

IOT & AUTOMATION

**IoT
Makers
Creation**

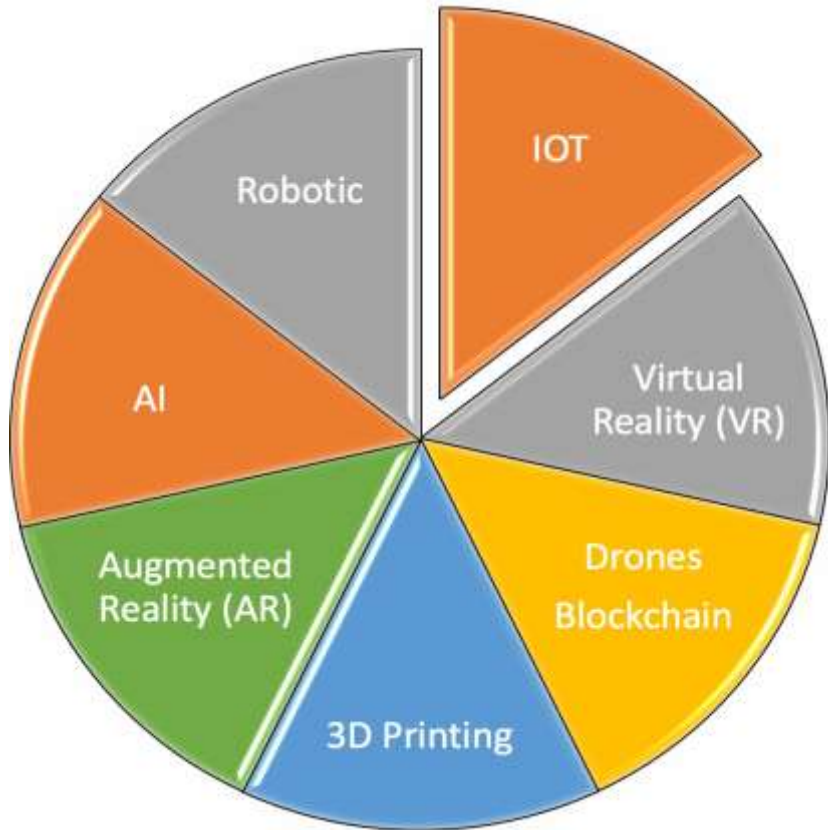
2020

IOT Definition

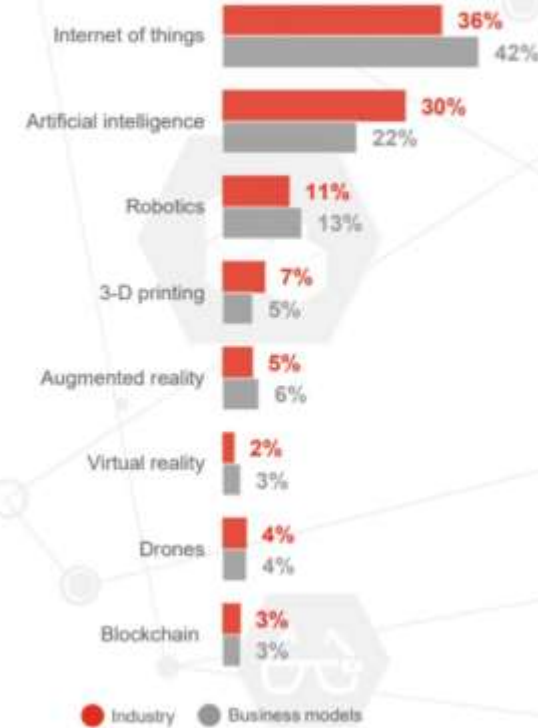
Referring to ITU has been defined in Recommendation ITU-T Y.2060 (06/2012) IOT “as a global infrastructure for the information society, enabling advanced services by interconnecting (physical and virtual) things based on existing and evolving interoperable information and communication technologies”.



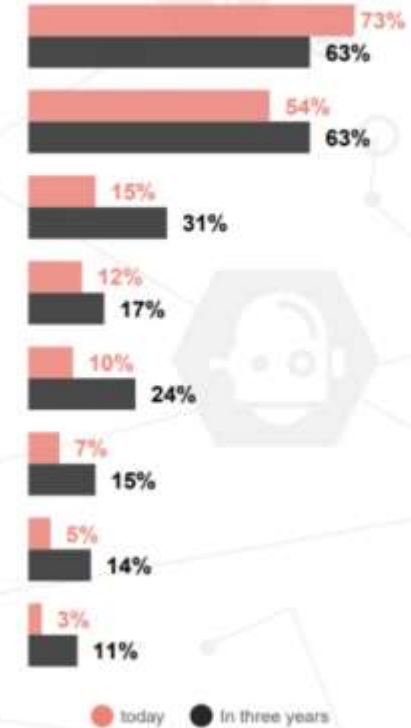
8 Emerging Technology



Disruptive technologies

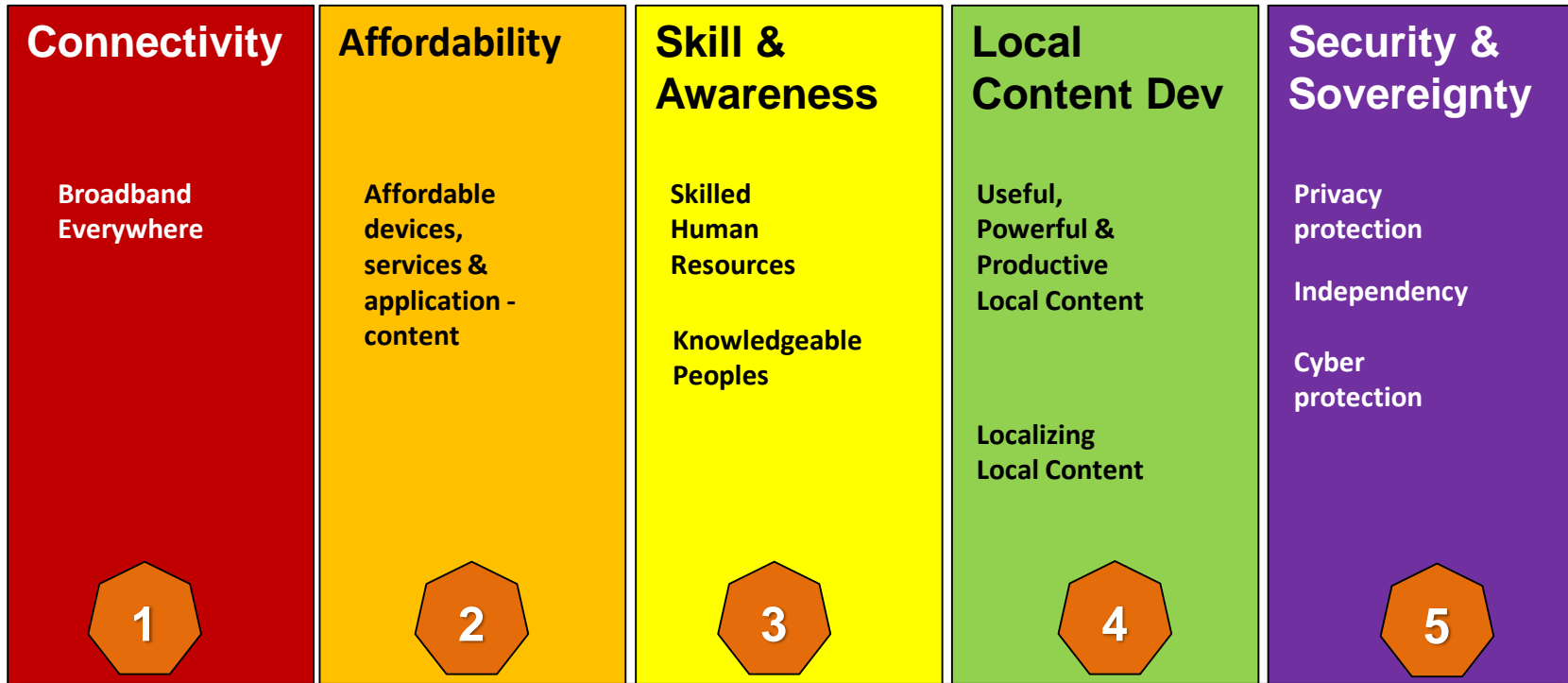


Investment made by organisations



Source: Global Digital IQ, PwC

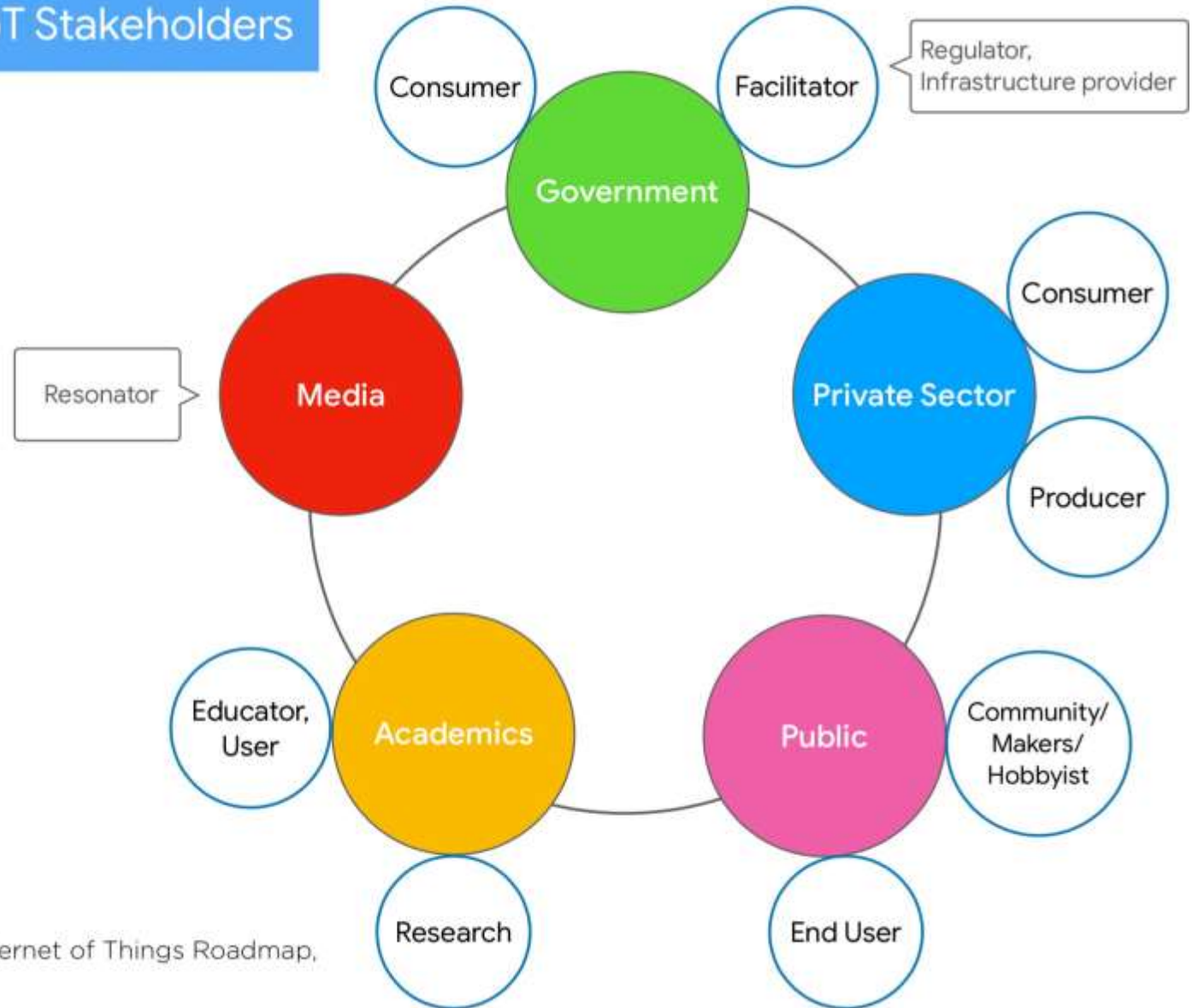
Indonesia Readiness Toward Digitalization
for a Better Nation Development



Indonesia Digital Inclusion Index 2017 = **50**, Benchmark : India = 38, UK = 86, Australia = 50

Key Success: Collaboration

Indonesia's IoT Stakeholders



E-commerce increasing new job creation

MENCIPTAKAN LAPANGAN KERJA DARI ACEH SAMPAI PAPUA

Ada banyak alasan orang memilih berjualan di Tokopedia. Alasan yang paling banyak disebut adalah kemudahan mengelola bisnis dan kepercayaan terhadap Tokopedia. Usaha-usaha kecil ini telah menciptakan banyak sekali lapangan pekerjaan.

Pengaruh Tokopedia dalam Penciptaan Lapangan Kerja (2018)



Tokopedia menciptakan **10,3%** dari total lapangan pekerjaan baru untuk Indonesia

TOTAL **2,99 JUTA** LAPANGAN KERJA BARU PADA 2018



Hingga penghujung tahun, diprediksi akan ciptakan **1,136 juta** pekerjaan

lapangan kerja dari Aceh sampai Papua diciptakan oleh penjual aktif di Tokopedia*

309 ribu di antaranya menjadikan Tokopedia sebagai sumber penghasilan utama

* Angka total gabungan antara individu yang menjual di Tokopedia sebagai mata pencaharian utama dan mereka yang menjual di Tokopedia sebagai pekerjaan sampingan

- E commerce creating : 1,1 Million Jobs
- Online Transport creating : 2 million Jobs

SNAPSHOT

This research enables Facebook and its stakeholders to better understand the social and economic impacts of Facebook apps including Facebook, Messenger, Instagram and Whatsapp, on Indonesians, their communities, businesses, and government.



Supporting businesses and the economy

Supporting the growth of new and existing businesses

1 in 2 One in two agreed that they were started using Facebook apps

Uses and impacts of Facebook apps for businesses surveyed



Facebook apps are benefiting consumers and businesses alike. Of individuals surveyed:



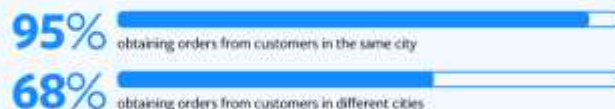
Helping SMBs to access new opportunities and the benefits of scale



Uses and impacts of Facebook apps for SMBs surveyed



Facilitating market expansion, domestically and internally



Uses and impacts of Facebook apps for businesses surveyed



Empowering individuals and communities

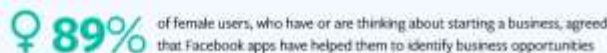
Supporting the development of new and improved skills

Uses and impacts of Facebook apps for individuals surveyed



Empowering individuals and supporting meaningful interactions

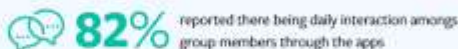
Uses and impacts of Facebook apps for individuals surveyed



Facebook provides an important source of information for individuals across a variety of topics including: news (82%), products and/or services (69%), topics of interest (63%), jobs (46%), health (60%), inspirational public figures (53%)

Helping to build community organizations and facilitating support for good causes

Uses and impacts of Facebook apps for community organizations



Enabling effective digital government

Enabling effective digital government

Uses and impacts of Facebook apps for government officials surveyed



IOT is Key Driver for Industry Transformation

IOT Solution
Implementation

- Connected Devices
- Connected Services
- Ecosystem Support
- Personal Data Protection
- Security Protection

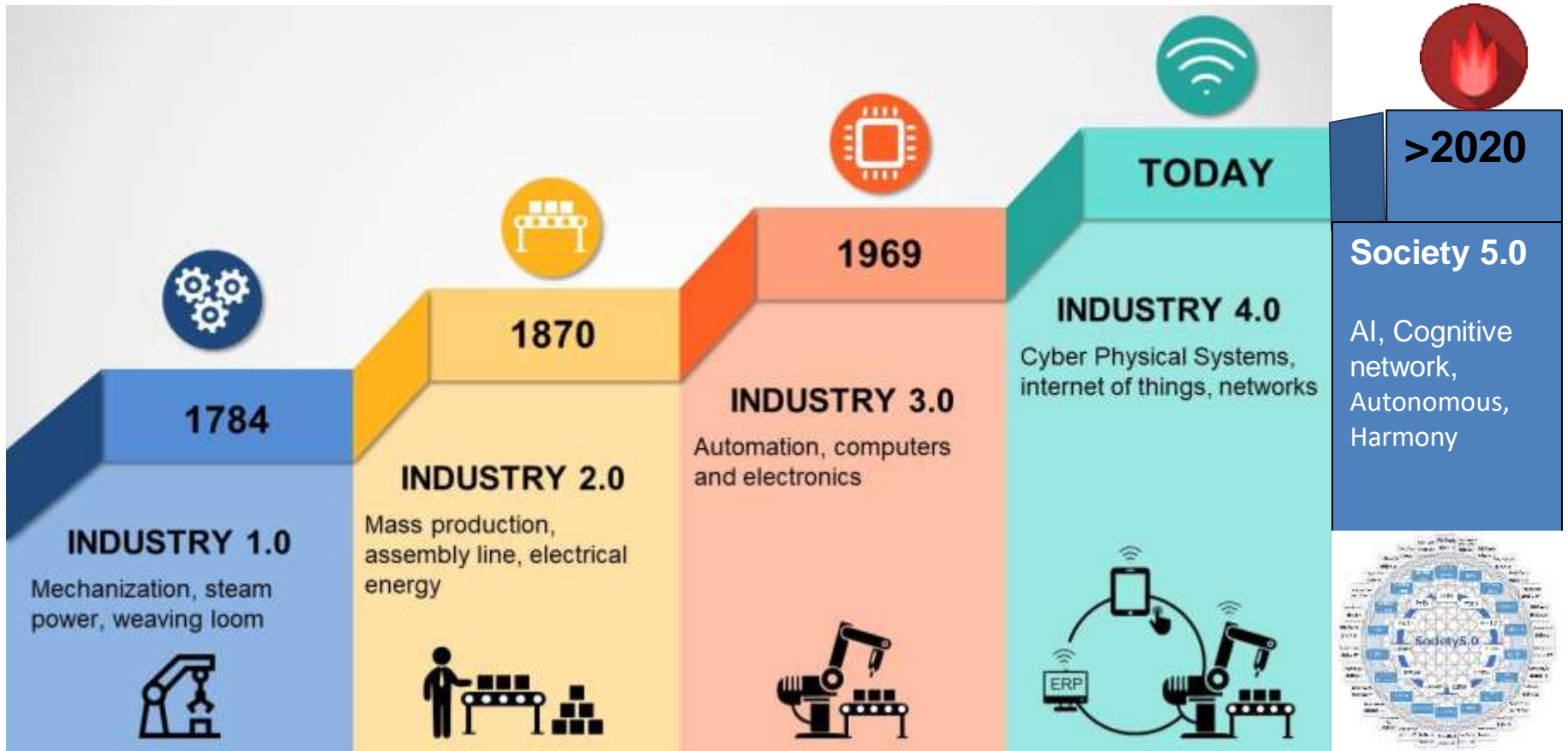
Partnership &
Standardization

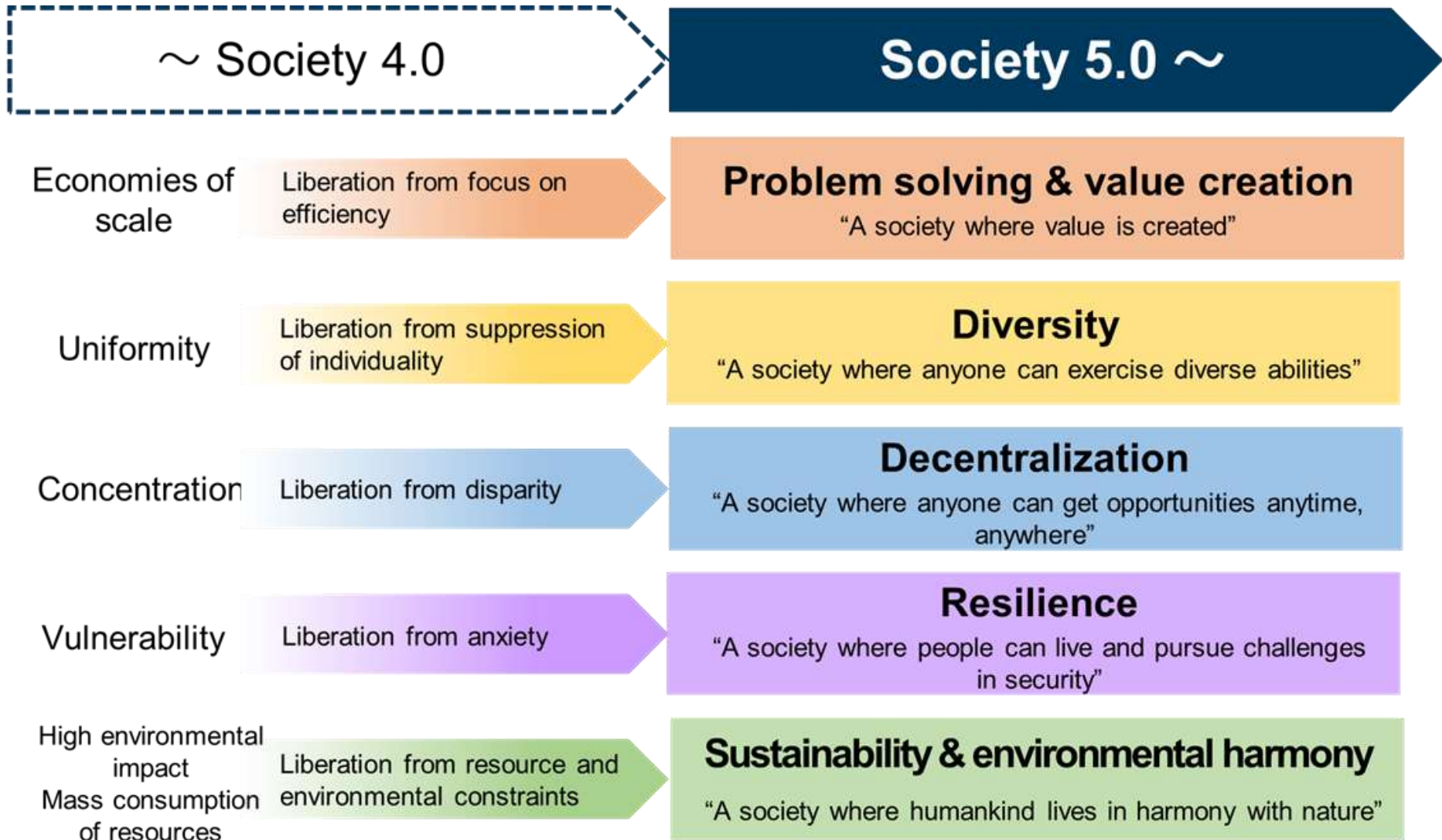
- Domestic & Global
- Networking
- Open Architecture
- Open Platform
- Standardization
- Interoperability

Large Scale
Projects

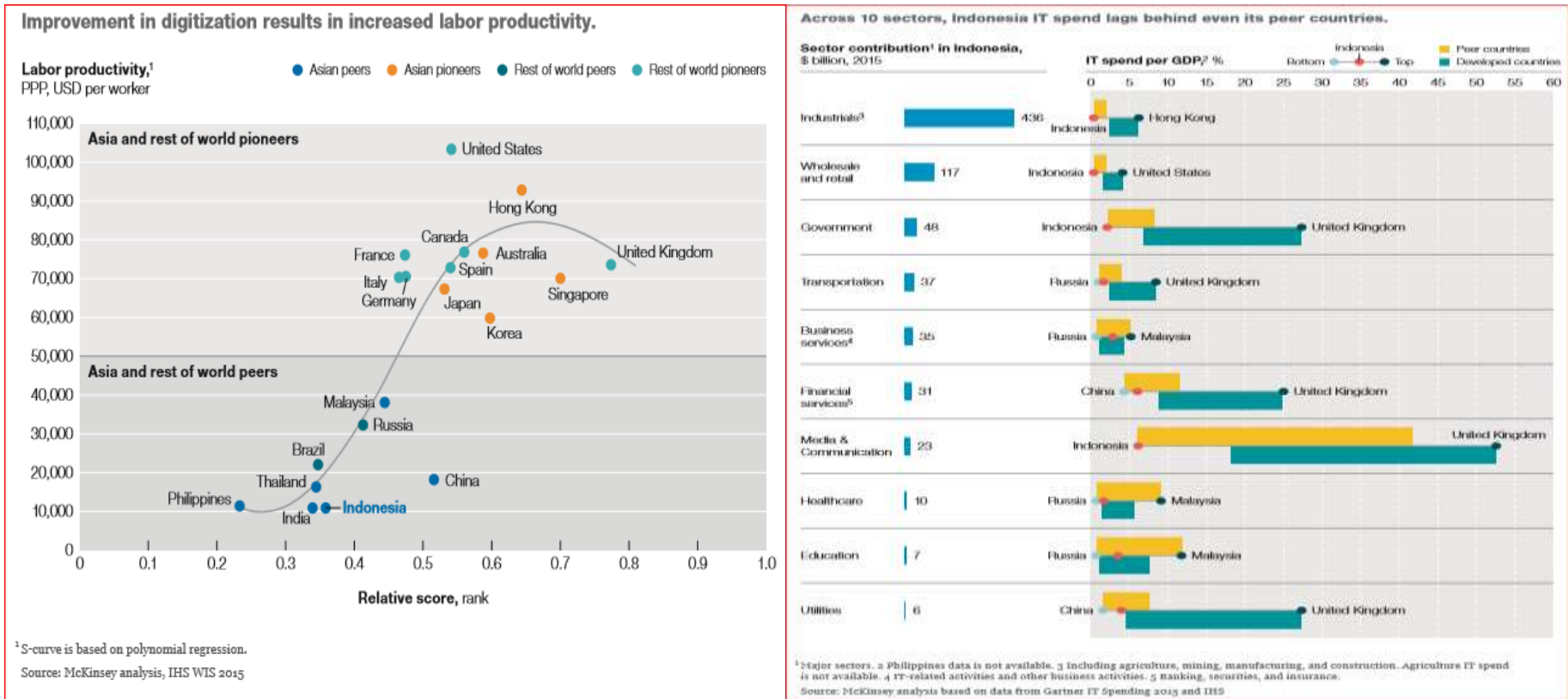
- Smart Healthcare
- Smart Farming
- Smart Transportation
- Smart Energy
- Smart Home
- Smart Government
- Smart Education

From Industry 4.0 toward Society 5.0





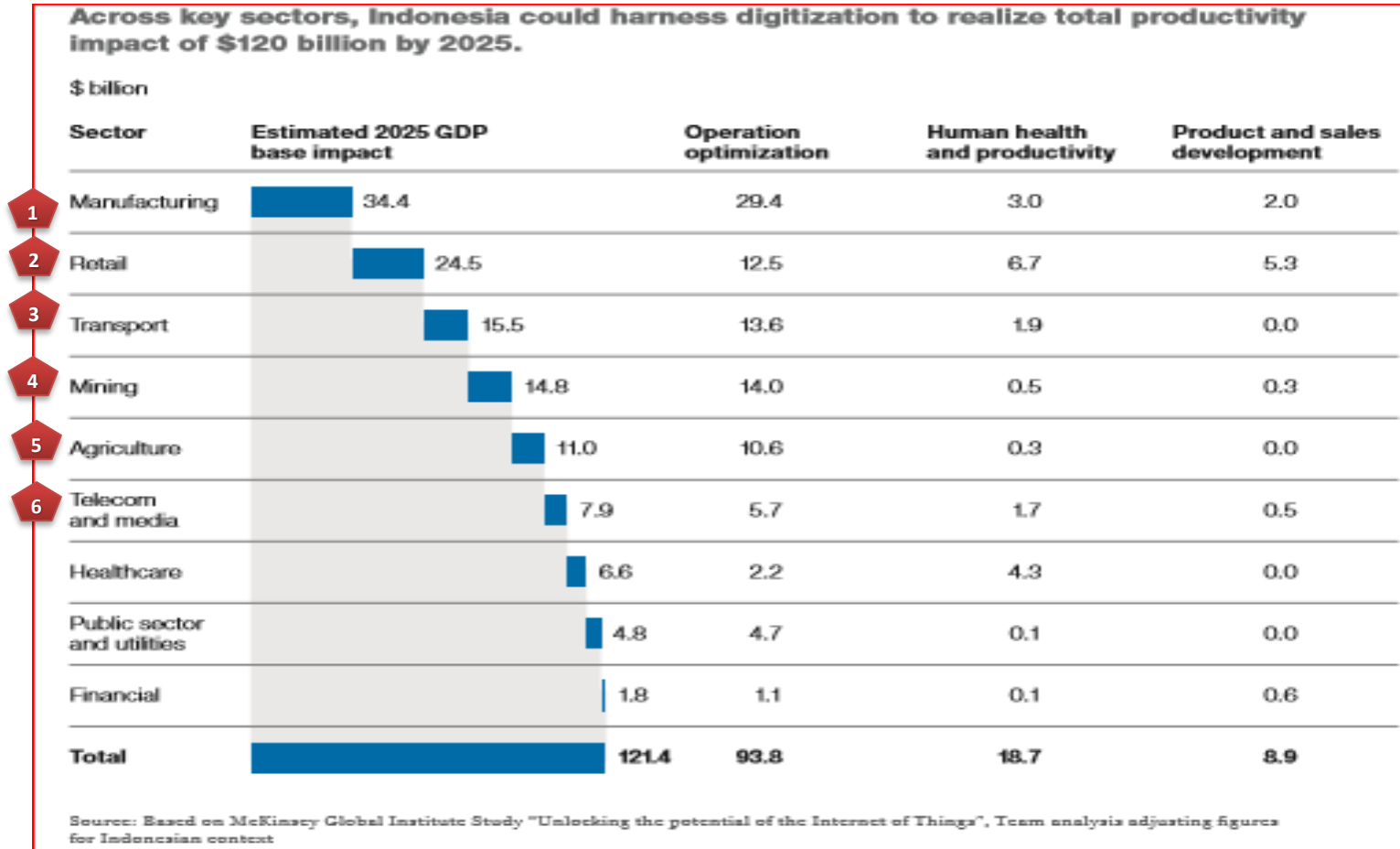
Digitalization impact on GDP



Digitalization will increasing productivity ~ 400% (Malaysia) and up to 1000% (USA) compare with current Indonesia GDP

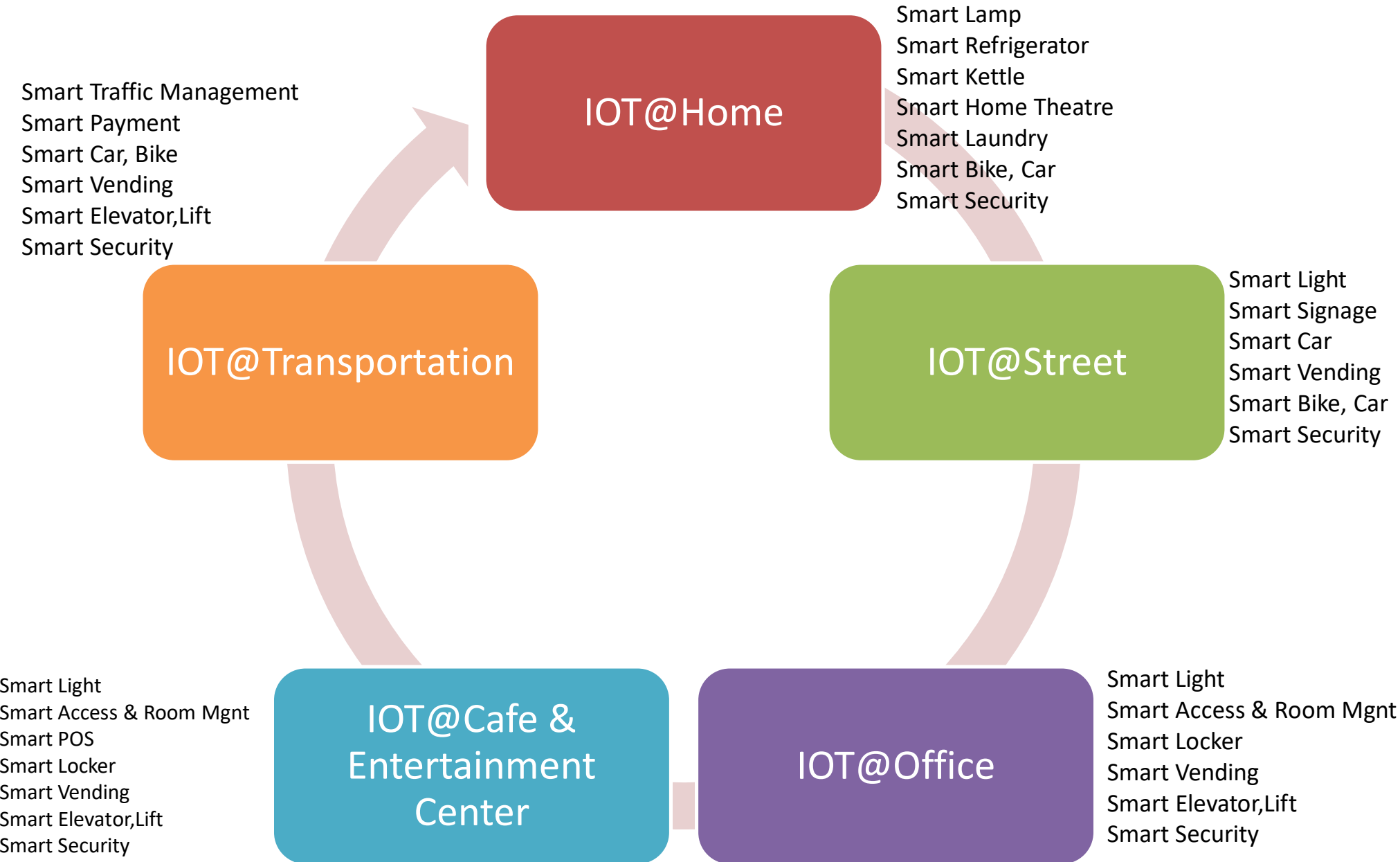
4 sector behind neighbor countries : Industry, Wholesales & Retail, Government and Media & Communication

Impact Indonesia GDP with IOT Implementation



Impact Rp. 1700 Trilyun on 2025 with main driver from the sectors : Manufacture, Retail, Transportation, Mining, Agriculture & Telecom - Media

IOT @ EVERYWHERE



IOT Market Outlook

TECHNOLOGY / LAYER	DESCRIPTION	MARKET SIZE (trillions)	CAGR, 2015-2020 (%)	VALUE
Services	Allows companies to integrate and customize data so that it's readily accessible and actionable	10 / 60	40%	IoT users need customization
IoT applications	Allows companies to make sense of data and generate meaningful insights	10 / 60	40%	Application and software development precedes hardware rollout
IoT analytics		3 / 20	40%	Analytics support applications and drive insights
Identity and security	Restricts access to the IoT system and safeguards connected devices	3 / 20	40%	Financial and technical challenges will limit initial spending
IoT backbone (cloud and platform)	Captures and stores data from connected devices	3 / 15	30%	Platforms will initially be given away and will lag behind point solutions
Communications	Allows sensors attached to or embedded in connected things to communicate with the internet	10 / 25	30%	Commoditization and scale effects will lead to price erosion; existing network infrastructure will likely be reused
Connected things	Allows sensors, processors, and microcontrollers to monitor, for example, homes, packages, inventory, and machinery	20 / 50	30%	Commoditization and scale effects will lead to price erosion in sensors

■ 2015 ■ 2020 ○ CAGR, 2015-2020 = ~40% ○ CAGR, 2015-2020 = ~30% ○ CAGR, 2015-2020 = ~30%

Sources: IDC, Gartner, ABI Research, BCG Internet of Things Buyer survey, expert interviews, BCG analysis.

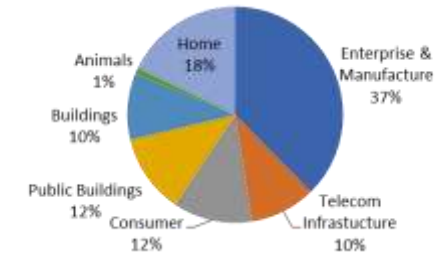


Services, IoT Applications & Connected Things will capture some 60% of IoT Spending

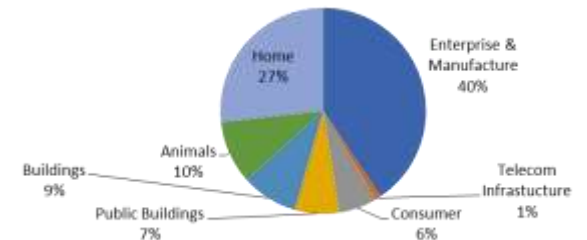
Most of IoT spending and installed device in Indonesia will be in enterprise & manufacture (business) and home (retail)



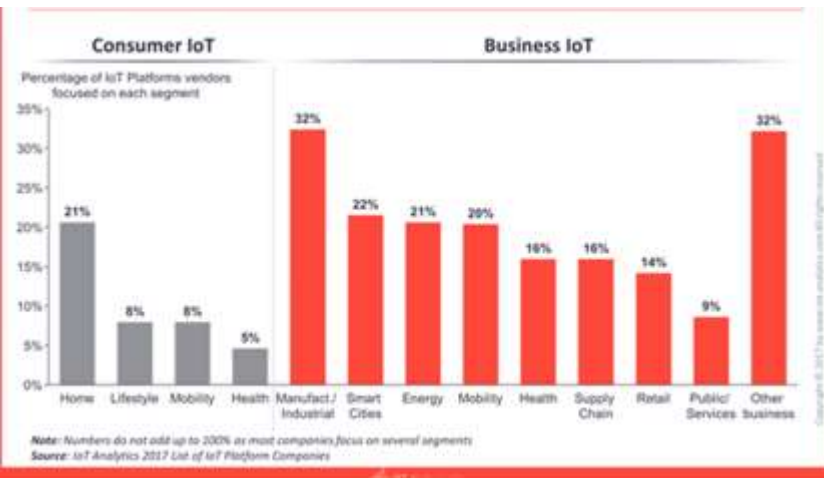
Indonesia IoT Spending 2018 by Industry



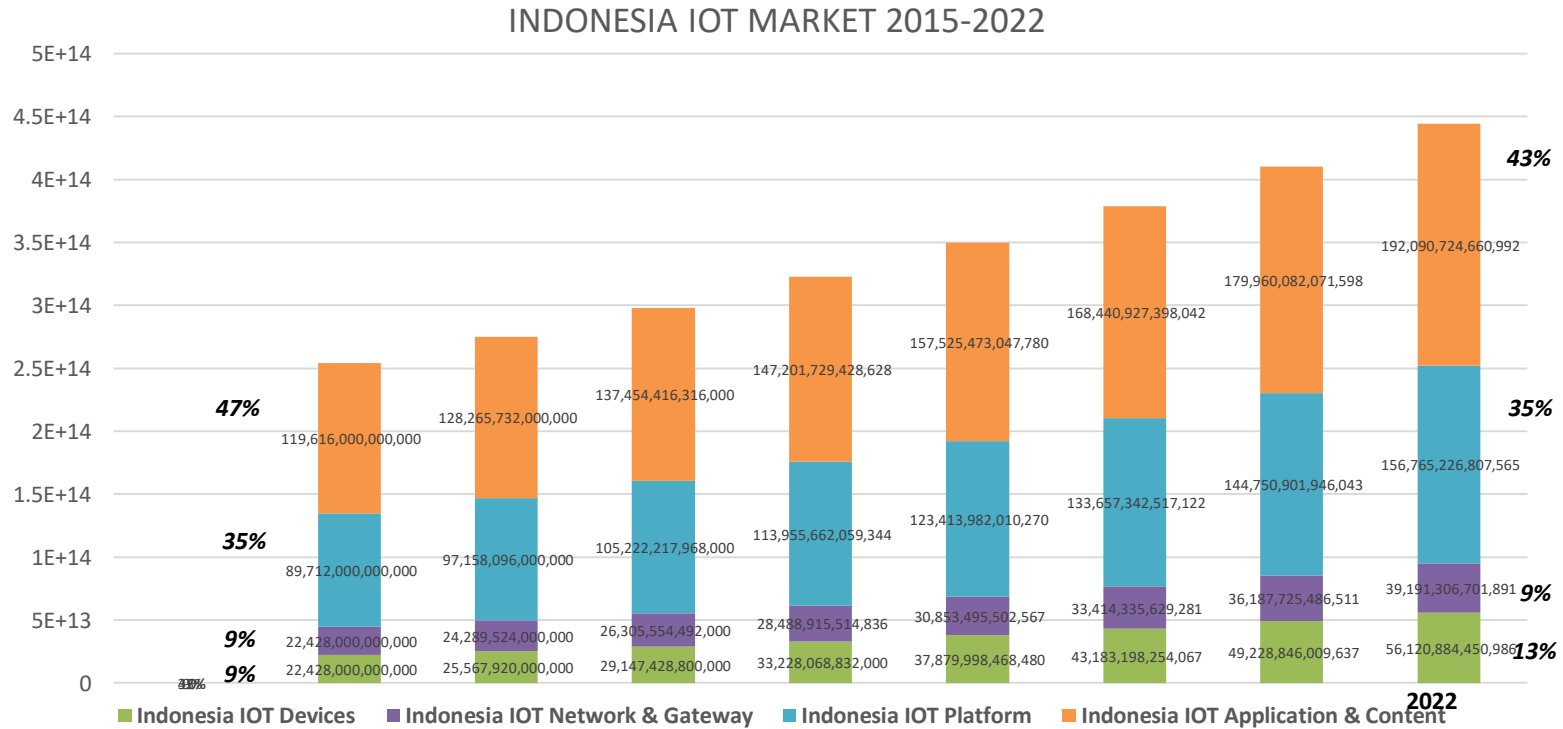
Indonesia IoT Installed device by Industry 2018



Most IoT Platforms Focus On Industrial or Manufacturing



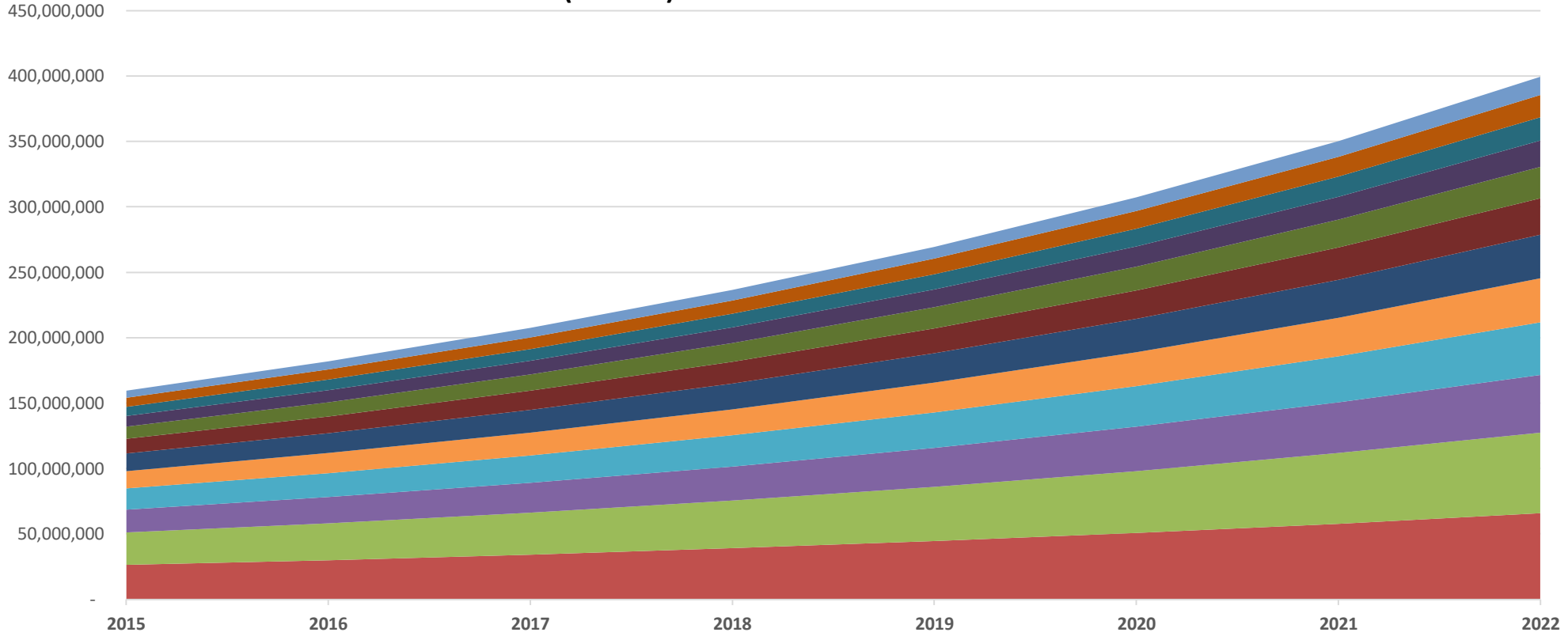
Indonesia Market Analysis



Rp.444 Trillion (USD 31.5 Billion) on 2022
 Main Contributor : Platform & Apps (78%)

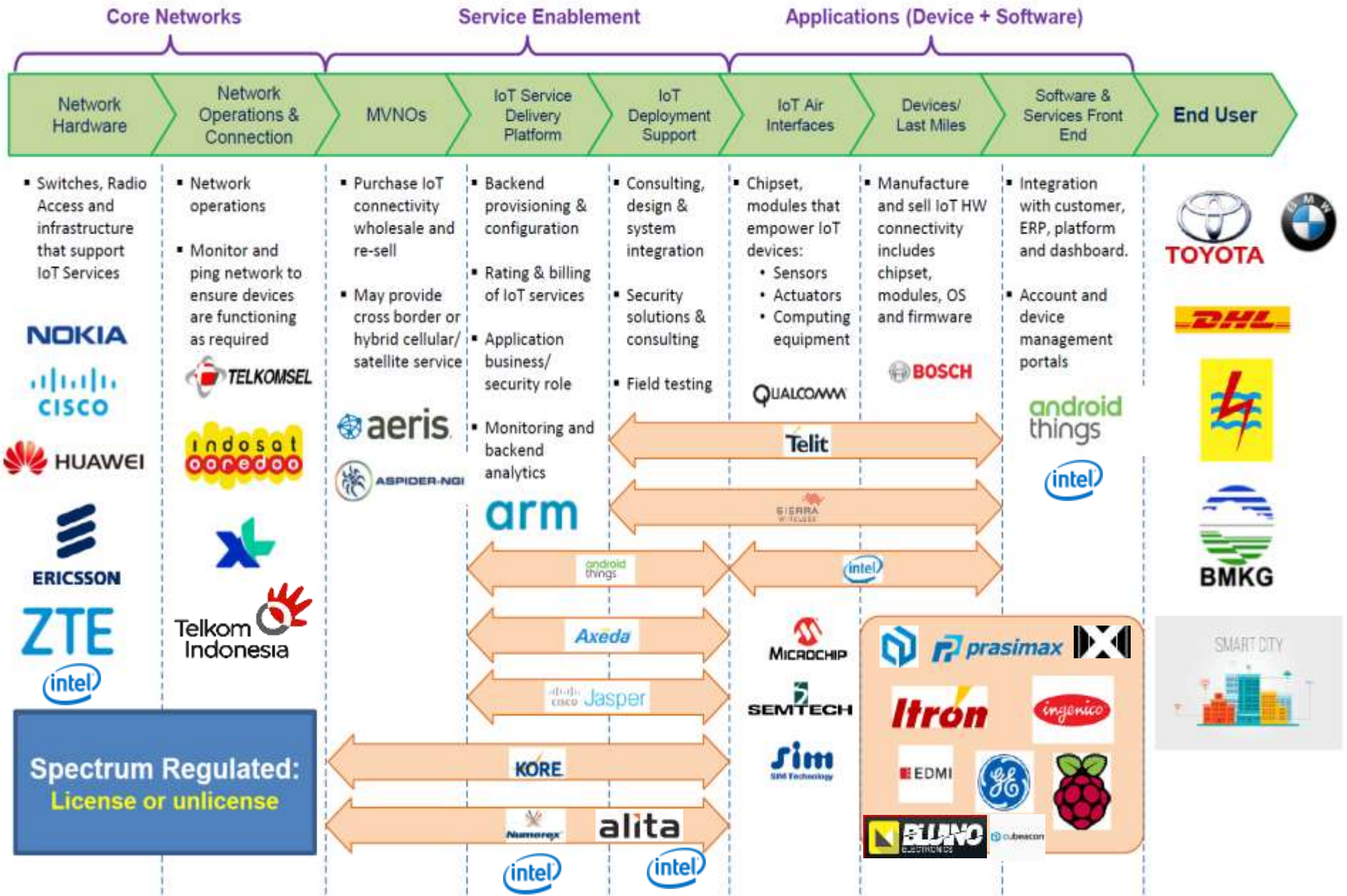
Indonesia IOT Devices 2015-2022

400 million sensors (devices) on 2022








































- Manufacture 16%
- Healthcare 15%
- Insurance 11%
- Banking & Securities 10%
- Retail & Wholesale 8%
- Computing Services 8%
- Government 7%
- Transportation 6%
- Utilities 5%
- Real Estate & Business Services 4%
- Agriculture 4%
- Home & Others 3%

Indonesia IOT Ecosystem



Indonesia IOT Vertical Markets

Asset Tracking & Fleet Management	Smart Agriculture & Environmental Monitoring	Oil & Gas - Smart Mining	Automotive & Smart Transportation	Smart Grid & Smart City	Smart Home & Building	Smart Health	Smart Education
     	       	   	  	      	   	  	 

SMART MANUFACTURING	Smart Retail
   	     

 
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Support from Makers to Market



Success stories

- Organize IoT Business Matching to connect producers and consumers, in collab with Ministry of Industry
- Promote Indonesia's IoT landscape to Asia's region (e.g. at IoT Asia 2019 in SG)



Talent & Community

- Reaching makers community through IoT Makers Creation program, in collaboration with KOMINFO. Coming to 10 cities in 2019
- Involve in the formulation of national competence standard (SKNNI) for IoT
- Promoting IOT HR Certification



Infrastructure

- Promoting and helping IoT Labs in Indonesia to be Type Approval & Certification labs, in collaboration with KOMINFO
- Promoting IOT network deployment nationwide



Regulations

- Involve and give feedbacks/ recommendations on LPWA device requirement regulation
- Involve in drafting of IoT business model regulation
- Start drafting SNI IOT



Startups & Investments

- Promote Indonesia's IoT startups to the region
 - Promoting IOT R&D
 - Promoting IOT Incubation
 - Promoting IOT Investment

Roadmap Indonesia IOT Development 2020

Human Resources

SKKNI IOT

KKNI IOT

Peta Okupansi
IOT

Process

Modul
Pelatihan IOT

Sertifikasi IOT

Online Course
& Certification

Tools & Technology

Lab IOT &
Sertifikasi
Perangkat

Production Line
IOT Lokal

Platform IOT &
Jaringan IOT
Nasional

Socialization

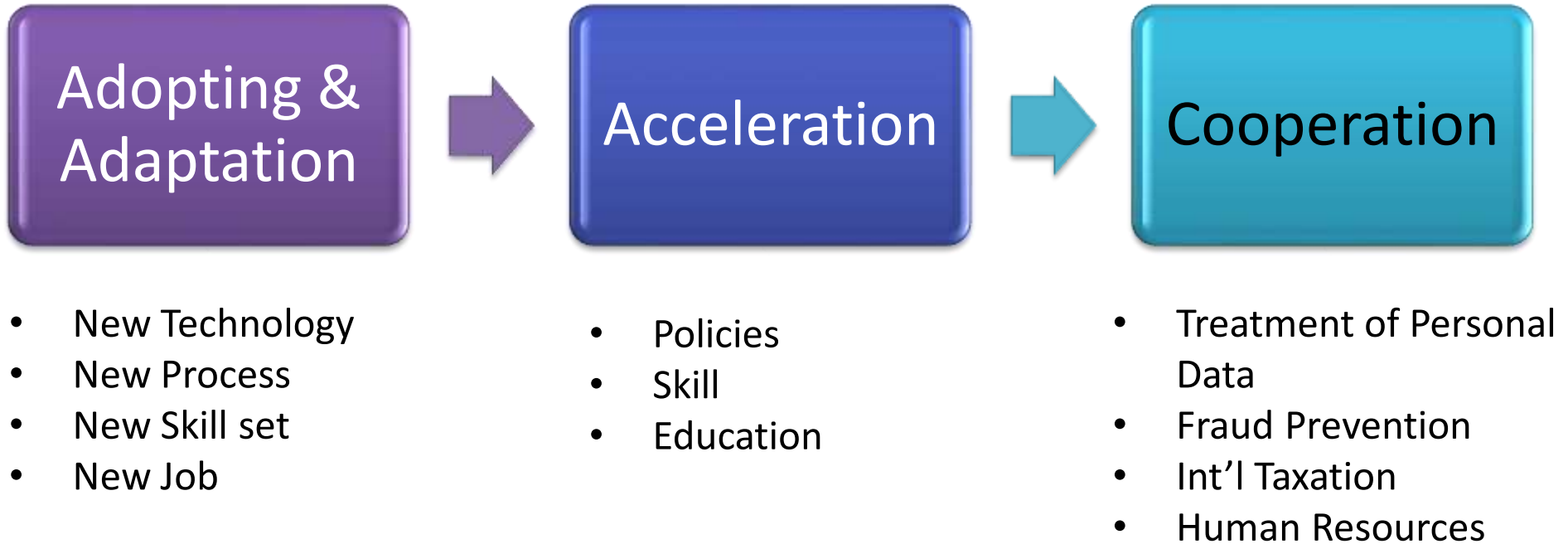
IOT Goes to
BUMN

IOT Makers
Creation

IOT Indonesia
Exhibition 2020

IOT 4 Vertical
Market

Facing the Future



Collaborate with Us

ASOSIASI
INDONESIA 



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December '18 - December '19 : more than 585 members with >300 registered
Partnership with Singapore Industrial Automation Association (SIAA),
Supported by Ministry of ICT, Ministry of Industry, and Ministry of Manpower

