



S. ASEAN International Advocacy & Consultancy

Industry Summit, Promoting Digital Indonesia

Socio-economic Benefits of the Digital Transition and Key challenges

Thursday 6 February 2020, Jakarta



Industry Summit

Promoting Digital Indonesia

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Axiata Group Berhad**



**The role of 4G and 5G in
supporting digital
transformation**



The role of 4G and 5G in supporting Digital Transformation

Digital Indonesia: Socio-economic benefits of the Digital Transition and key challenges

Jakarta, 6th Feb 2020

One of the largest telco groups in ASEAN & South Asia



Digital Telco

- celcom
- Smart
- XL axiata
- Ncell
- robi
- Dialog

Digital Businesses

- boost
- ada
- apigate

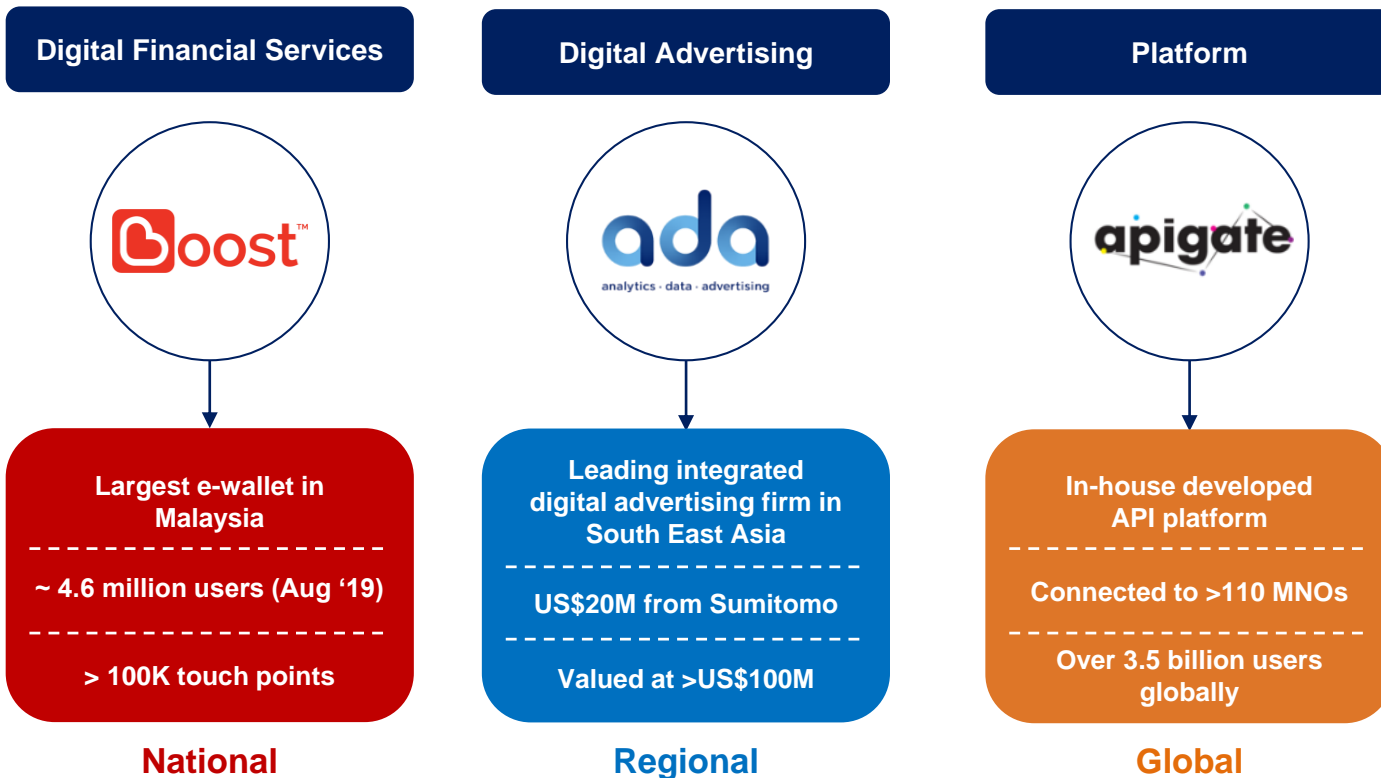
Infrastructure

- eco

2018 RESULTS

REVENUE	RM 23.9 billion
NPATAMI	RM 1.0 billion
CUSTOMERS	~150 million (ex-
EMPLOYEES	~12,000
COUNTRIES	10

Like many global telcos, Axiata expanded into digital businesses to find new sources of growth



Moving past mobile payments → micro-financing services

Digital Financial Services



Online micro credit facility
AI powered smart credit rating
~ 7,100 merchant financing
RM315m disbursed
~40% finance are new to credit

National

Financial Inclusion: Powered by Aspirasi



>1M
SME reach
across ASEAN

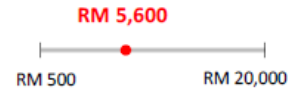
RM 31M
disbursed in
loans

1ST time
credit experience for
40% of our merchants

RANGE OF PRODUCTS

- ✓ Working Capital
- ✓ Invoice Financing
- ✓ Supply Chain Financing
- ✓ Micro-Insurance

AVERAGE LOAN SIZE



OUR PARTNERS



100% digital
experience
via app



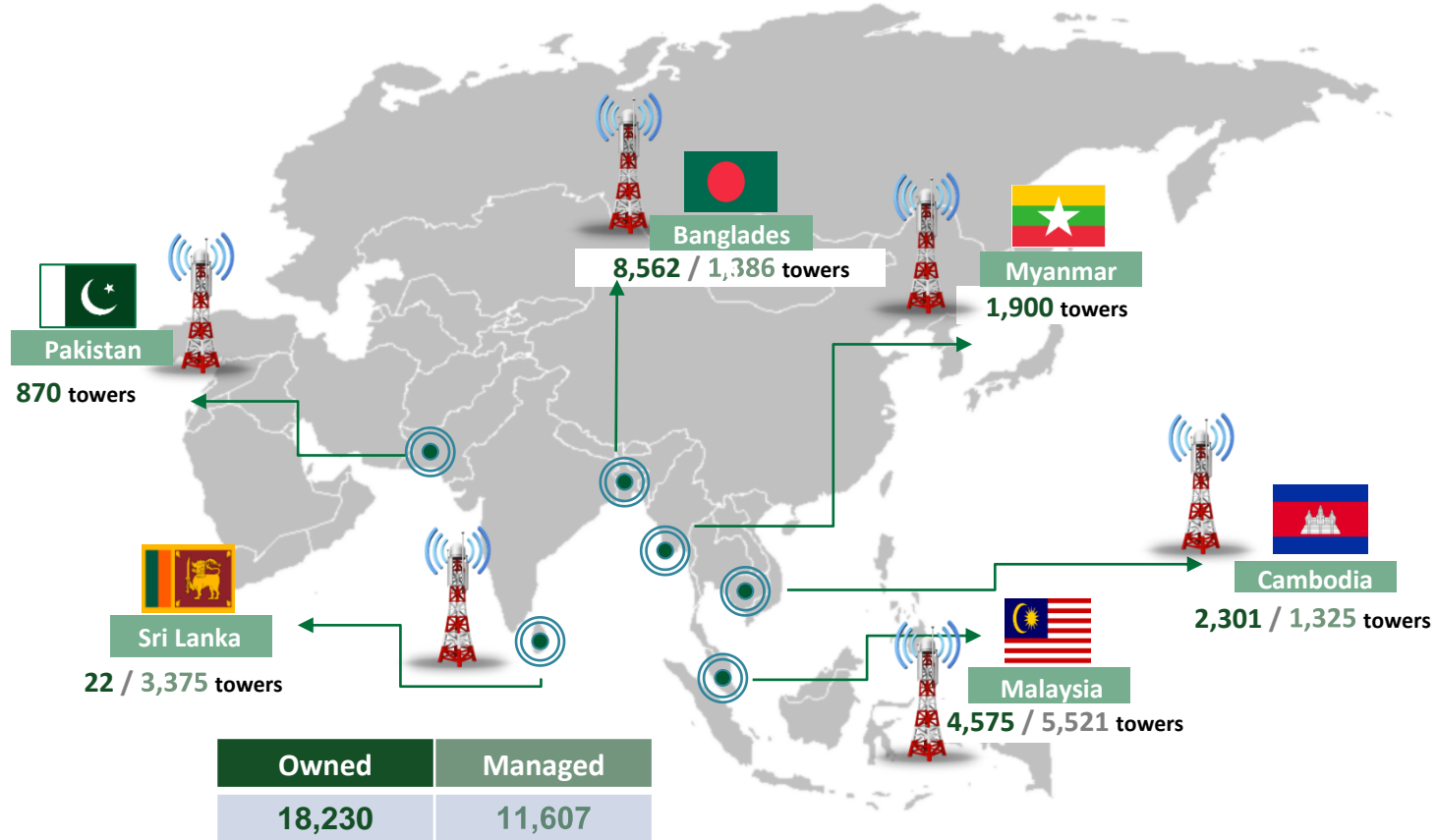
Journey in
less than
3 minutes



A.I.-driven
smart credit
rating

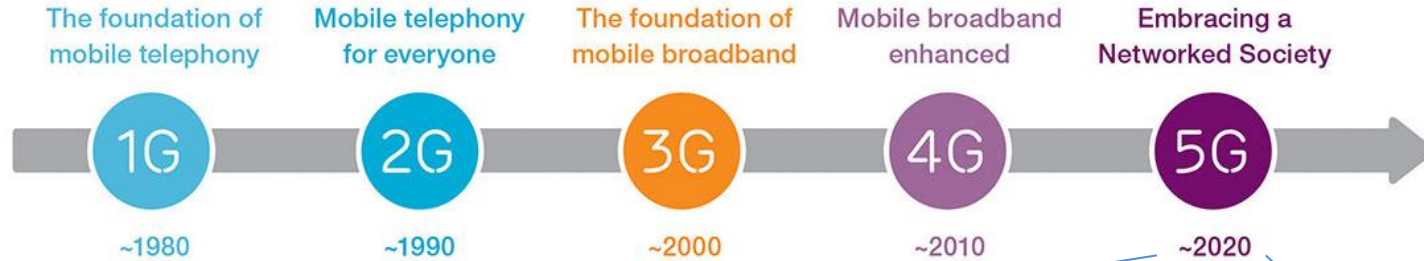
AXIATA
DIGITAL
10

Edotco – As a regional independent tower infrastructure provider, it is able to modernize and bring innovation to an established sub-sector



In mobile, the technology investment cycles are approximately every 10+ years. We are in the cusps of the 5G cycle with many ASEAN countries expecting 5G commercial launches in 2020

Wireless access generations



Enhanced Mobile Broadband

Multi-Gbps data rates
3D video, UHD, AR/VR

Ultra-reliable Communications

Sub-1ms latency, very high availability and reliability
Autonomous vehicles, mobile healthcare, Industry automation

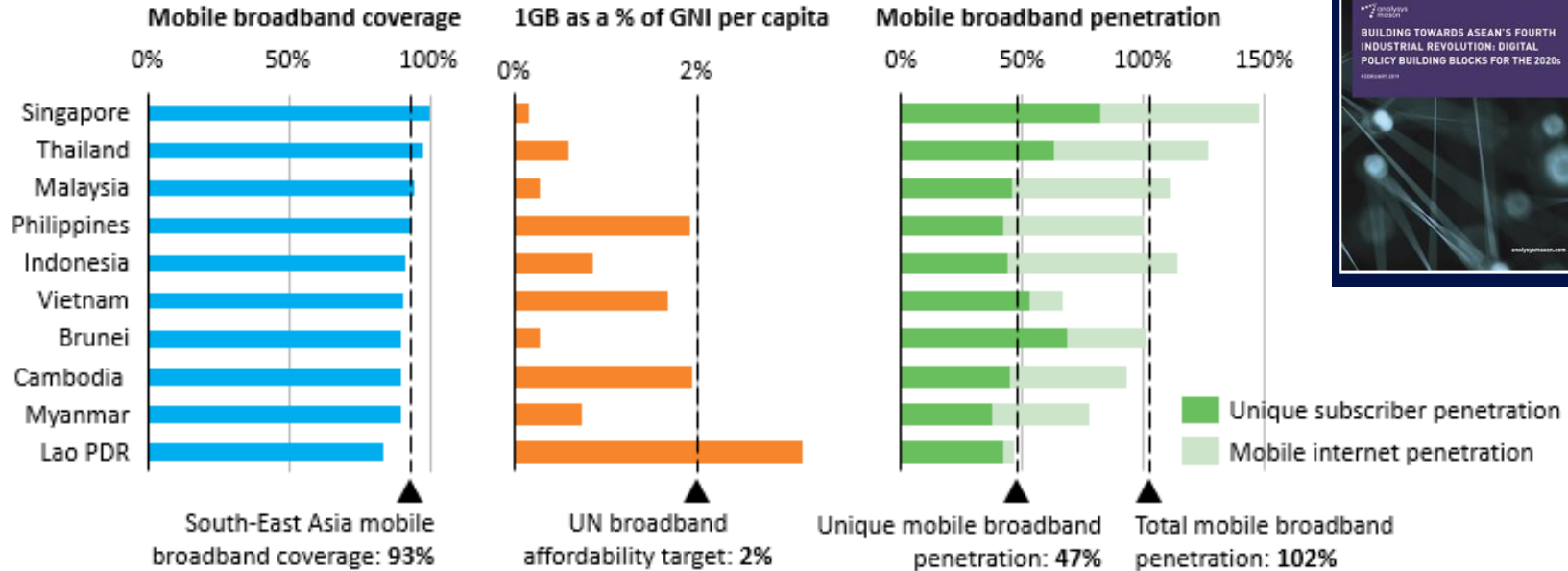
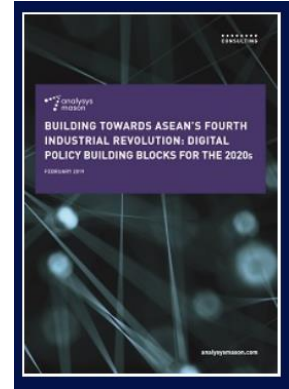
Massive Machine Type Comms

Low cost IoT connections, long battery life, wide coverage
Smart homes, smart cities

Source: Ericsson, ITU



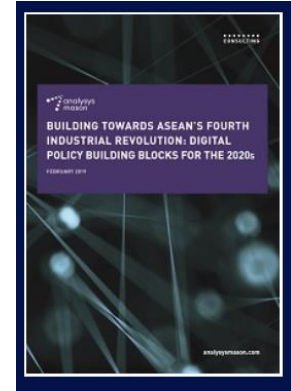
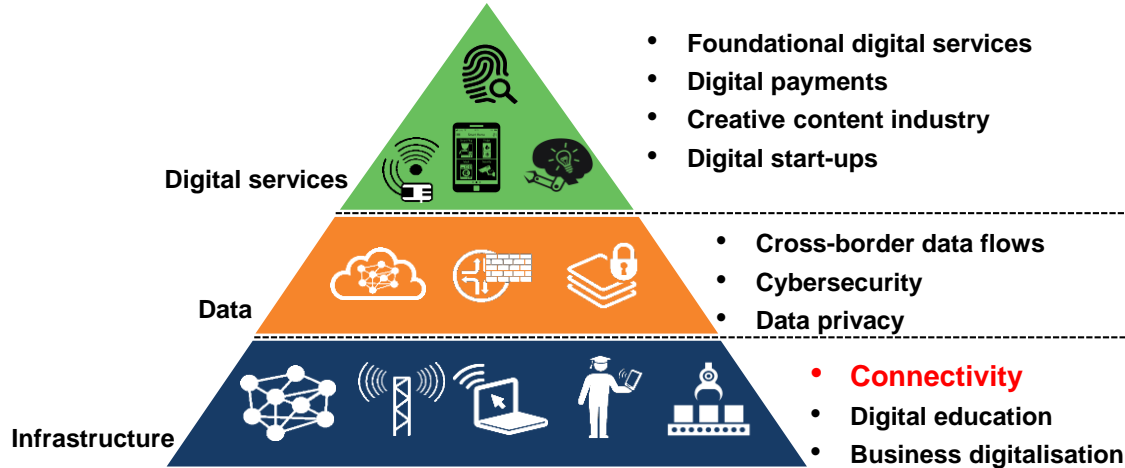
In ASEAN, mobile broadband delivered by 3G and 4G is adequate in terms of availability and pricing offers



Source: GSMA, EIU, operator websites, Analysys Mason analysis

Harnessing ASEAN's potential and building towards the 4th IR requires effective policies across the full breadth of the digital economy supported by good connectivity infrastructure

Three layers of the digital economy



The three layers are interdependent on one another in creating a truly digital economy:

Infrastructure is necessary to bring new users online; digital services creates demand; data flows allow the digital services to maximise the use of the infrastructure



5G is expected to be a water-shed technology for various industries and verticals...

Enabling technology characteristics		Data characteristics						Service			Intelligence				
		Rich-content (non-text, images etc)	3 rd party content	Structured	High volume	Near real-time	Remote	Speed of transmission	Decision support sys.	Monitoring sys.	Feedback loop sys.	Blockchain	Robotic	Drone	Autonomous
Agriculture	• Smart farming														
Banking & Finance	• Digital banking • Trading • Inclusive Insurance														
Healthcare	• Healthcare delivery														
Education	• Digital learning														
Manufacturing & Process Industries	• Production efficiency • Engineering solutions														
Oil & Gas	• Operation efficiency														
Retail & Services	• Experiential retail														
Smart City	• Public surveillance														
Transportation	• Seamless mobility														

Key:  Significance of 5G i.e. 5G improves the efficiency & performance of respective technology characteristics

... with expected uplift to GDP, powering key economic activities

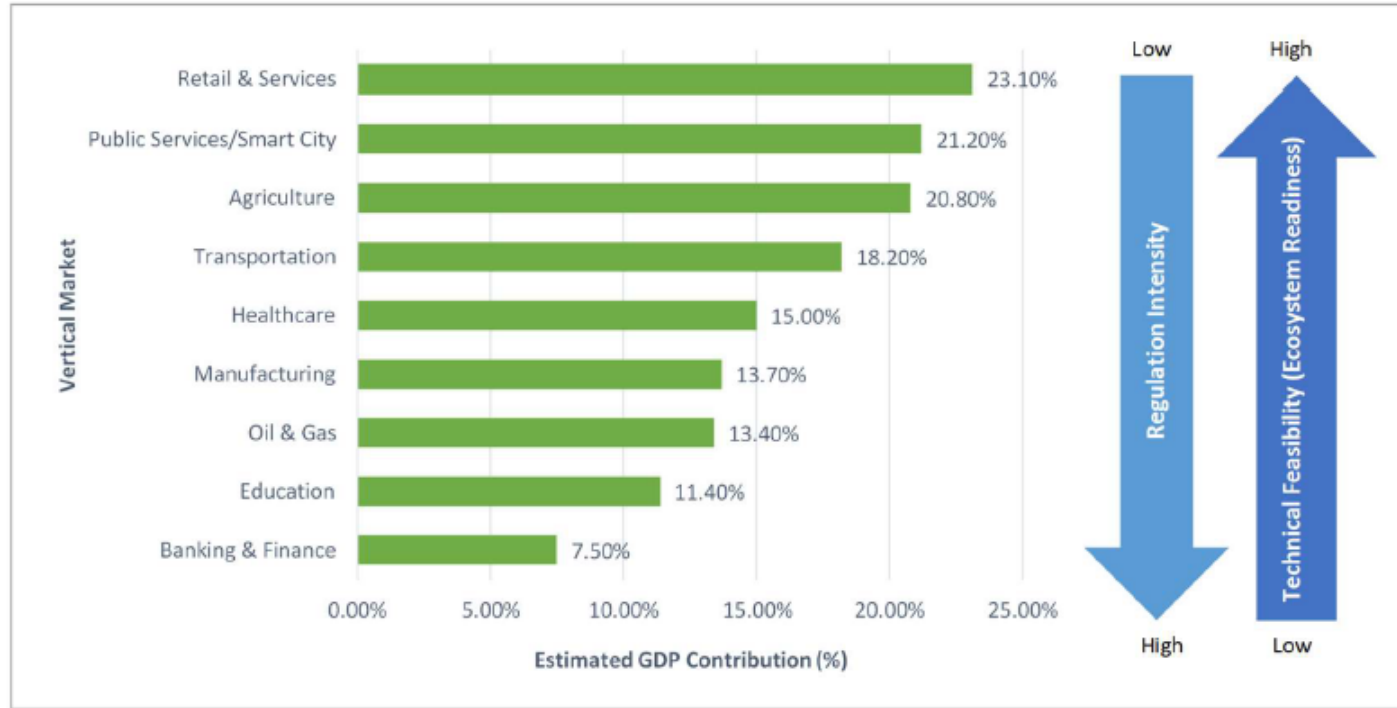


Figure 2.6: Projection of 5G's GDP contribution in 2025 by vertical market; Source: 5G Task Force

Source: Malaysian 5G Task Force Report, Dec 2019

Current and upcoming regulatory issues we think are important

Spectrum for 4G LTE

- Key 700MHz band is critical for rural coverage: **Full 2x45MHz + active infrasharing = >95%** population coverage and throughputs **1.5X-2X** from today

Spectrum for 5G

- Auctions in Europe and North Asia: many 3.5GHz and some mmWave
- Situation in South-east Asia with C-Band looks difficult but some countries are making bold decisions

Sustainability of the sector is important

- Market structure weaknesses in the 4G world will be amplified in 5G as very much heavy capex expected whilst 4G networks are still being built.
- M&A rules and long-term sustainable competitive dynamics need

Facilitation of Local Authorities to enable 5G Small Cells

- MNOs will need to install small cells on street lamps, billboards, buildings.
- Local Authorities will need to be more facilitative, common planning procedures and framework, lower cost of permits/site and simplify application process

Fiber backhaul

- Fiber infrastructure is needed to connect every 5G small cells: Access to ducts, poles and manholes, vibrant wholesale fiber market



Thank You

