

National ICT Strategies Towards a Digital Economy

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Every additional US\$1 invested in ICT Infrastructure over time can yield up to US\$5 in GDP growth by 2025



Increasing ICT Infrastructure Investment Additional 10% annually from 2016 to 2025, This equates to an accumulative US\$17.6 trillion in potential added GDP to the global economy by 2025.

GCI : Mapping country's transformation into a digital economy



Traditional Economy



Digital Economy

The GCI provides a comprehensive and objective assessment of a country's connectivity from both a national and business perspective, and assesses the current status, future trends, and challenges associated with digital transformation. It quantifies the value that connectivity generates for a country's transformation into a digital economy, and serves as a reference for regional and national policy makers.



79 Countries



95% GDP



84% Population

GCI: Focusing on economic digitization since 2014

Research theme

2014 1st release
New economic
barometer

2015 2nd release
Full national
assessment

2016 3rd release
Digital economy
model

2017 4rd release
Economy impact
model

White paper



Scope

25 nations
16 indicators

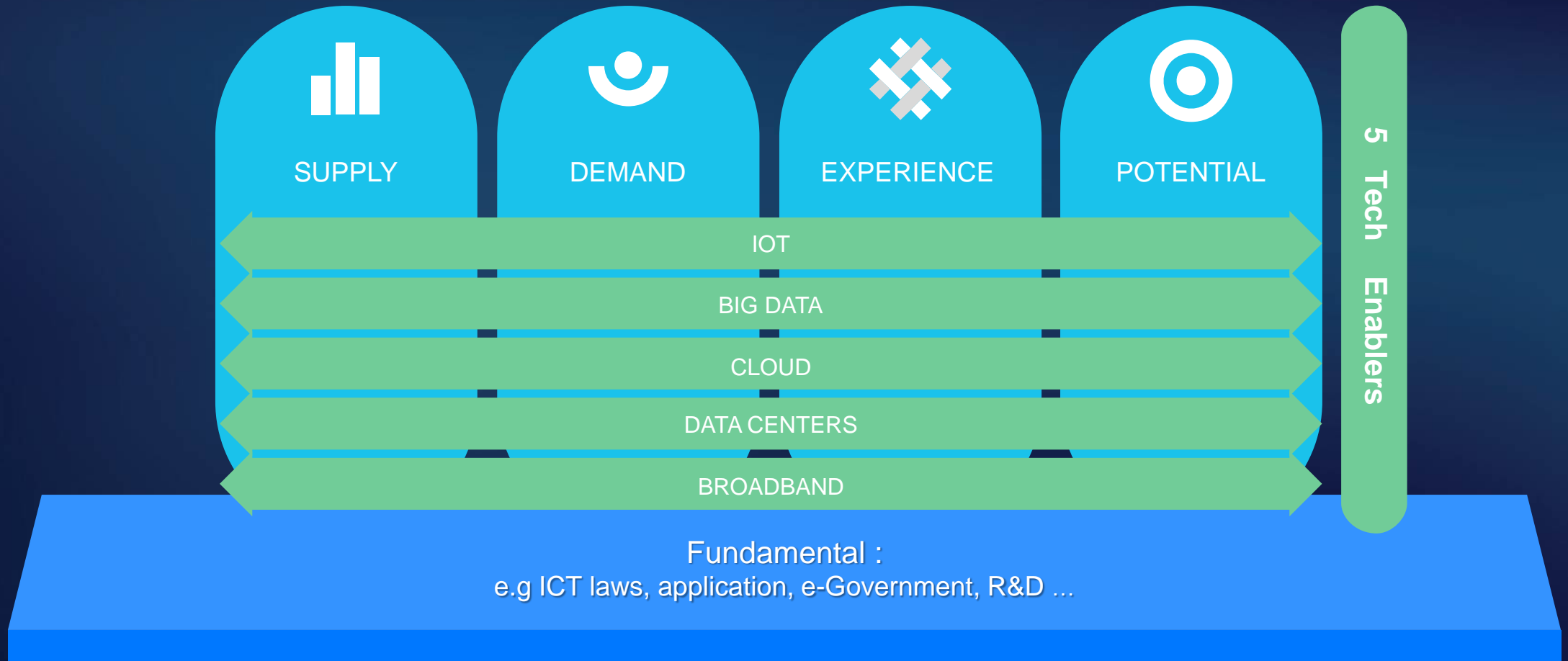
50 nations
38 indicators

50 nations
40 indicators
10 verticals

50 nations
40 indicators

GCI methodology matrix: 4 economic pillars by 5 technology enablers

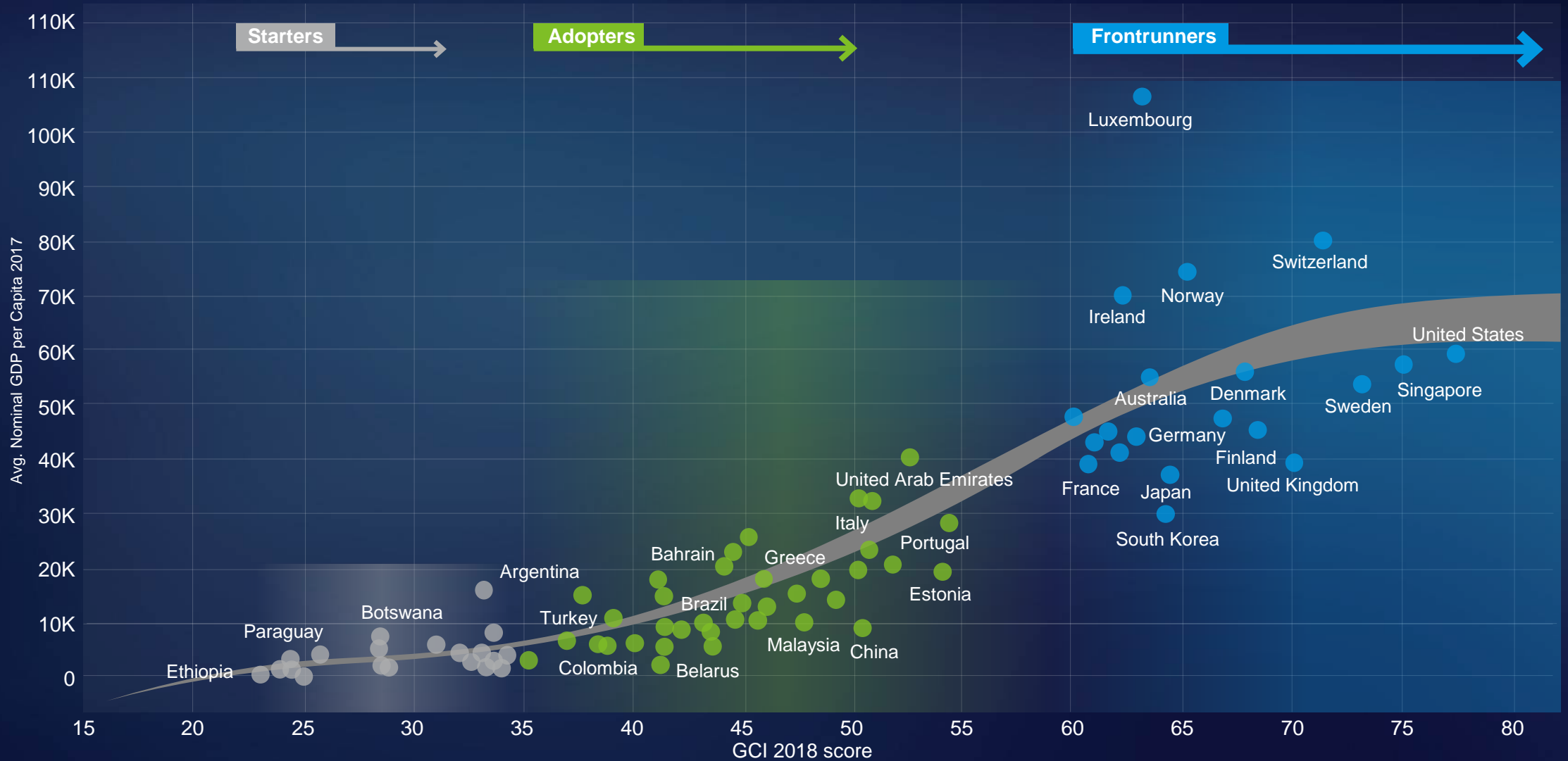
GCI Scoring Model



Country evaluation done based on 40 indicators

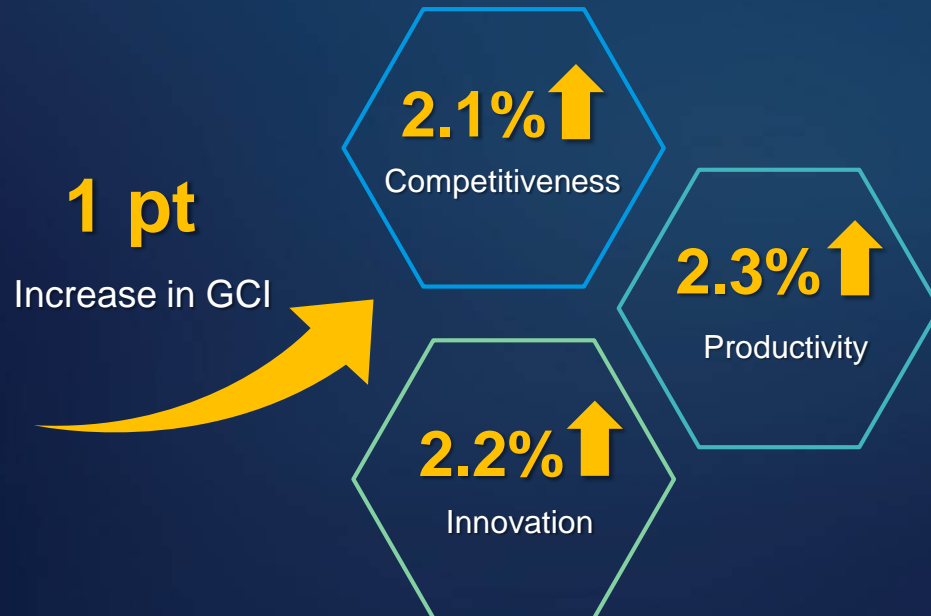
	Supply	Demand	Experience	Potential
Fundamentals	ICT Investment	App Downloads	E-Government Service	R&D Expenditure
	Telecom Investment	Smartphone Penetration	Telecom Customer Service	ICT Patents
	ICT Laws	eCommerce Transactions	Internet Participation	IT Workforce
	International Internet Bandwidth	Computer Households	Broadband Download Speed	Software Developers
Broadband	Fiber Optic	Fixed Broadband Subscriptions	Fixed Broadband Affordability	Broadband Potential
	4G Coverage	Mobile Broadband Subscriptions	Mobile Broadband Affordability	Mobile Potential
Data Centers	Data Center Investment	Data Center Equipment	Data Center Experience	DC Potential
Cloud	Cloud Investment	Cloud Migration	Cloud Experience	Cloud Potential
Big Data	Big Data Investment	Analytics Data Creation	Big Data Experience	Big Data Potential
IoT	IoT Investment	IoT Installed Base	IoT experience	IoT Potential

Most countries have embarked on the road to a digital economy, but they are at different stages



Developing ICT is key driver for economic development

A one-point increase in GCI does the following for your economy



Countries are setting policies to encourage ICT investment



Singapore Smart Nation



Digital Canada 150



Smart Digital Malaysia



Industry 4.0



Advanced Manufacturing 2.0



Internet Plus



Nigeria National Broadband Strategy



Colombia Live Digital



Connected Argentina

<http://www.huawei.com/minisite/gci/en/>

156 countries have released national ICT development master plan

Source: ITU

Country 2018 rankings






















FRONTRUNNERS

















			SCORE
1		United States	78
2		Singapore	75
3		Sweden	73
4		Switzerland	71
5		United Kingdom	70
6		Finland	68
7		Denmark	68
8		Netherlands	67
9		Norway	65
10		Japan	65
11		South Korea	64
12		Australia	64
13		Germany	63
14		Luxembourg	63
15		Ireland	62
16		New Zealand	62
17		Canada	62
18		Belgium	61
19		France	61
20		Austria	60



ADOPTERS

			SCORE
21		Spain	55
22		Estonia	54
23		UAE	53
24		Lithuania	52
25		Portugal	52
26		Slovenia	51
27		China	51
28		Italy	50
29		Czech Republic	50
30		Hungary	49
31		Slovakia	49
32		Malaysia	48
33		Chile	48
34		Croatia	46
35		Greece	46
36		Russia	46
37		Kuwait	45
38		Poland	45
39		Romania	45

ADOPTERS

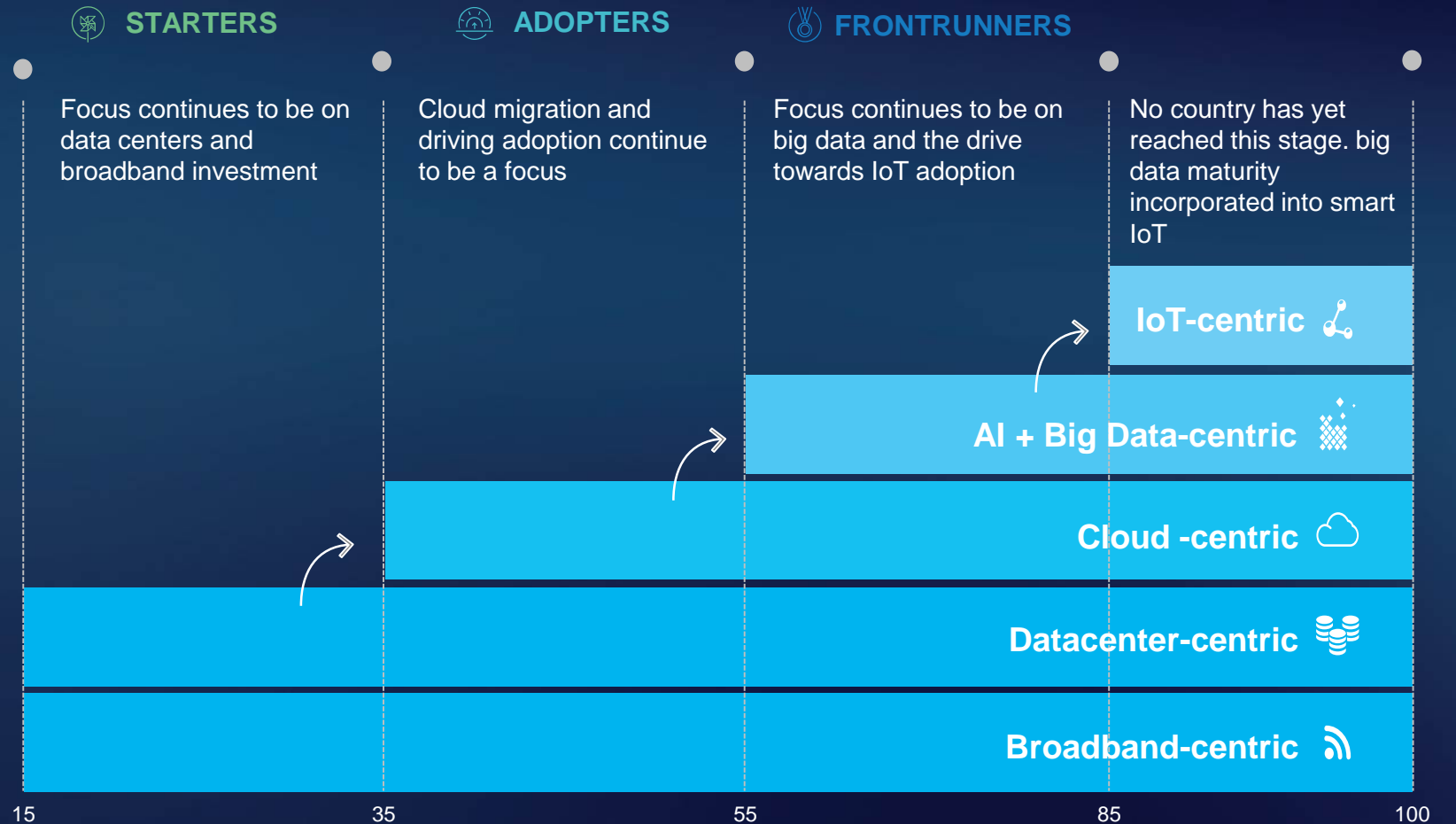
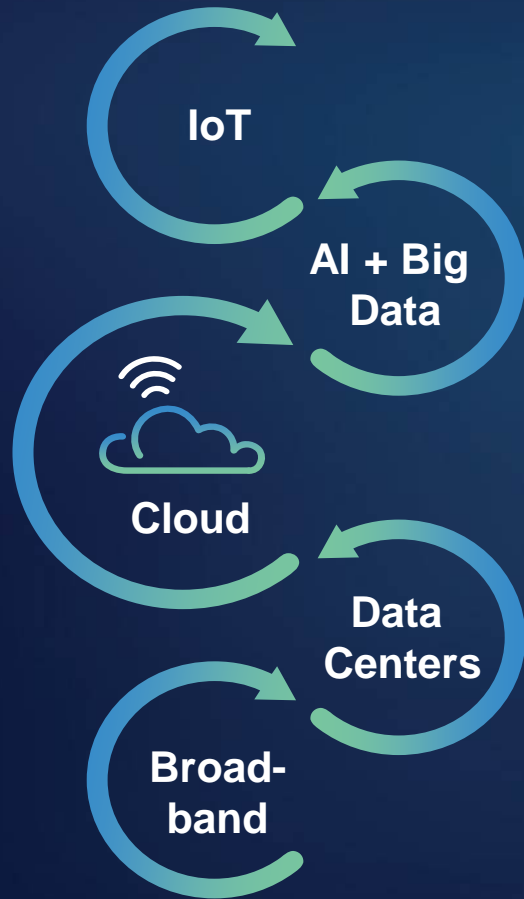
			SCORE
40		Bahrain	45
41		Saudi Arabia	44
42		Belarus	44
43		Bulgaria	44
44		Brazil	43
45		Kazakhstan	42
46		Mexico	42
47		Oman	42
48		South Africa	42
49		Ukraine	41
50		Uruguay	41
51		Thailand	40
52		Turkey	39
53		Serbia	39
54		Colombia	39
55		Argentina	38
56		Peru	37
57		Philippines	35



STARTERS

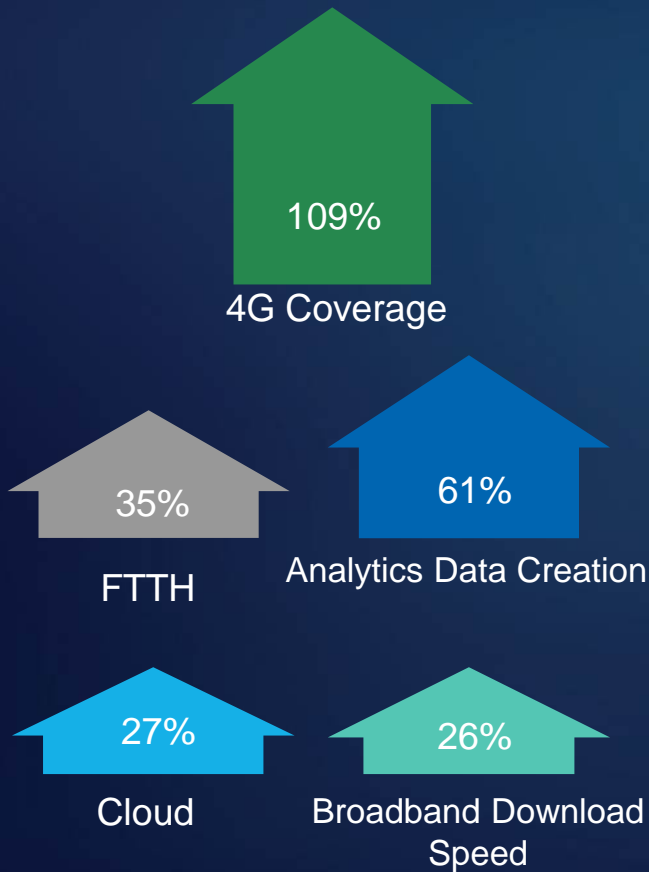
			SCORE
58		Jordan	34
59		Egypt	34
60		Lebanon	34
61		Vietnam	34
62		India	33
63		Venezuela	33
64		Indonesia	33
65		Morocco	33
66		Algeria	32
67		Ecuador	31
68		Ghana	29
69		Kenya	29
70		Nigeria	29
71		Botswana	29
72		Namibia	29
73		Paraguay	26
74		Tanzania	25
75		Uganda	25
76		Bolivia	25
77		Pakistan	25
78		Bangladesh	24
79		Ethiopia	23

Building a strong ICT infrastructure is the first step to realizing effective economic transformation

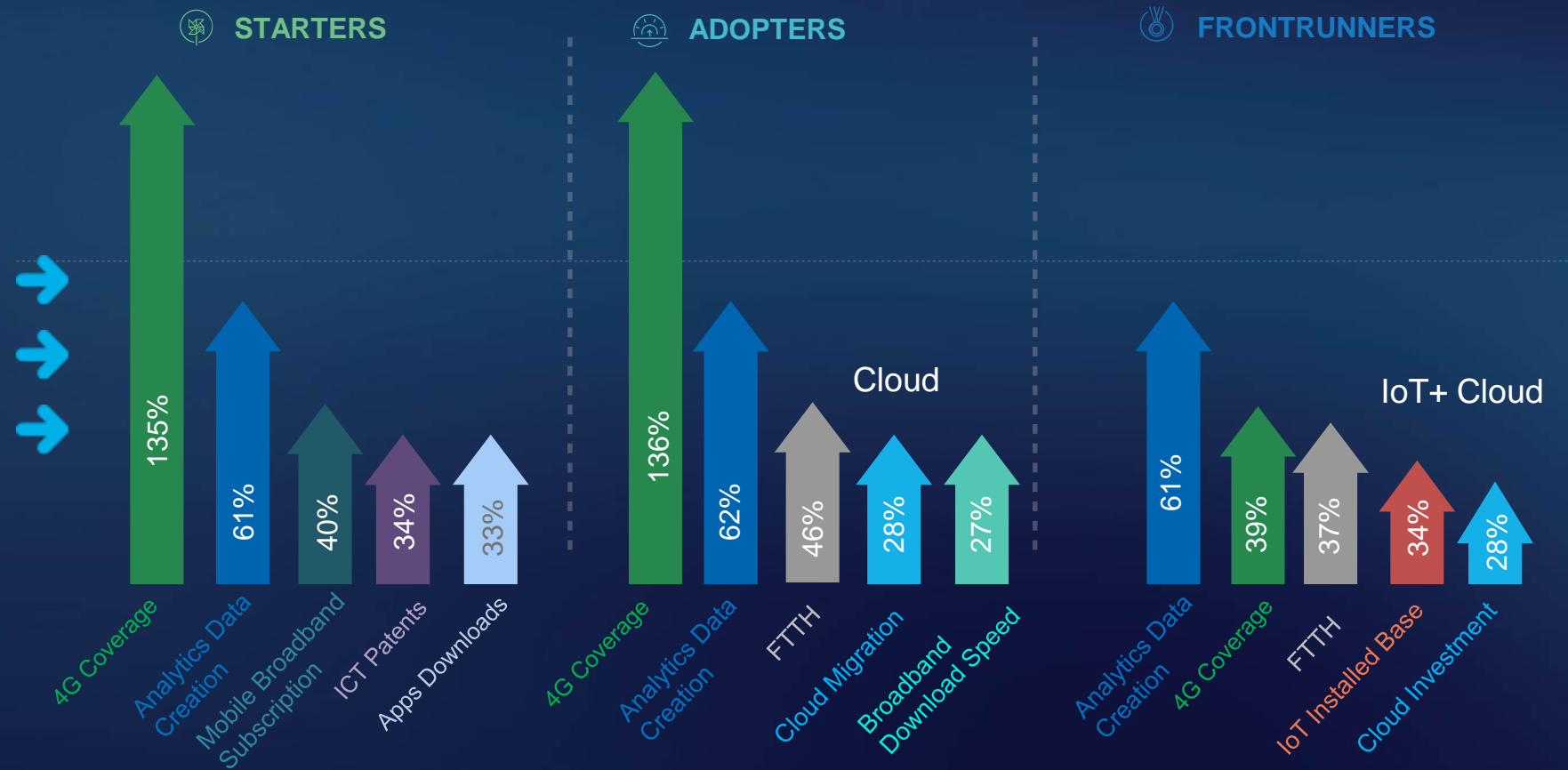


Indicators of fastest growth : Broadband, big data, and cloud computing

Indicators of farthest growth 3Yr CAGR (Global Average)



Stage of development affected the technology choices a country has made



ICT Transformation is Enabler for Digital Economy

GDP

Employment

Social Expansion

Digital Economy

ICT Investment

Policies & Regulations

Skills

Technology

Everything is Intelligent



Smart City



Education



Public safety



Healthcare



Transportation



Government



Manufacturing



Energy



Agriculture



Retail



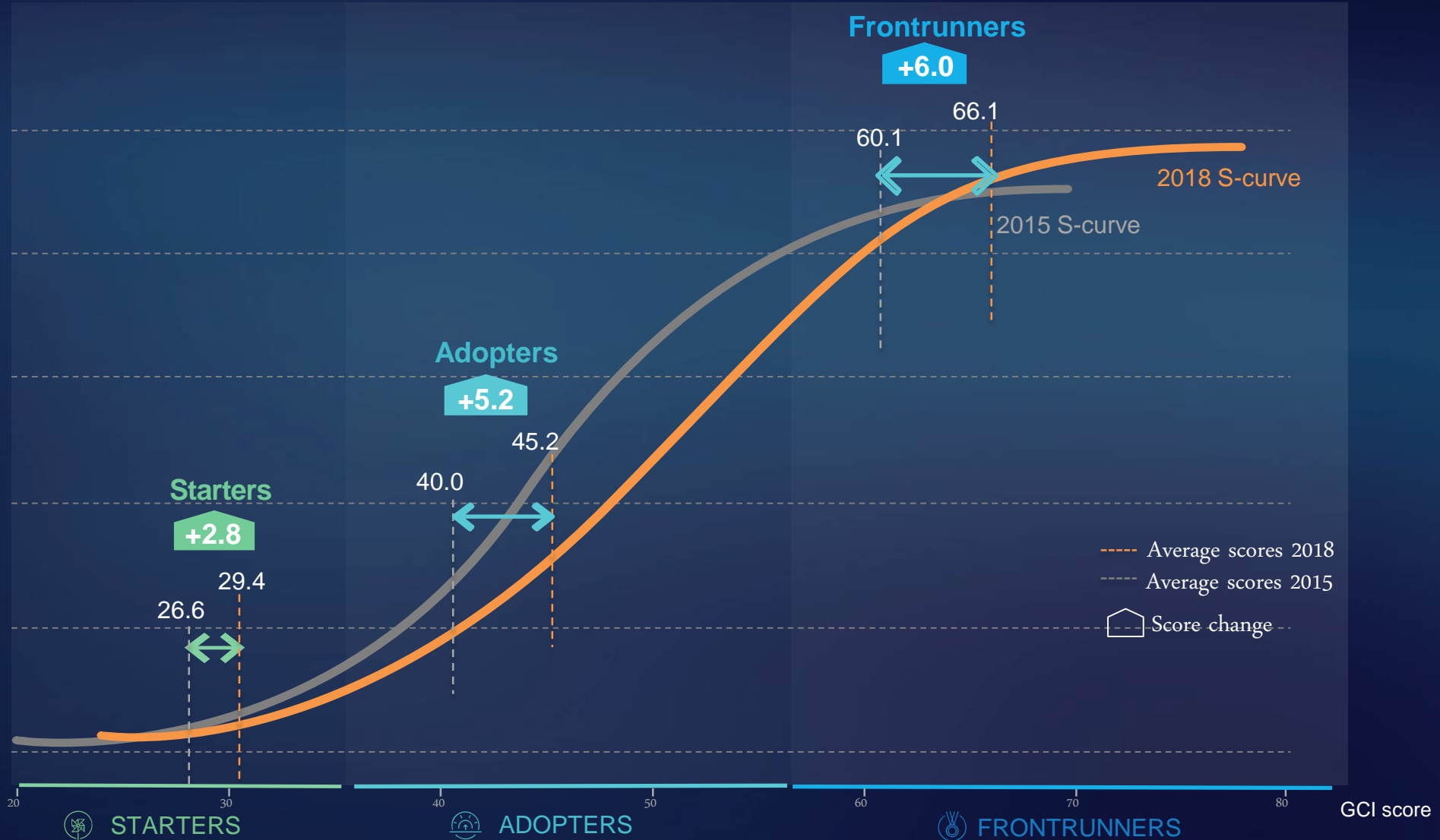
Media



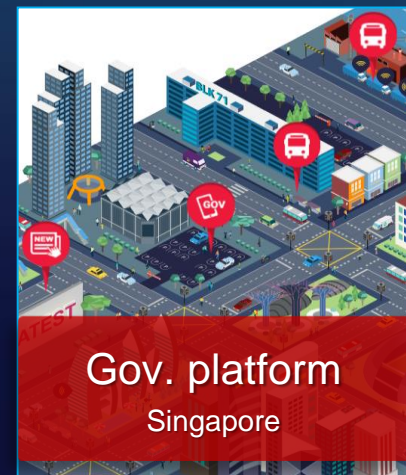
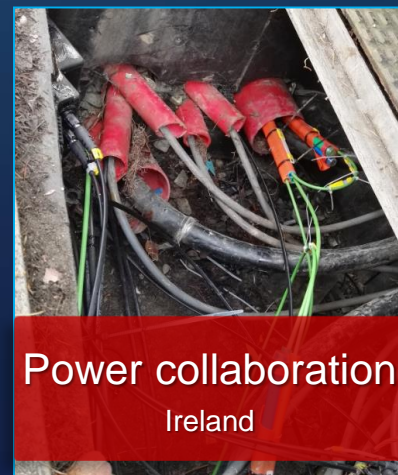
Finance

The “Matthew Effect” – the digital divide becomes a digital chasm

An expansion of the S-curve (GCI score vs. GDP) shows the widening inequality between Starters, Adopters, and Frontrunners



Combination of policies and regulations boost BB roll-out



National BB strategies can be summarized in six categories



NBN target setting



Utility synergy



RoW admin.



Subsidy



Tax incentive



Open Access

	NBN target setting	Utility synergy	RoW admin.	Subsidy	Tax incentive	Open Access
China	●	●	●	●		
EU countries	●	●		●		●
Germany	●	●		●		●
Ireland	●	●		●		●
India		●	●			
Malaysia	●			●	●	●
Saudi Arabia	●	●		●	●	●
Singapore	●					●

Imperatives for Digital Transformation Planning

ICT Infrastructure



Governments: **Continuously enhance investment in digital infrastructure**, especially the expansion of **broadband coverage**, and the **adoption of cloud** technology to ensure fair competition and inclusive growth in their own economies throughout the global digitization process

ICT Policy



Governments: **Develop National Broadband Strategy or ICT White papers** to formulate and realize national strategy, unlock digital potential and cover the gap in digital access between cities and rural area.

Simultaneously support demand services (e-government, e-health, e-education) and supply (availability of the network and data services)

Decrease taxation for ICT industry and instead provide more obligations to operators regarding network coverage and performance

ICT Talent



Governments: Work with scholars, technology providers, as well as education and labor departments to **ensure that digital resources are more widely and readily accessible**. Improve the digital knowhow of specific subsets of the workforce, and **cultivate a group of exceptional talent** that is well positioned to meet future needs

Summary:

- Developing ICT is not a target, it is a tool.
- Investment in ICT development is the most effective way to develop digital national economy.
- Operators are not “cash cows”, they are “Enablers” for digital transformation.
- Don’t “kill” ICT industry by taxes, instead stimulate network access development
- Building 4G (LTE) coverage the most effective way to develop national broadband coverage for developing countries
- Active role of government is crucial for successful ICT development
- Huawei GCI methodology can help for developing National Broadband Strategy or ICT White Papers

Let's Build a Better Connected World **TOGETHER**



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