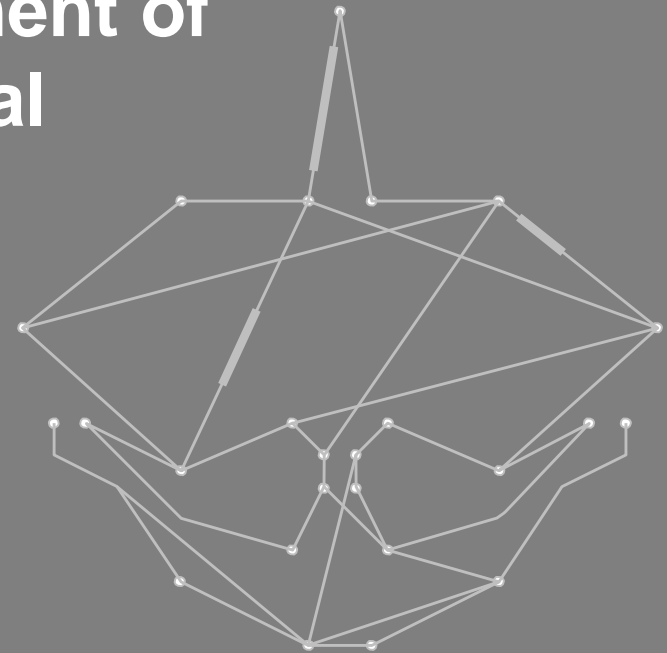
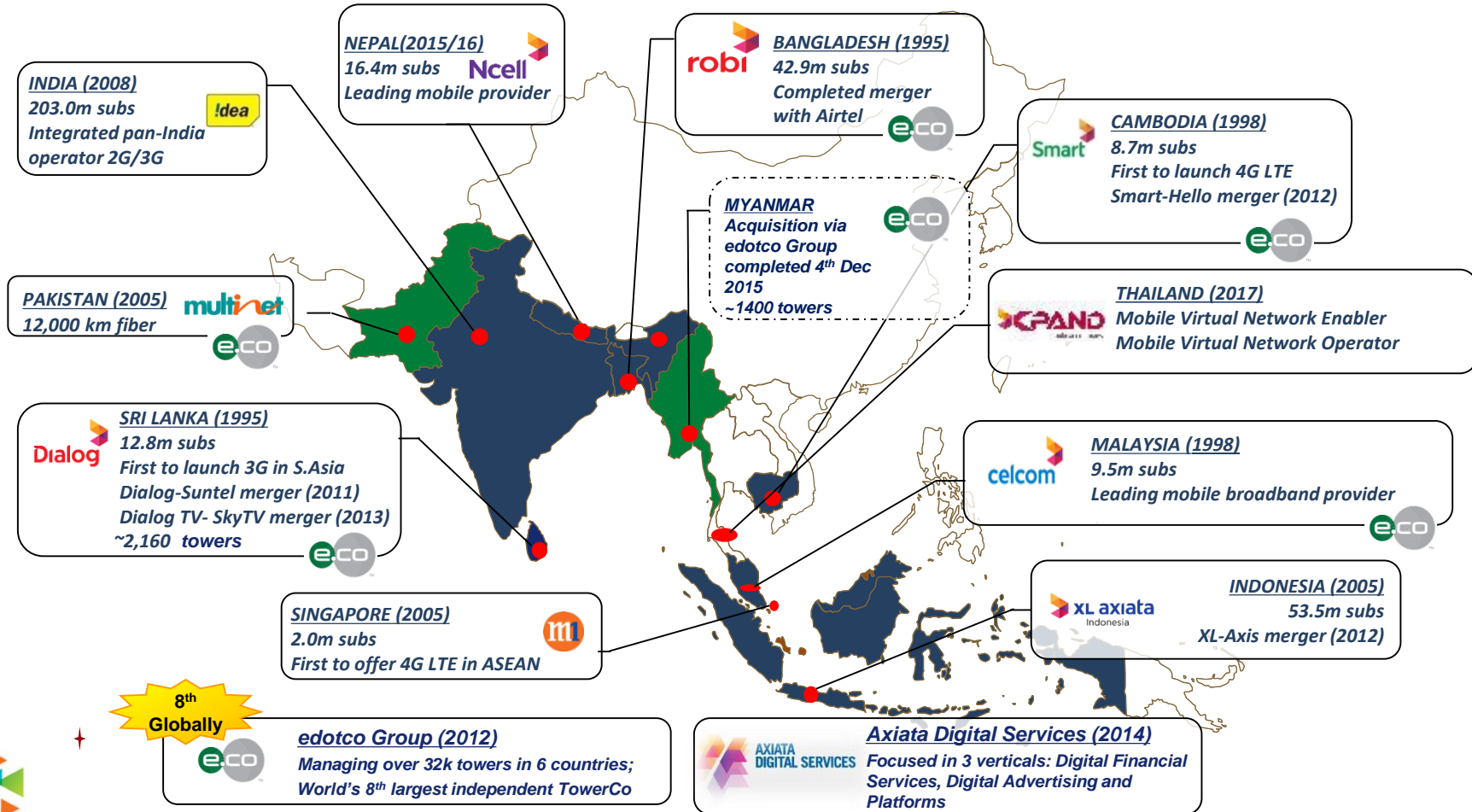


Session 4: Fostering development of infrastructure to enhance digital connectivity

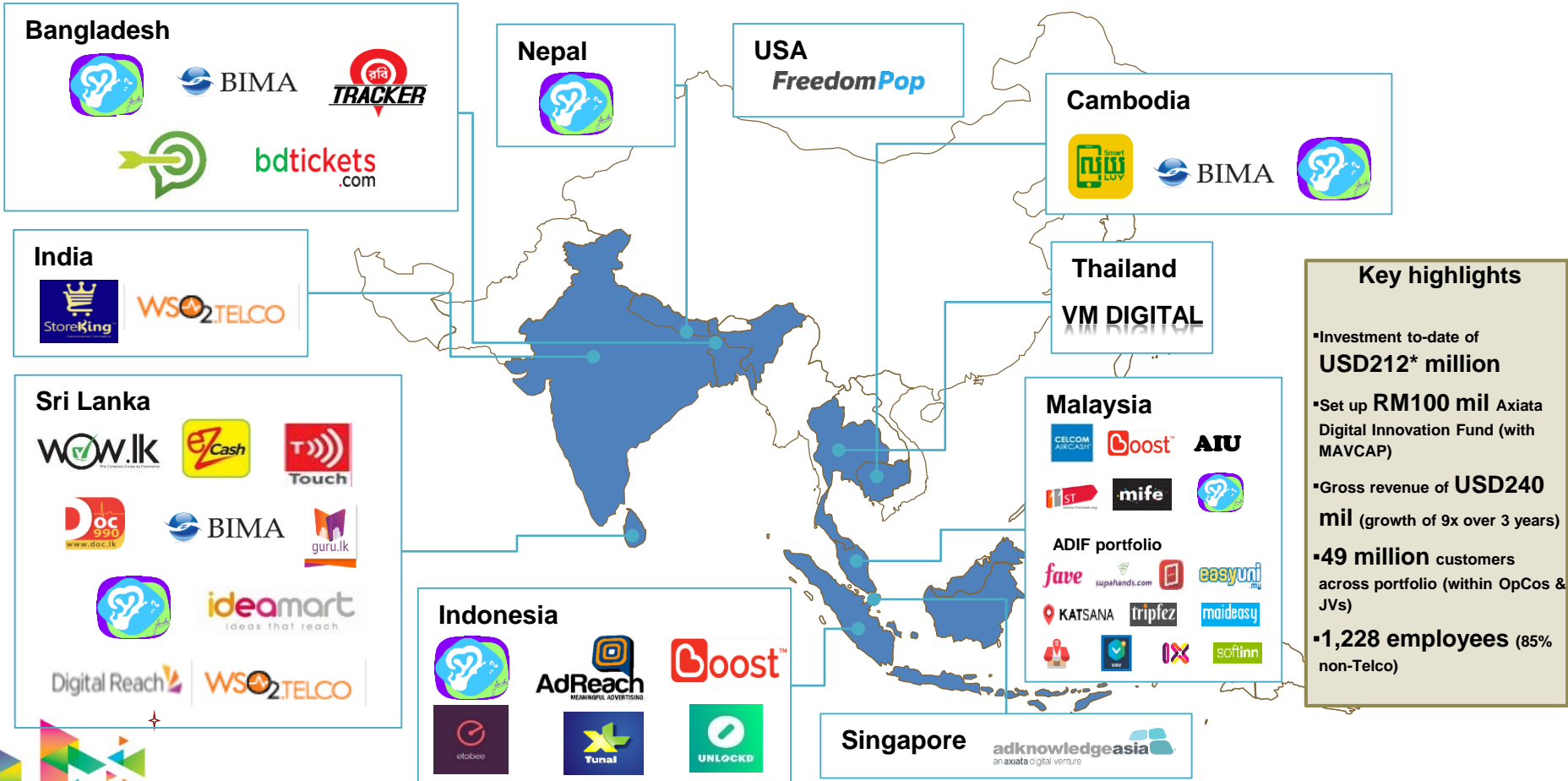
ITU Asia-Pacific Regional Development
Forum 2018
21-22 May 2018



At end 2017, Axiata is one of the largest telecom operator in South Asia & ASEAN, with approx. 350 million customers & 25,000 staff in 11 countries...



We Now Have 29 Digital Companies Across 10 Countries And 7 Digital Verticals With An Investment To-date Of ~ USD212* Million Since Inception In 2014



Key highlights

- Investment to-date of **USD212* million**
- Set up **RM100 mil** Axiata Digital Innovation Fund (with MAVCAP)
- Gross revenue of **USD240 mil** (growth of 9x over 3 years)
- **49 million** customers across portfolio (within OpCos & JVs)
- **1,228 employees** (85% non-Telco)

Note: *Includes External Investments and Internal CAPEX for digital businesses

Axiata is a **long-term investor** and a **major economic contributor** in ASEAN and South Asia

A Long-Term Investor

in countries where we operate

A total of **USD 34.8 billion** invested in our Operating Companies since 2008 (CAPEX & OPEX)

BANGLADESH
USD 4.4 billion
CAPEX & OPEX since 2008
USD 730 million CAPEX & OPEX : 0.5% of Country GDP

SRI LANKA
USD 3.7 billion
CAPEX & OPEX since 2008
USD 567 million CAPEX & OPEX : 1.0% of Country GDP

NEPAL
USD 258 million
CAPEX & OPEX
3.2% of Country GDP

CAMBODIA
USD 1.0 billion
CAPEX & OPEX since 2008
USD 207 million CAPEX & OPEX : 1.6% of Country GDP

MALAYSIA
USD 12.8 billion
CAPEX & OPEX since 2008
USD 1.3 billion CAPEX & OPEX : 0.5% of Country GDP

INDONESIA
USD 12.6 billion
CAPEX & OPEX since 2008
USD 1.5 billion CAPEX & OPEX : 0.3% of Country GDP

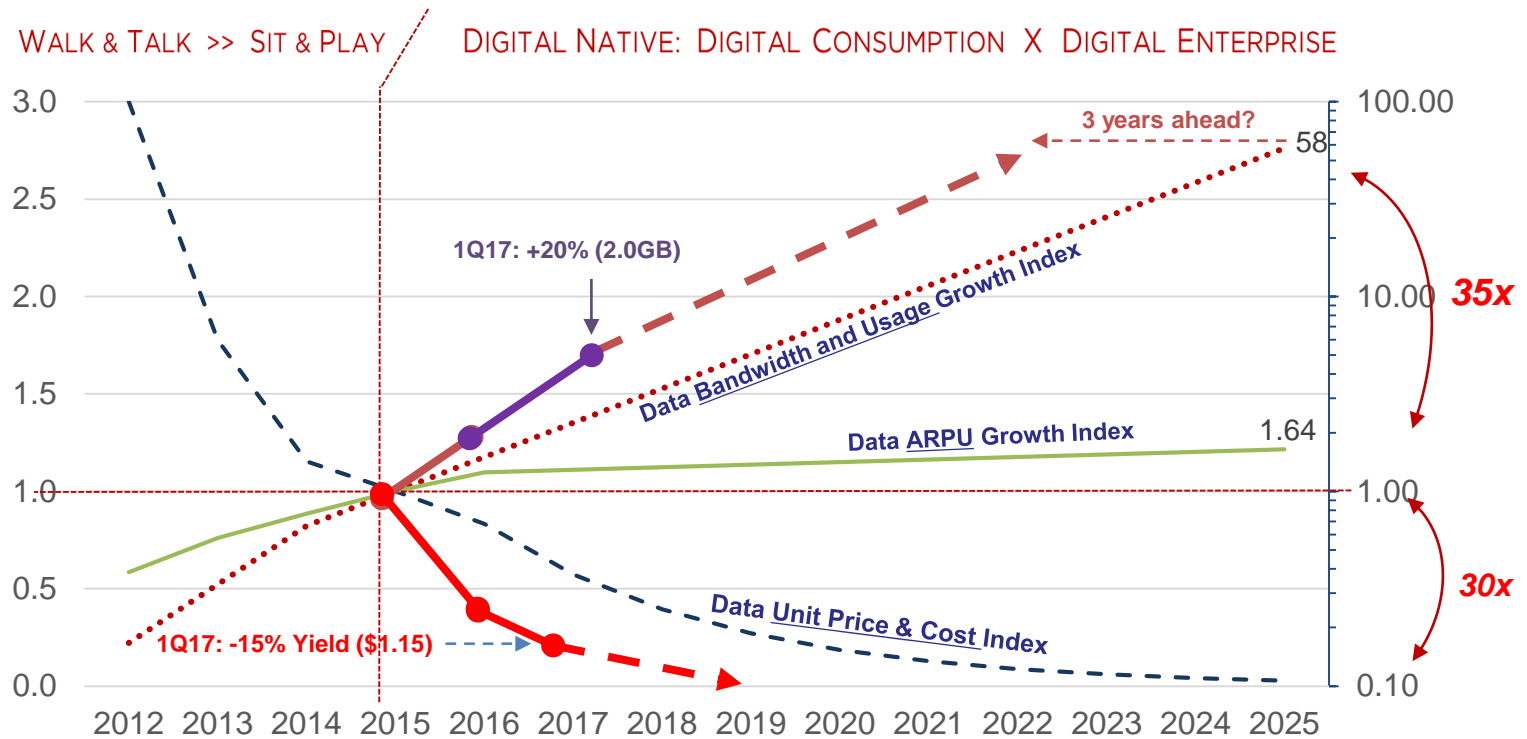
Presence In **11** Countries across ASEAN and South Asia

More than **20** years of investment in Malaysia, Bangladesh, Cambodia and Sri Lanka

More than **10** years of investment in Indonesia

1.2 million jobs supported across Asia

Over 2016-17 average data usage has risen faster, and Data Yield has fallen faster than we had forecast in early 2016...



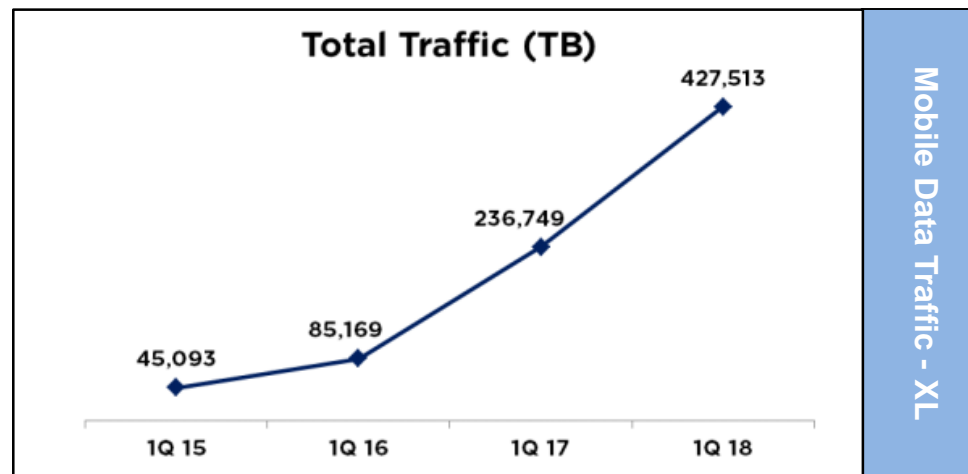
Notes: Applies Nielsen's Bandwidth Law driven by AR/VR, UHD, 5G and IoT; Data Pricing and ARPU analysed using Malaysia operator data 2012-15



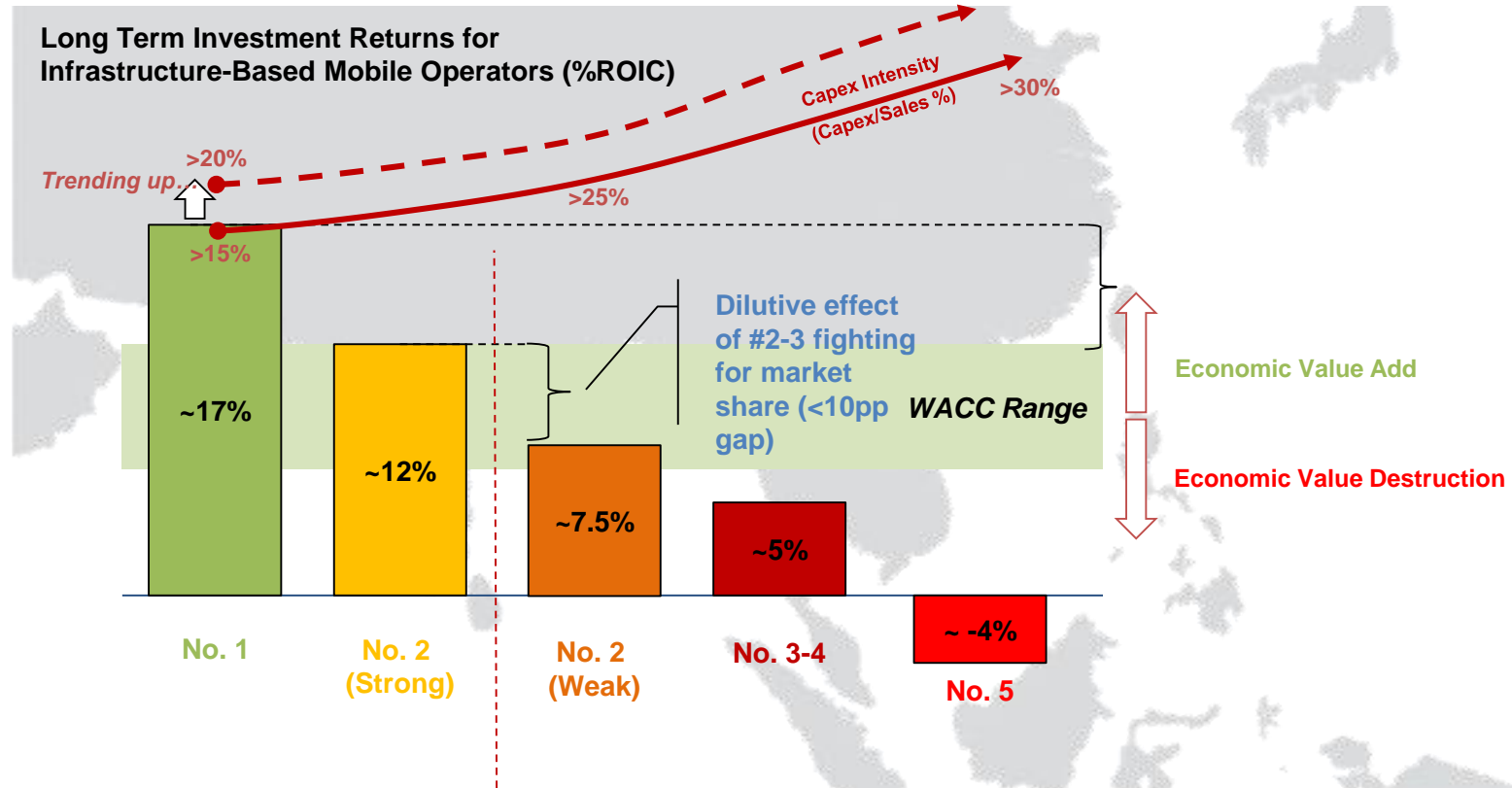
...and we don't see any slowdown coming with mobile usage now topping 5 hours per day, and most consumption to be video.

Product	Data Use / Hour	Monthly Quota @ 1 hour per day
Web Browser	60MB	At least 2GB
Facebook	80MB	At least 3GB
Music Streaming	150MB	At least 5GB
Snapchat	160MB	At least 5GB
Facebook Video	160MB	At least 5GB
YouTube	300MB	At least 10GB
Netflix/iflix	250MB	At least 10GB
Suggested Quota (5 hours per day)		~40GB / month

Average MB/user/ month	Malaysia	Indonesia	Bangladesh
2013	617	160	-
2014	1,077	398	108
2015	1,690	740	222
2016	3,604	1,726	491
2017	6,548	2,531	636



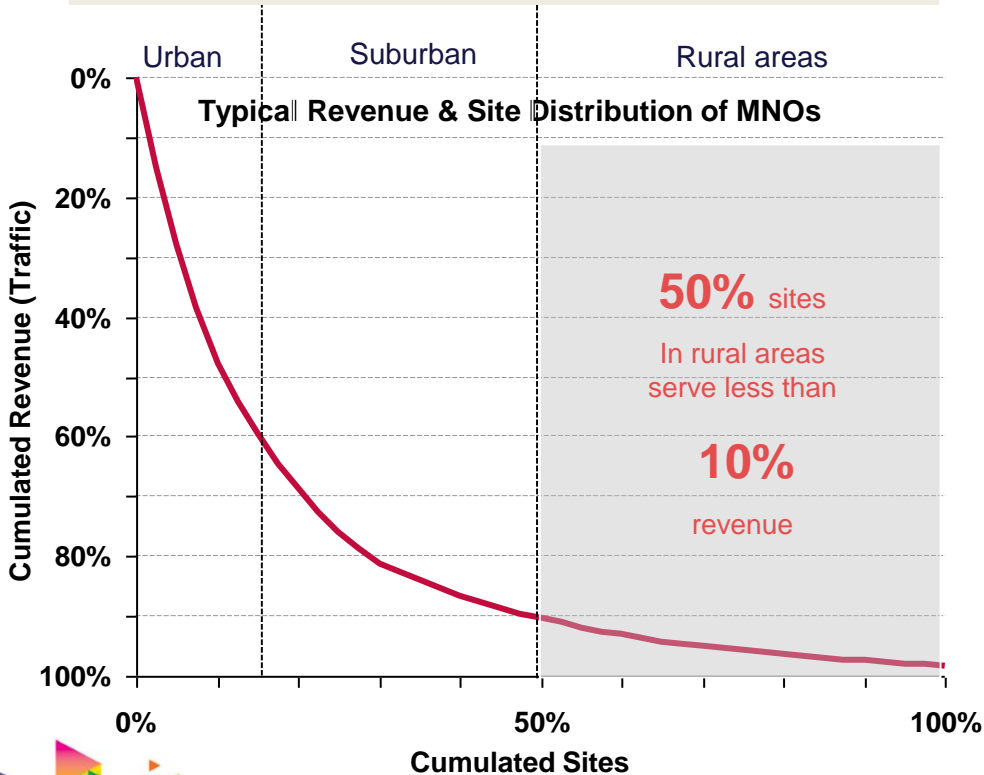
In the New Data Reality, network & industry economics strongly favor a 2-3 player market only



Source: AT&Kearney – based on a global survey of 54 operators over past 3 years using Bloomberg, GSMA and operator data and Axiata Group Strategy Analysis

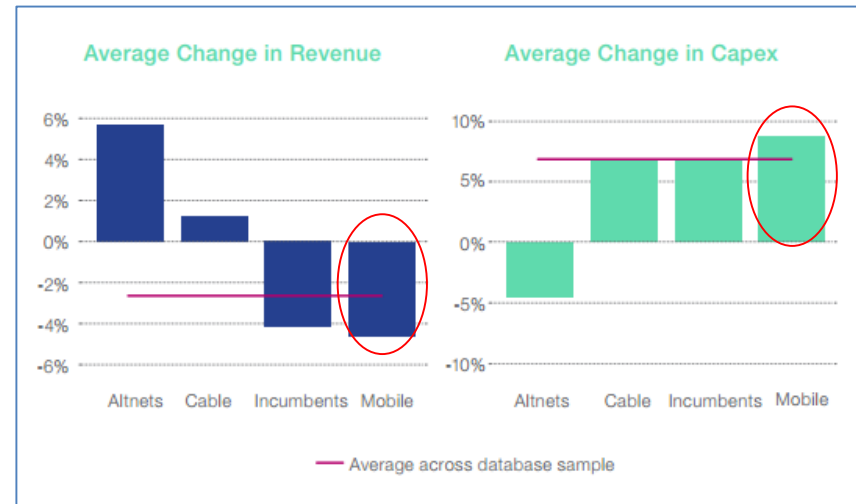
Today's economics of operating today's mobile network is very challenging

Business case for infrastructure investment in rural areas become unviable



Source: Annual reports, Axiata, Technoeconomyblog.com

In Europe: Revenues for Mobile Operators declining yet capex commitments remain highest



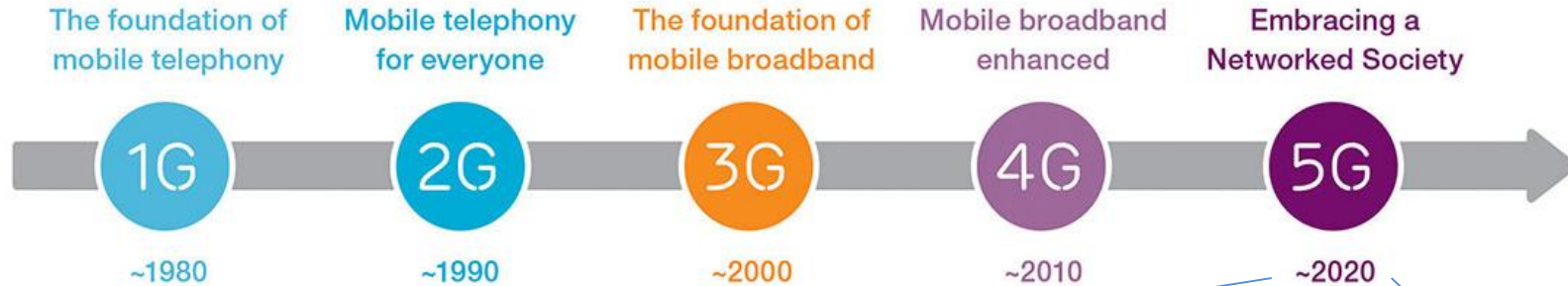
Source: Broadband Commission, State of Broadband Report 2015

“(Only) top four operators generate positive returns” – AT Kearney ASEAN Digital Revolution; based on study of 54 operators worldwide



In mobile, the technology investment cycles are approximately every 10+ years. Business case for 5G is still unknown

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

- **Many developing markets in early 4G investment cycle**
- **Spectrum prices in some developing countries in Asia are still too high**
- **Technology neutral spectrum (sub-6GHz for tropics, high conversion fee)**
- **For digital economy, current Regulatory frameworks may need review**
 - Legacy rules
 - High sector taxation
 - Wayleave & access
 - Cross-border
 - Right-touch: Fit for purpose, First principles, harm-based approach



Thank You

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