MULTI-STAKEHOLDER NATIONAL WORKSHOP

BRIDGING THE DIGITAL INNOVATION DIVIDE

ACCELERATING DIGITAL TRANSFORMATION TOWARDS THAILAND 4.0

8 – 9 May 2018
Bangkok, Thailand

MODULE 1

UNDERSTANDING THE DIGITAL INNOVATION DIVIDE AND ITS CHALLENGES

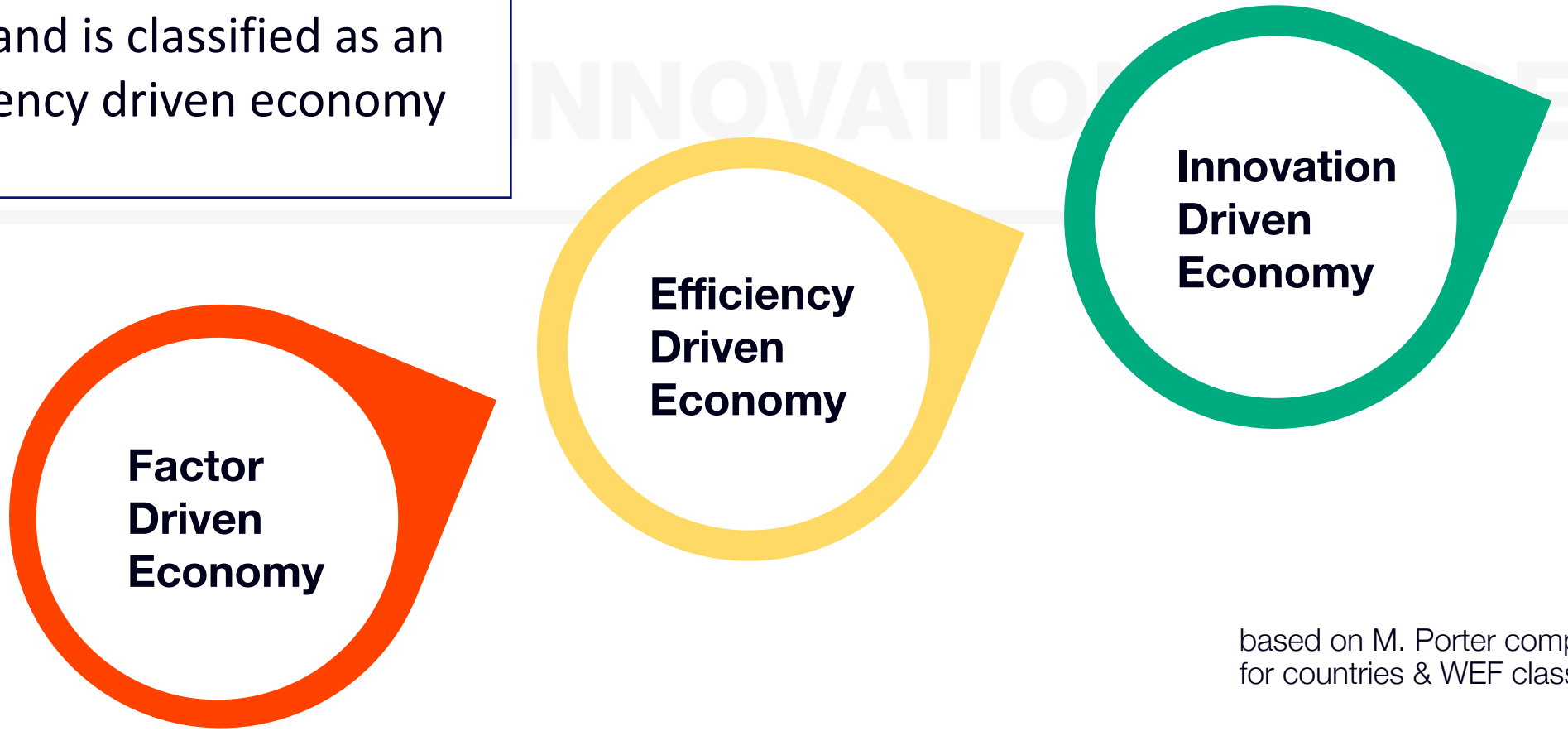
THAILAND IN CONTEXT

DIAGNOSING THE GROWING DIGITAL INNOVATION DIVIDE
CHALLENGES IN BUILDING INNOVATION POLICY

Thailand in context

EVERY COUNTRY IS AIMING TO BE AN INNOVATION DRIVEN ECONOMY

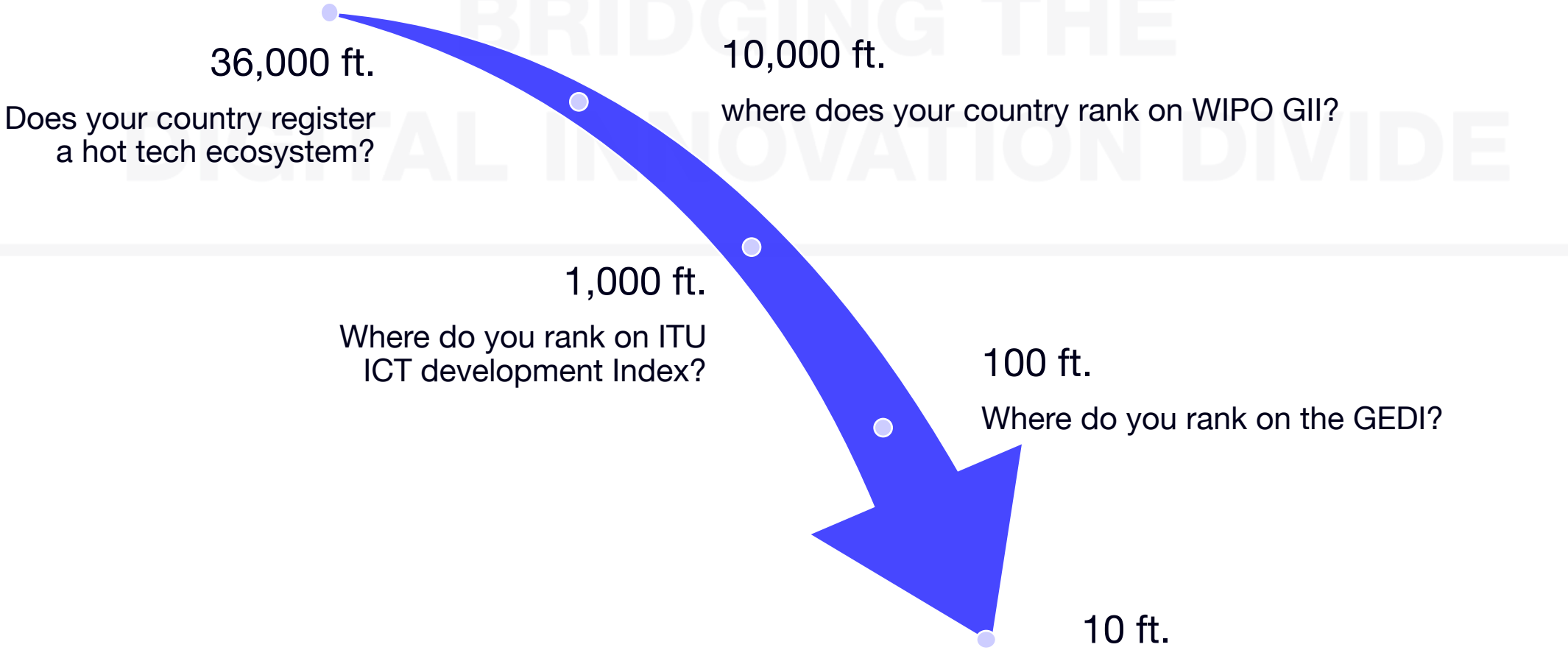
Thailand is classified as an efficiency driven economy



based on M. Porter competitive strategy for countries & WEF classification

Source: ITU

MEASURING ICT INNOVATION CAPABILITIES



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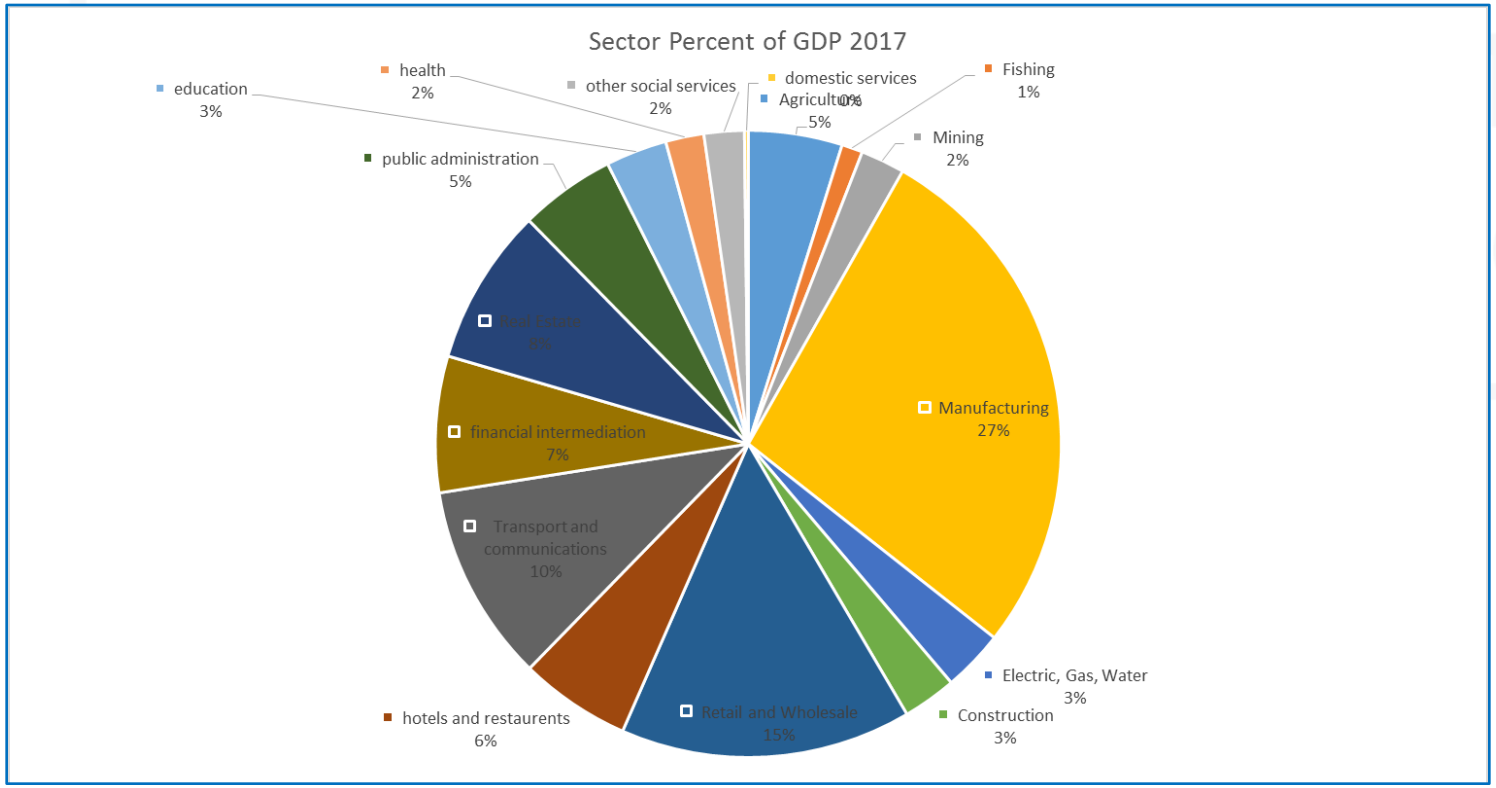
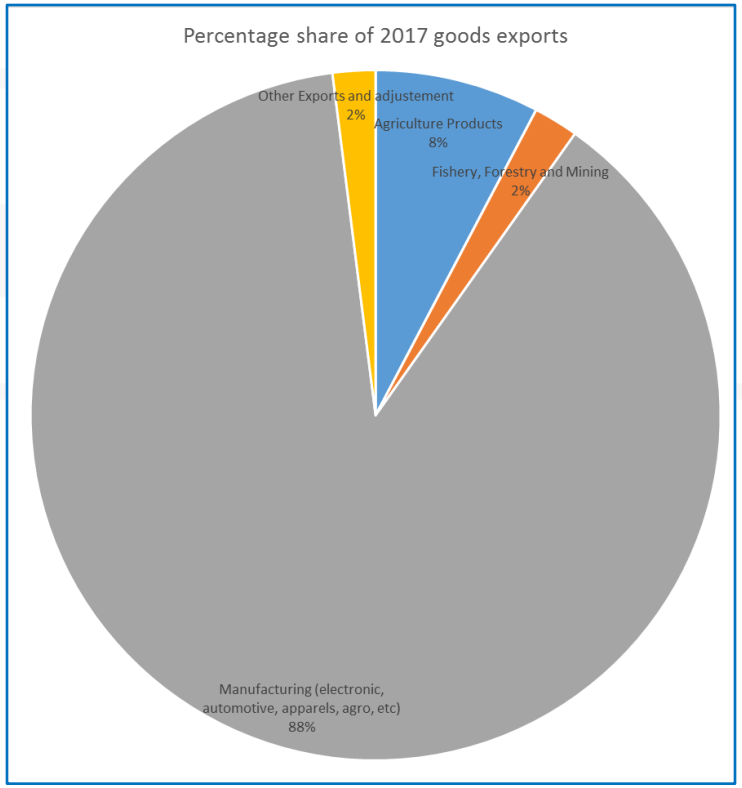
Basic Macro: World Bank, IMF





- **Population (2018): 69.1m**
- **GDP per capita (current, 2016): $5910**

- **Thailand Expected to Post 4.1% Growth in 2018**
- **ASSEAN population: 640m**

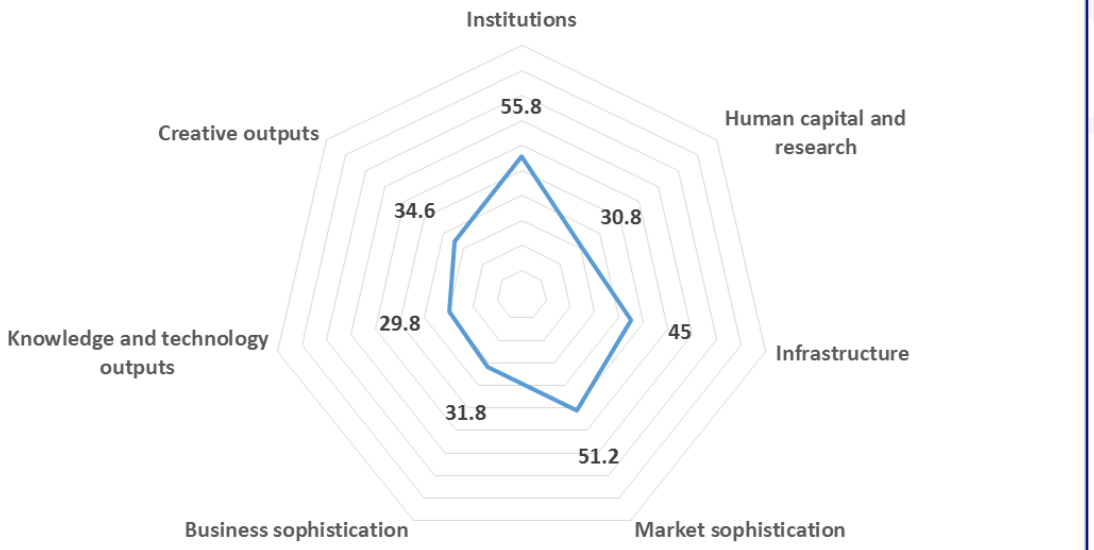
Source: IMF, Worldbank

INDICATORS

MEASURING SUCCESS OF AN TECH INNOVATION ECOSYSTEM

INDICATORS

Global Innovation Index 2017: rank 51 /127

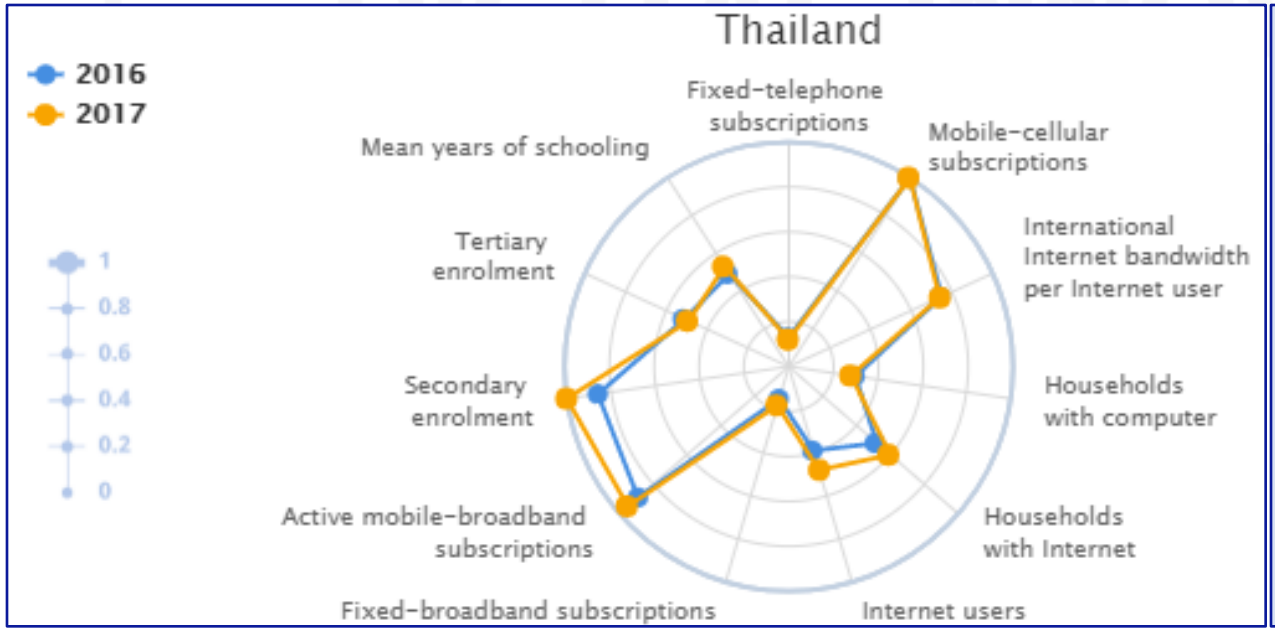


	Score 0–100 or value (hard data)	Rank
Global Innovation Index (out of 127)	**37.6**	**51**
Innovation Output Sub-Index	32.2	43
Innovation Input Sub-Index	42.9	65
Innovation Efficiency Ratio	0.8	24
Global Innovation Index 2016 (out of 128)	36.5	52

Source: ITU

INDICATORS

ITU Global ICT Dev. Index 2017: rank 78 /176

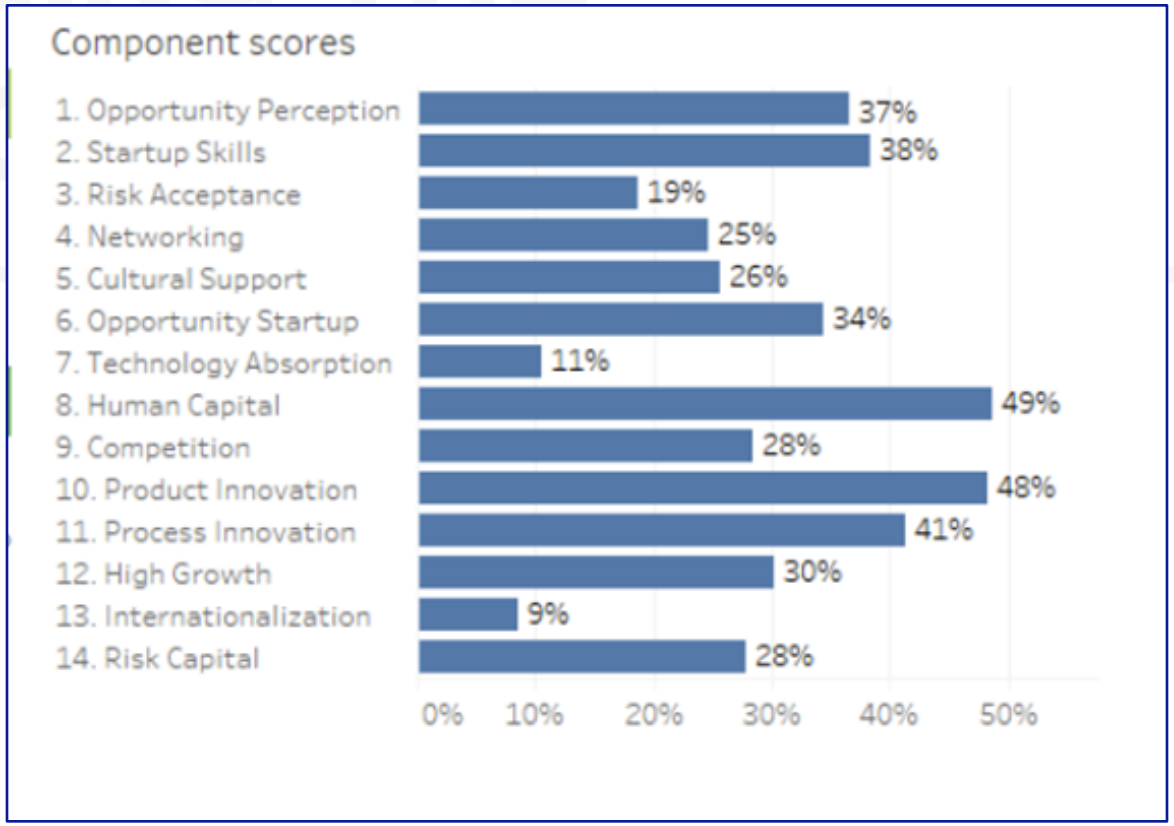


IDI ACCESS SUB-INDEX	IDI USE SUB-INDEX	IDI SKILLS SUB-INDEX
5.48	**5.33**	**6.72**
Fixed-telephone subscriptions per 100 inhabitants 6.97	Percentage of individuals using the Internet 47.50	Mean years of schooling 7.90
Mobile-cellular telephone subscriptions per 100 inhabitants 172.65	Fixed (wired)-broadband subscriptions per 100 inhabitants 10.69	Secondary gross enrolment ratio 129.00
International internet bandwidth per Internet user (Bit/s) 49243.82	Active mobile-broadband subscriptions per 100 inhabitants 94.72	Tertiary gross enrolment ratio 48.86
Percentage of households with computer 28.41		
Percentage of households with Internet access 59.84		

Source: ITU

INDICATORS

Global Entrepreneurship Index 2018: rank 71 /137



INDICATORS

THAILAND'S STAKEHOLDERS VOICES

Private Sector

"Our culture is receptive to change and is catching up on the latest trends. However, if we don't begin to invest enough in ICT research or produce a good pool of Next Gen with ICT knowledge, we will lag in competition."

Public Sector

"In Thailand, people would rather buy foreign than create their own solutions."

Academia

"We need to stop teaching what children can find on Google."
"It might be a good idea if university professors can work with the private sector for three years to exchange knowledge"

Entrepreneurs

"We are not taught to be the owner of something at the education level. This is the reason most of us end up work for others."

Finance

"There are a lot of government funds available for entrepreneurs but no right mechanism to filter through the start-ups to fund the deserving ones."

Entrepreneurial Support Network

"The local companies don't invest in R&D. They also don't train people. So starting engineers can be liabilities!"

"If we compare ourselves to our neighbours like China and Malaysia, there are leading in fostering networking. Their governments are more supportive than ours."

Source: ITU

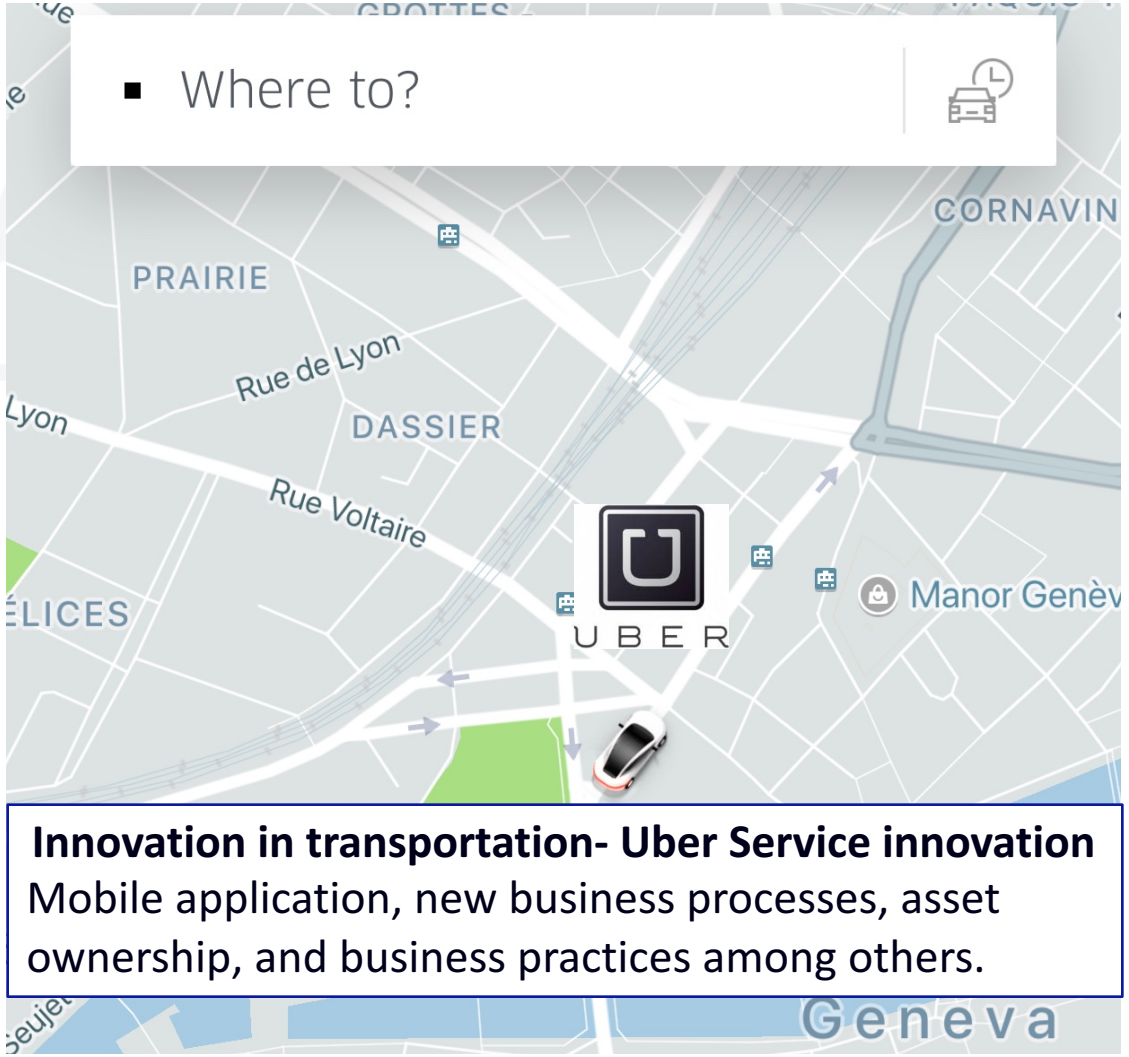
Diagnosing the growing Digital Innovation Divide, and the challenge and opportunities in Innovation Policy

What is an innovation?

"An innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations."

Source: OCED, Oslo manual

ICT affects business models, mindsets, organizational structures, R&D, markets and networks, contributing significantly to GDP growth. ICT-centric innovation can thus have a significant impact on development



Innovation in transportation- Uber Service innovation
Mobile application, new business processes, asset ownership, and business practices among others.

What is digital transformation?

"Digital transformation is what happens when innovation is applied to solve problems through the use of ICT/telecommunication technology. The benefits to a country and its people are immense: significantly increased productivity, economic growth and greater employment opportunities."

Source: ITU

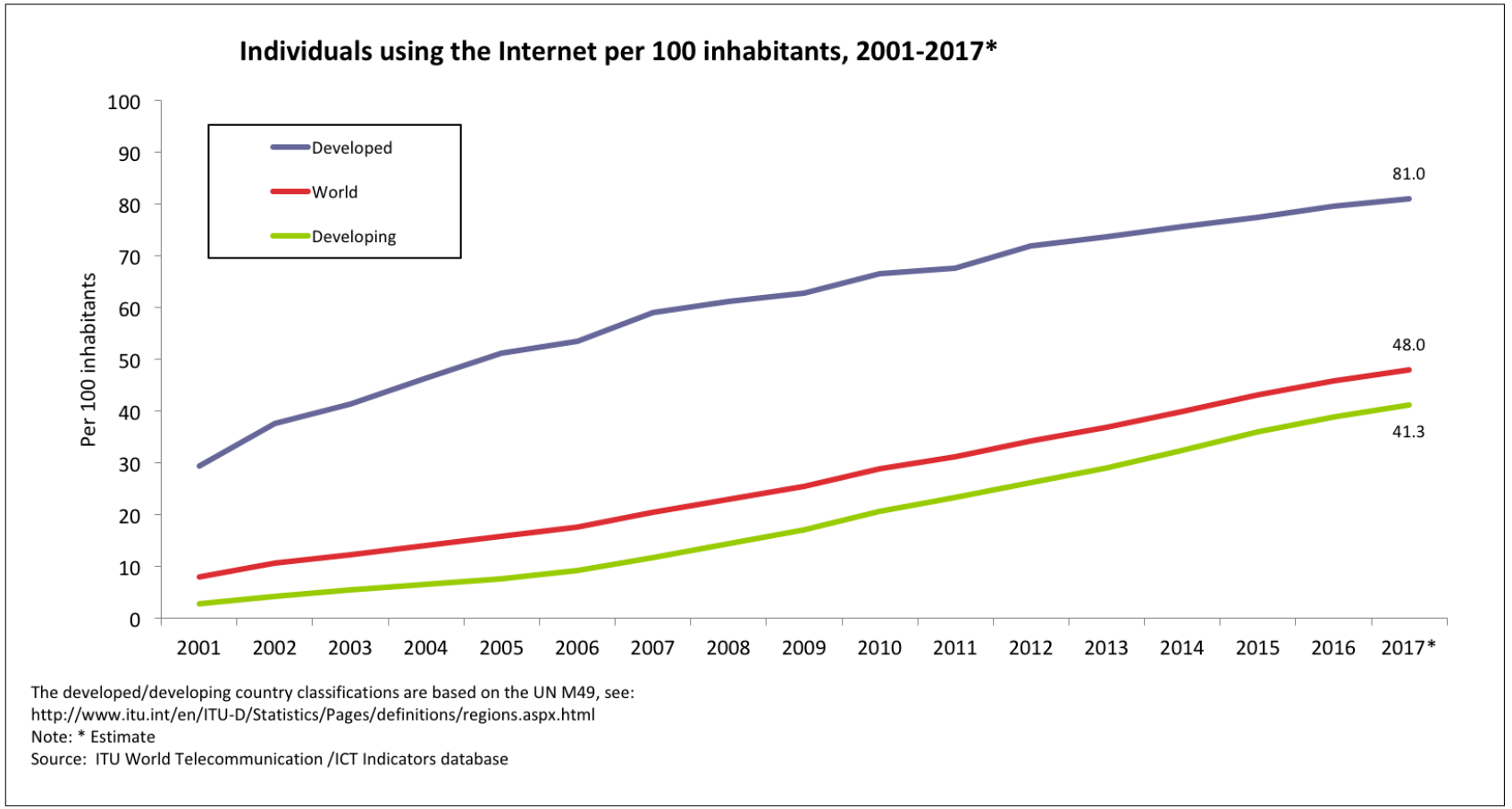
The degree to which these benefits are within reach depends on the vibrancy of the ICT-centric innovation ecosystem and the long-term vision and strategy supporting it.

Digital transformation in transportation

Innovation applied to solve a transportation problem, through the **use of ICT technologies**, led to **changes** in on demand transportation bringing significant value for customers and asset owners (car owners).

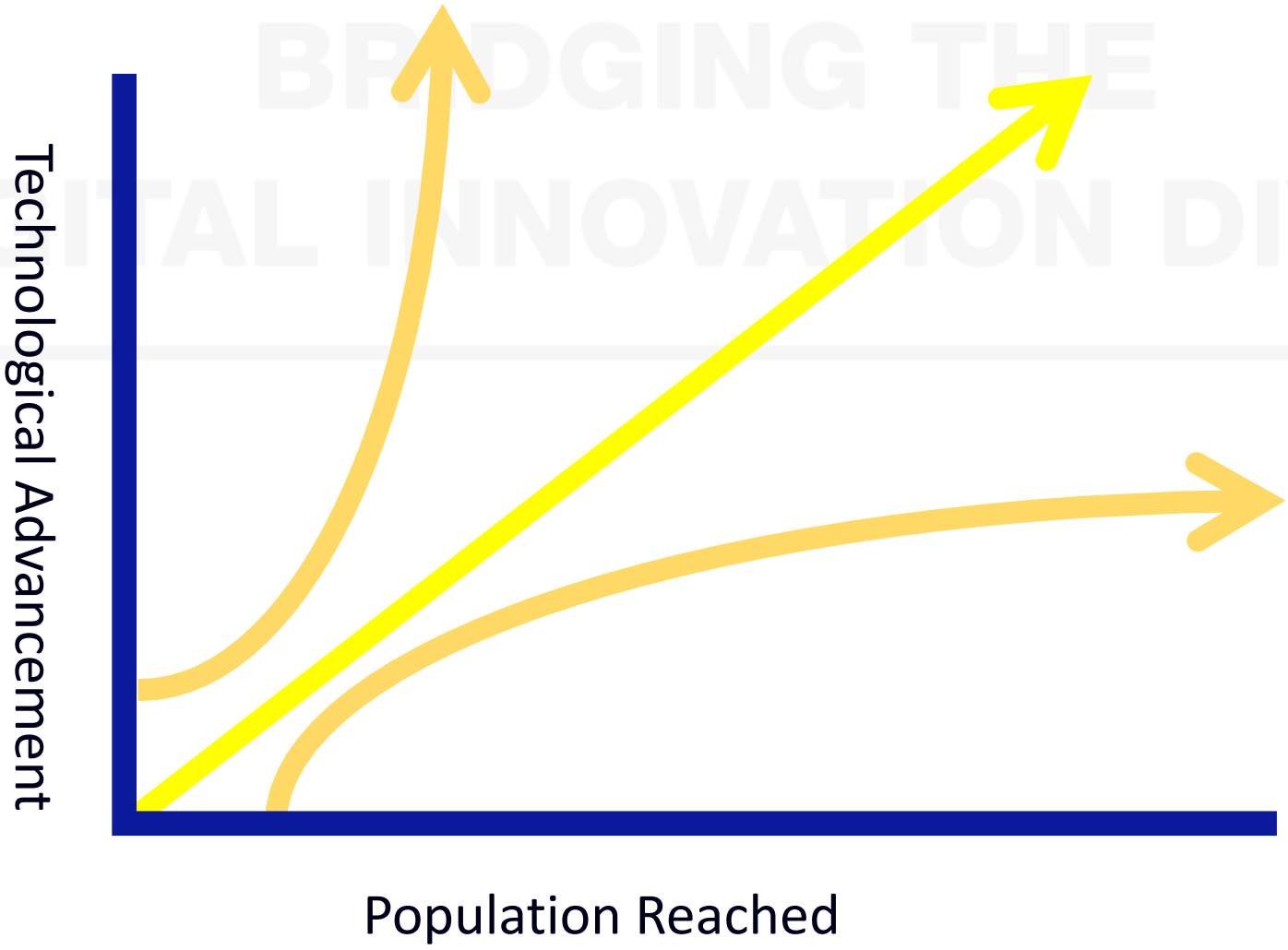
INDIVIDUALS USING THE INTERNET PER 100 INHABITANTS

2001-2015



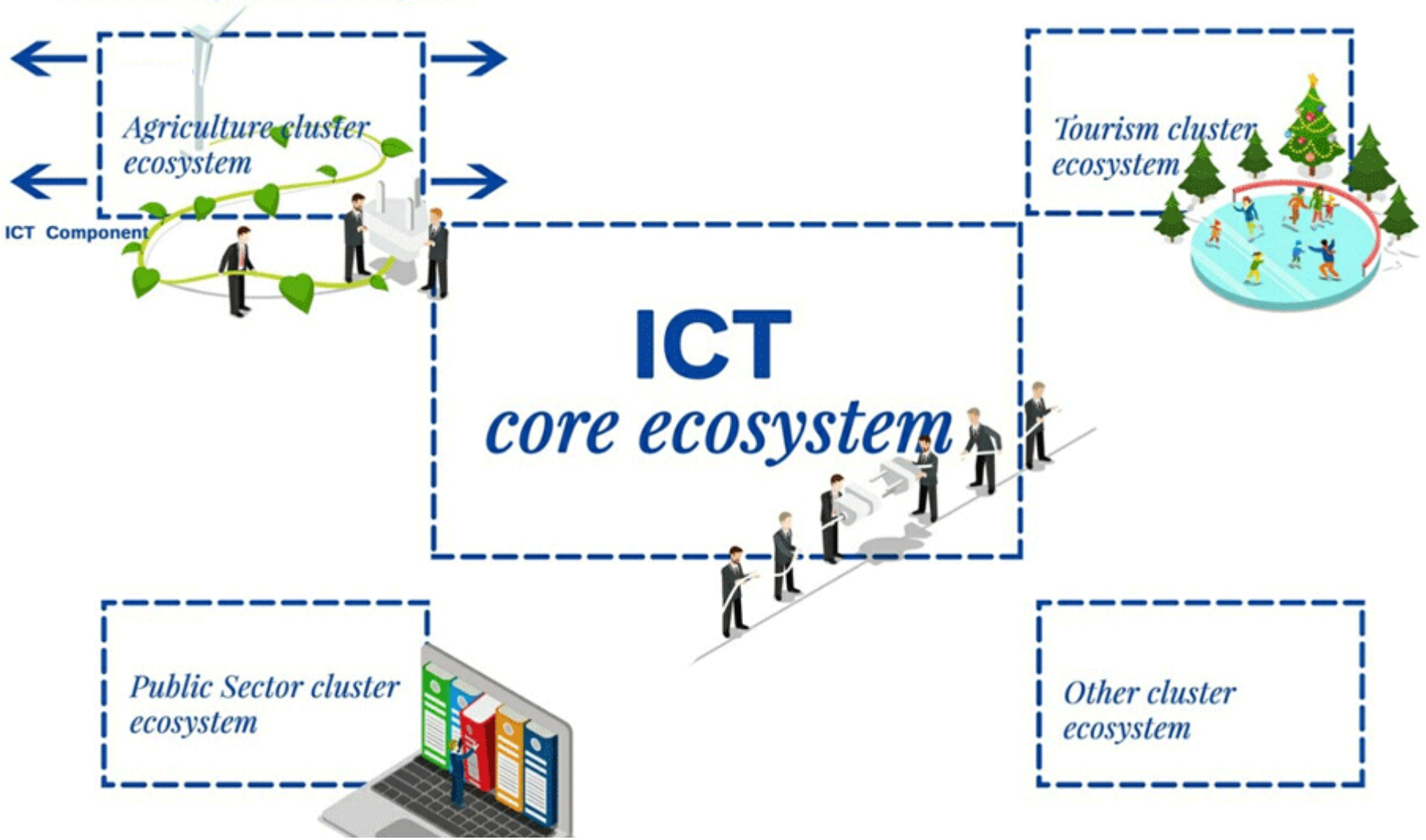
The developed/developing country classifications are based on the UN M49, see:
http://www.itu.int/en/ITU-D/Statistics/Pages/definitions/regions.aspx.html
Note: * Estimate
Source: ITU World Telecommunication /ICT Indicators database

Source: ITU IDI



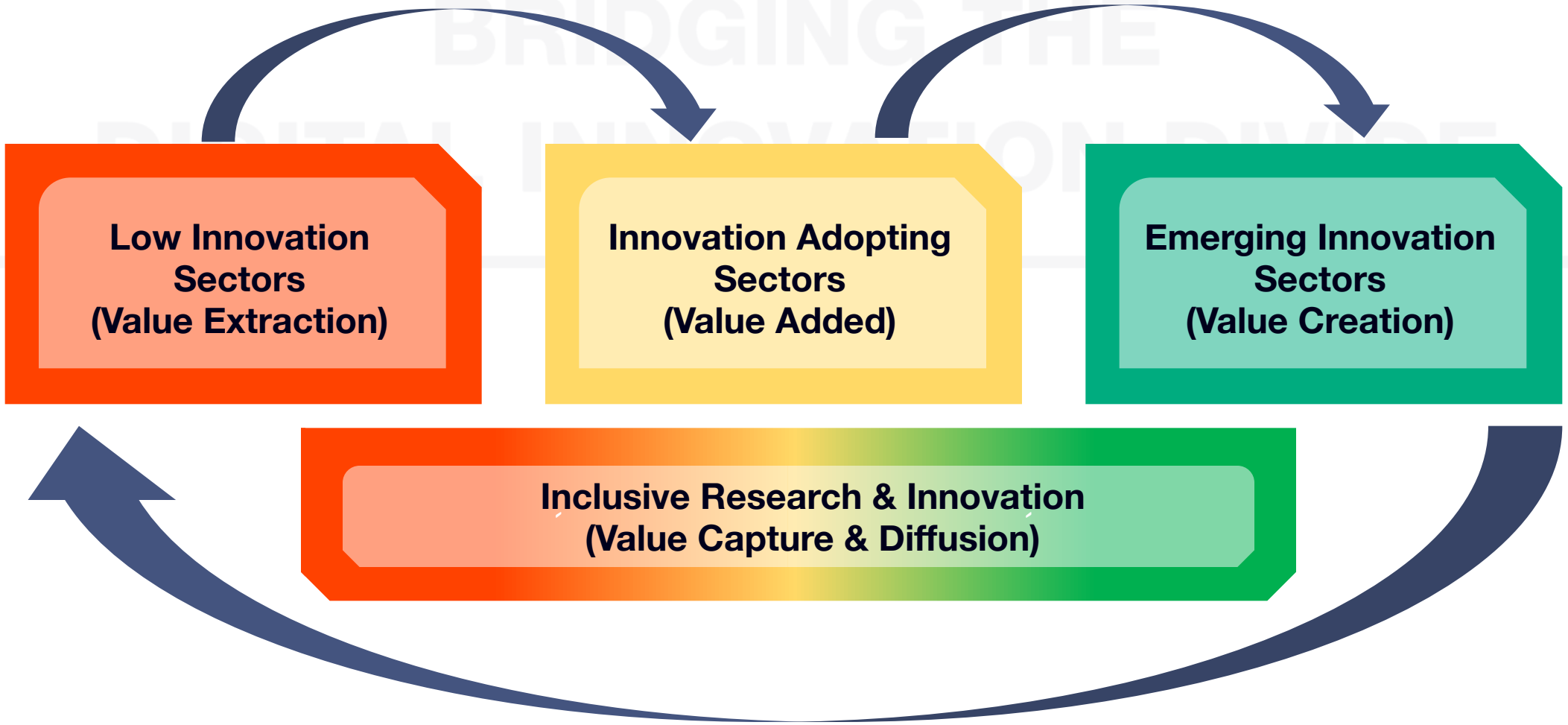
Source: ITU

ICT IS ACCELERATING CHANGE IN ALL SECTORS



Source: ITU

THERE IS NEED FOR INCLUSIVENESS BETWEEN SECTORS

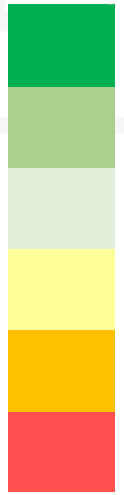


Source: ITU

DIGITAL TRANSFORMATION OPPORTUNITIES ARE EVERYWHERE

- One of the top digitized country, the USA, is only at 18% of its potential
- By 2025, it will add $2.2trillion US GDP from Digitization
- Companies at the digital frontier who have accumulated more digital assets are accelerating their pace and able to accumulate tremendous growth and accumulate wealth in the hands of a few
- Those sectors and companies left out are finding it harder to compete, to pay decent incomes, to create jobs, and to sustain their businesses.

SECTOR	DIGITIZATION
ICT	
Media	
Professional Services	
Finance and Insurance	
Wholesale Trade	
Advanced Manufacturing	
Oil and Gas	
Utilities	
Chemicals and pharmaceuticals	
Basic goods manufacturing	
Mining	
Real Estate	
Transportation and warehousing	
Education	
Retail trade	
Entertainment and recreation	
Personal and local services	
Government	
Health care	
Hospitality	
Construction	
Agriculture and hunting	

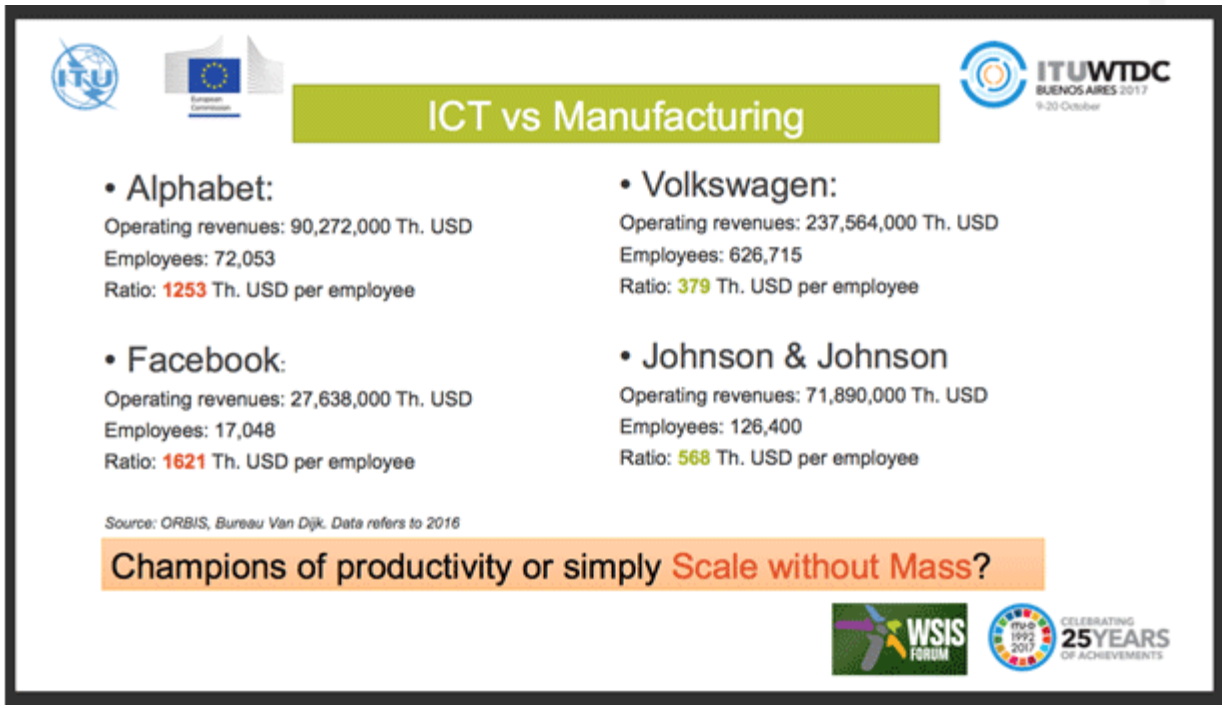


High digitization

Low digitization

Source adapted from Mckinsey Global Institute report : Digital America

AND ECONOMIES OF SCALE ARE STILL IMPORTANT



Innovation Policy in Korea

By Jongho Kim

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Global Innovation Index 2017: rank 51 /127

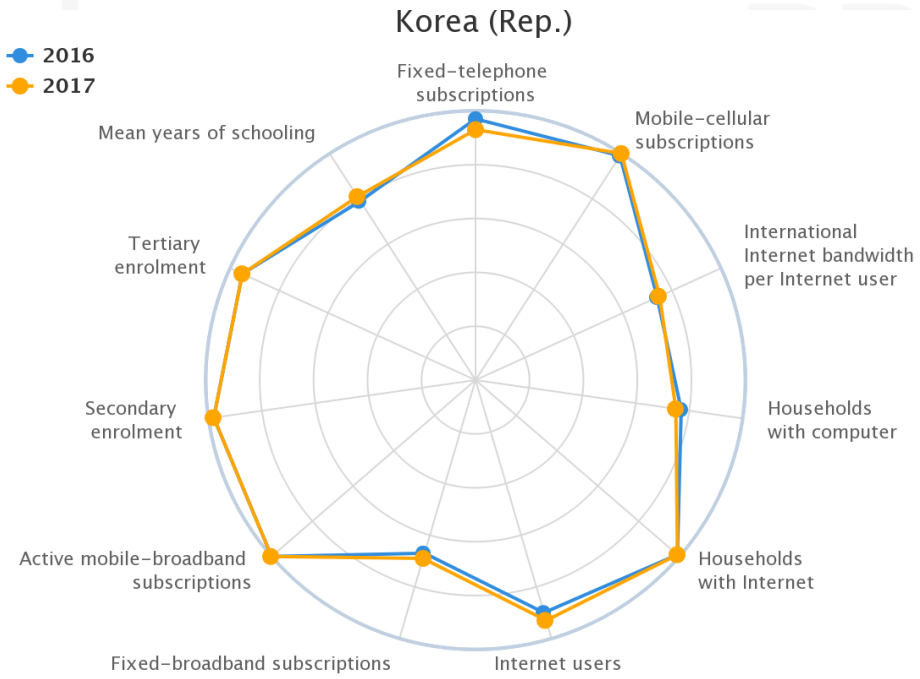
Key indicators

Population (millions)	50.5
GDP (US$ billions)	1,404.4
GDP per capita, PPP$	36,511.0
Income group	High income
Region	South East Asia, East Asia, and Oceania

	Score 0–100 or value (hard data)	Rank
Global Innovation Index (out of 127)	**57.7**	**11**
Innovation Output Sub-Index	52.1	9
Innovation Input Sub-Index	63.3	16
Innovation Efficiency Ratio	0.8	14
Global Innovation Index 2016 (out of 128)	57.1	11

INDICATORS

ITU Global ICT Dev. Index 2017: rank 2/176 - #1 Regional



IDI ACCESS SUB-INDEX

8.85

Fixed-telephone subscriptions per 100 inhabitants
56.10

Mobile-cellular telephone subscriptions per 100 inhabitants
122.65

International internet bandwidth per Internet user (Bit/s)
54252.22

Percentage of households with computer
75.29

Percentage of households with Internet access
99.19

IDI USE SUB-INDEX

8.71

Percentage of individuals using the Internet
92.72

Fixed (wired)-broadband subscriptions per 100 inhabitants
41.13

Active mobile-broadband subscriptions per 100 inhabitants
111.48

IDI SKILLS SUB-INDEX

9.15

Mean years of schooling
12.20

Secondary gross enrolment ratio
97.73

Tertiary gross enrolment ratio
95.35

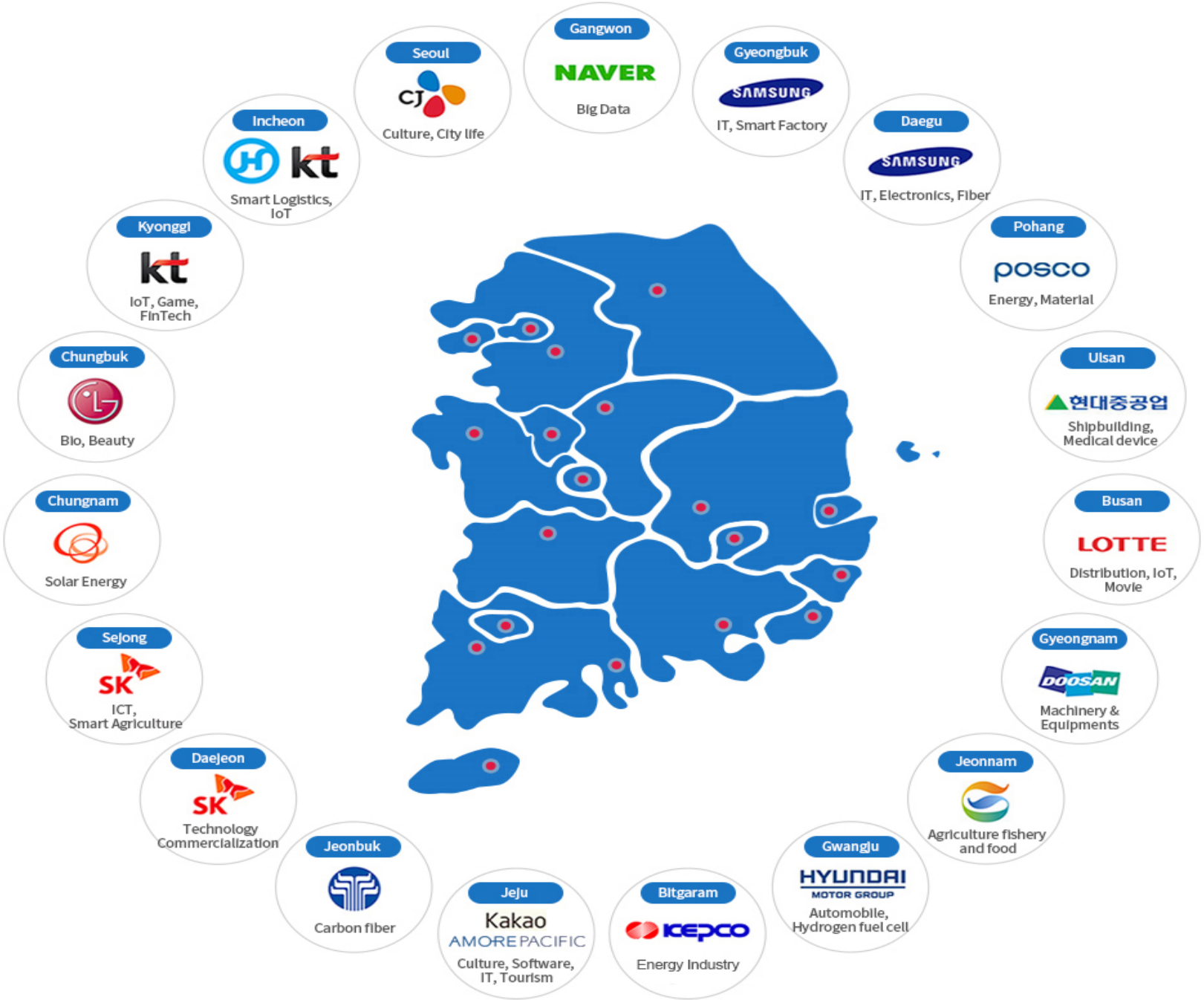
Source: ITU

Why Innovation Policy?

- Dynamics in economy
- Young generation unemployment rate
- Harmonize SME and Big conglomerate
- Innovating small business

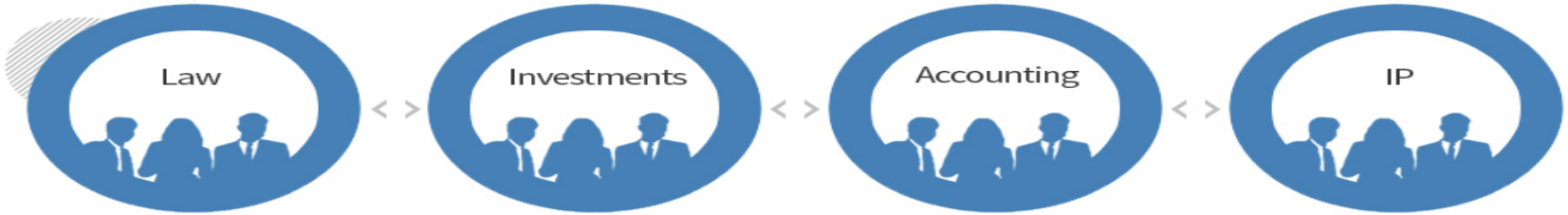
Center for Creative Economy and Innovation

- 18 field offices are operated at 17 regions since September 2014.
- Focused on regional industry characteristics and competence of large corporations
- Each local office is operating one on one dedicating supporting system based on cooperation among central/local governments large participating corporations


Seoul
Culture, City life
Gangwon
NAVER
Big Data
Gyeongbuk
SAMSUNG
IT, Smart Factory
Incheon
Smart Logistics, IoT
Daegu
SAMSUNG
IT, Electronics, Fiber
Kyonggi
kt
IoT, Game, FinTech
Pohang
posco
Energy, Material
Chungbuk
Bio, Beauty
Ulsan
현대중공업
Shipbuilding, Medical device
Chungnam
Solar Energy
Busan
LOTTE
Distribution, IoT, Movie
Sejong
SK
ICT, Smart Agriculture
Gyeongnam
DOOSAN
Machinery & Equipments
Daejeon
SK
Technology Commercialization
Jeonnam
Agriculture fishery and food
Jeonbuk
Carbon fiber
Gwangju
HYUNDAI MOTOR GROUP
Automobile, Hydrogen fuel cell
Jeju
Kakao
AMOREPACIFIC
Culture, Software, IT, Tourism
Bitgaram
kepco
Energy Industry

Startup idea

Consultation with specialists from related fields



Develop Prototypes

Financial Support

Global Marketing

Issues

- Make a comeback system for a failure
- M&A market or technologies trading system
- The quality of patents
- TV program – for innovation and start up culture
- Deregulation – financial sector
- Government driven vs demand driven
- Exploitation by big conglomerate


Questions

Guided Exercise: Background and Context

ASSESS BACKGROUND AND CONTEXT FOR THAILAND

MODULE 1 – KEY TAKEAWAY

KEY TAKEAWAYS

UNDERSTANDING THE ENVIRONMENT

- Context in Thailand
- Measuring Innovation
- Digital Innovation Divide
- Common language on innovation
- Challenges in building national innovation policy