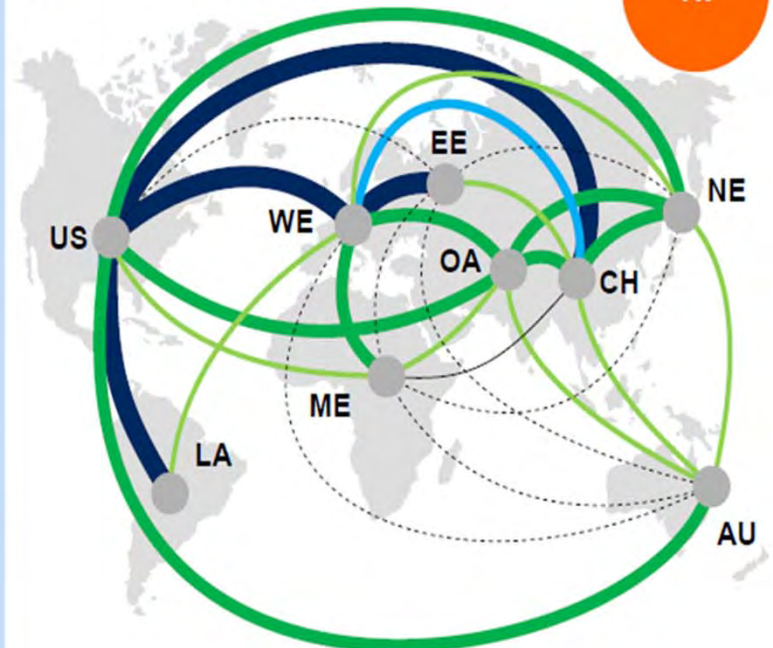
Data and communication flows (total cross-border bandwidth)

Bandwidth Mbps - - - - <50,000 — 50,000–100,000 — 100,000–500,000 — 500,000–1 million — 1 million–5 million — >5 million

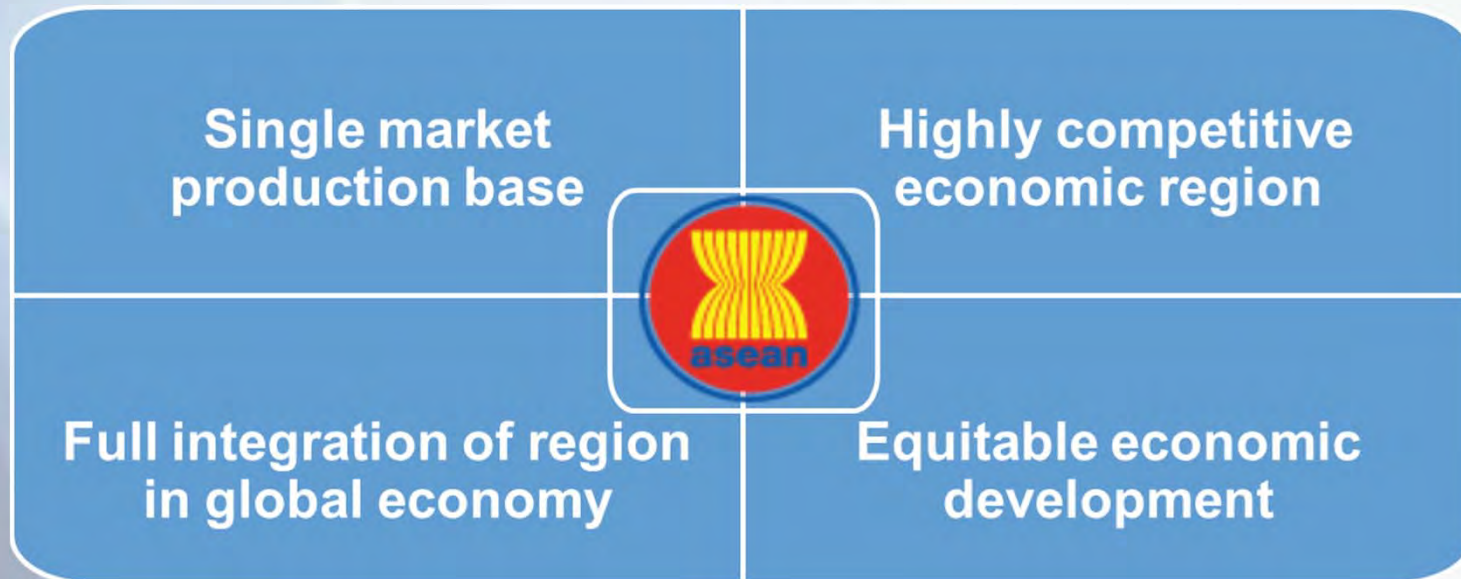
2008
100% = 29 million Mbps



2013
100% = 201 million Mbps

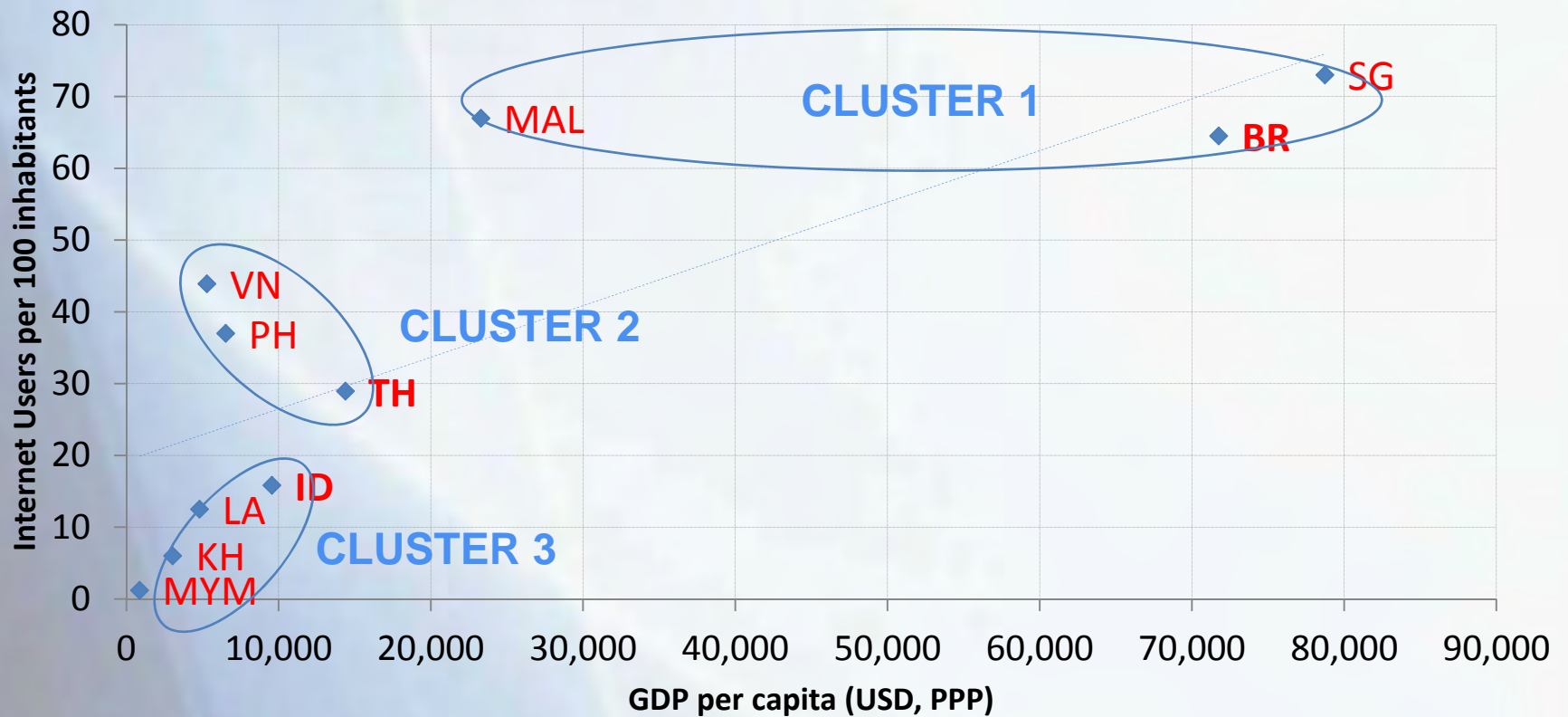


ASEAN Economic Community (AEC)



***Connectivity**, encompassing physical, economic, human and digital arenas - is a critical requirement for ASEAN to remain competitive and for the AEC to succeed.*

Level of economic development is only part of the answer.



ASEAN divides into 3 distinct clusters with large gaps in between.

International bandwidth supply affects wholesale prices and national coverage.

Country	International Capacity per capita (kbps)	Fixed BB coverage	Mobile Wireless BB
Singapore	258.3	★★★★★	★★★★★
Malaysia	15.6	★★★	★★★★
Thailand	6.62	★★★	★★★★
Philippines	5.45	★★	★★★
Vietnam	5.15	★★★	★★★
Indonesia	1.03	★★	★★★
Cambodia	0.76	★★	★★
Lao PDR	0.38	★	★★
Myanmar	0.29	★	★
Brunei	n/a	★★★★	★★★

Market conditions for IXPs and ISPs matter.

**High Internet Transit
Traffic Cost**
(USD per Mbps per month)

SG	< \$10
MY	\$25-30
VT	\$70
ID	> \$100 ~ \$60/70
PH	\$80
TH	\$80
KH	\$100
LA	\$100
MM	> \$100
BR	N/A

**Lack of (perceived) demand + Limited supply
+ Non-competitive market conditions for IXPs**

Lack of carrier-neutral IXPs

**Unfavorable bi-lateral peering arrangement
for non-incumbents**

**Higher cost, latency in Internet
speed, quality of service issues**

The resulting affordability varies greatly

<i>Country</i>	<i>Fixed-BB monthly subscription (USD/ Mbps)</i>	<i>As % of GDP per capita</i>	<i>Affordability</i>
Singapore	\$1.7	0.04%	Affordable
Thailand	\$1.3	0.30%	Affordable
Brunei	\$52	1.60%	Moderate
Indonesia	\$6.3	2.20%	Moderate
Malaysia	\$28	3.20%	Moderate
Philippines	\$11.7	5.10%	Moderate
Laos PDF	\$35	25.50%	Expensive
Cambodia	\$35	41.70%	Expensive
Myanmar	\$100	138.20%	Unaffordable

Note: Broadband commission recommends the upper limit of 5% for communication expenditure as a % of GDP per capita (PPP)

Leading to a digitally integrated economy and society



- Internet = stand-alone vertical
- Economies of *scale*

- Internet = universal platform
- Economies of *scope*

The role of the government is to facilitate advancement of an Internet economy with the vision to instill interoperability in order to usher in the digital economy

Successful transition requires a few building blocks...

1



WIDESPREAD
USE AND
PENETRATION
OF MOBILE

2



UBIQUITOUS
INTERNET
ACCESS

3



INTEROPERABLE
MOBILE AND
E-PAYMENT
SYSTEMS

4



OPEN ONLINE
MARKETPLACES

5



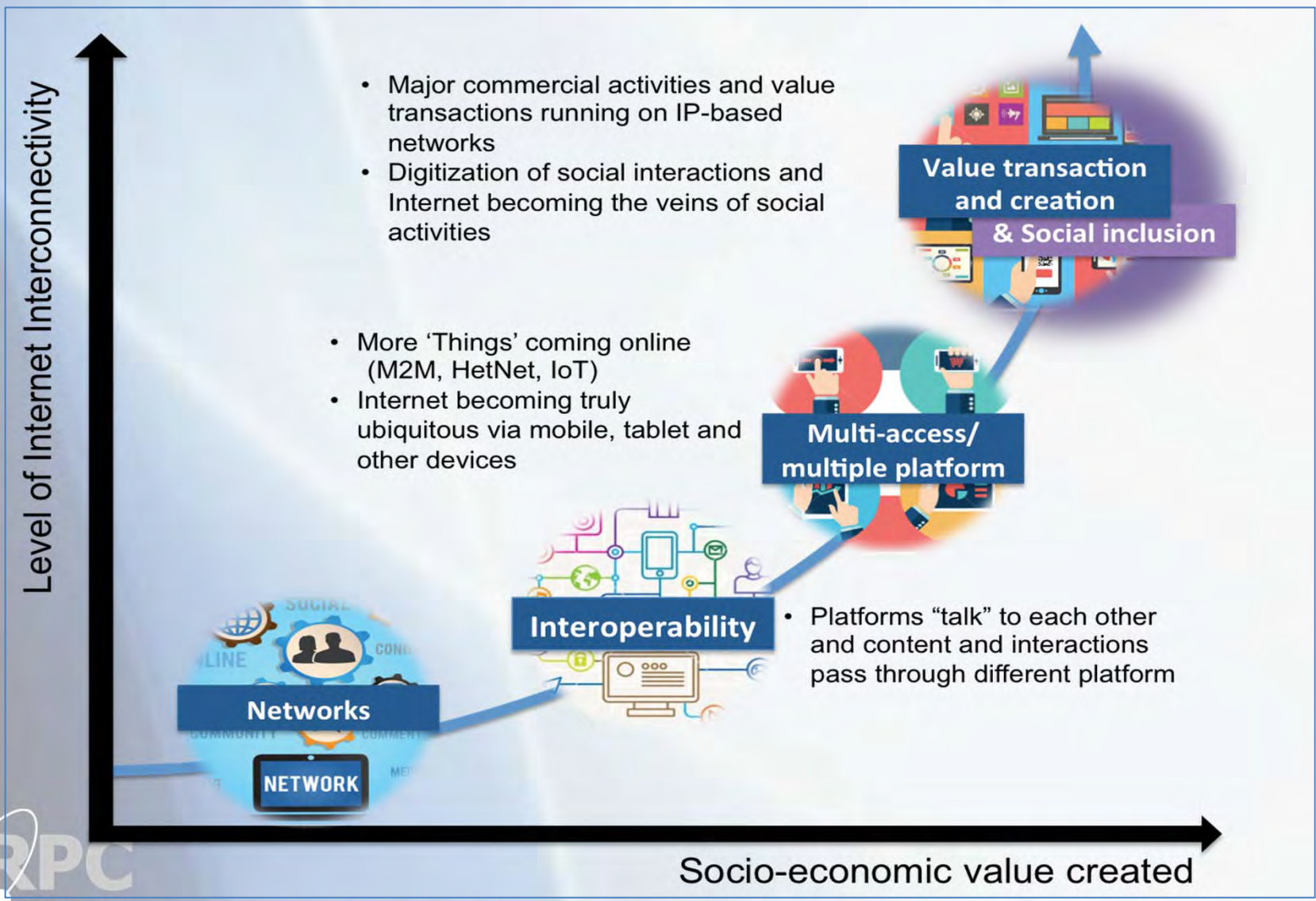
CONDUCTIVE
BUSINESS
ENVIRONMENT

6



TRANSPARENT
AND ENABLING
POLICIES AND
REGULATION

Interconnectivity and the Digital Economy



Digital Society

- **Interconnected Health:** opportunities to improve patient records, patient care, patient monitoring; remote services, etc.
 - ❑ e-Health falling short by lack of **network inter-connection** between doctors, clinics, patients, etc; lack of **inter-operability of systems**
- **Education:** ASEAN ICT Masterplan 2015 commitments to promote ICT for education, including curricula development; **Massive Open Online Courses (MOOCs)** are one emerging platform, but need transferability
 - ❑ Challenges include **basic connectivity**, cost of connection, **bandwidth availability**, cost of maintenance

Reference

ISOC/TRPC (2014) *Unleashing the Potential of the Internet for ASEAN Economies*

Thank You