

Digital Technology Development and its Implication to Indonesia

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President, ICC Indonesia



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www.wantiknas.go.id



Organisational Structure (Presidential Decree No.1/2014)

Steering Committee



Chairman : President of the Republic of Indonesia
Vice Chairman: Coordinating Minister for Economic Affairs
Chief Executive : Minister of National Development Planning or Head of the National Development Planning Agency (Bappenas)

Members:

Minister of Communication and Informatics
Minister of Education and Culture
Minister of Industry
Minister of Health
Minister of Finance
Minister of Research and Technology
Minister of Tourism and Creative Economy
Cabinet Secretary

Advisory Team

University(s):

- Rector of ITB, Rector of UI, Rector of UGM, Rector of ITS

Telecommunication

Providers:

- President Director of PT. Telkom, President Director of PT. Indosat, President Director of PT. XL Axiata

Dunia Usaha

- Chairman of KADIN, Chairman of KII, Chairman of KEI

Others:

- Experts, Practitioners

Partner Team

- ICT Stakeholders stipulated by the chief Executive of Steering Committee

Executive Team

Chief Executive : Dr. Ing. Ilham Akbar Habibie, M.B.A
Vice Chief : Vice Minister of National Development Planning / National Development Planning Agency (Bappenas)*
Secretary : Directorate General of Postal and Informatics Resources and Devices (SDPPI) of the Ministry of Communication and Informatics (Kemkominfo)
Vice Secretary : Muhammad Andy Zaky
Vice Secretary II : Mira Tayyiba

Members:

Government: Deputy of Infrastructure Acceleration and Area Development Coordination of the Coordinating Ministry for Economic Affairs; Director General of Informatics Application of the Ministry of Communication and Informatics; Secretary General of the Ministry of Health; Secretary General of the Ministry of Trade; Directorate General of Budget of the Ministry of Finance; Secretary of the Ministry of Administrative and Bureaucratic Reform; Main Secretary of the Ministry of National Development Planning (Bappenas); Deputy of Facility and Infrastructure of the Bappenas; Head of Centre for Data and Information Technology of the Ministry of Education and Culture; Director of Energy, Telecommunication and Informatics of the Bappenas; Head of Organisation and Governance Bureau of the Bappenas
Association: Chairman of MASTEL (Indonesia Telematics Society); Vice Chairman of ICT and Broadcasting Affairs of the Indonesian Chamber of Commerce and Industry (KADIN);
Expert/Practitioners: Pakar/Praktisi: Sylvia Sumarlin; Indra Utoyo; Hari Sungkari; Garuda Sugardo; Zainal A. Hasibuan; Virano G. Nasution; Ashwin Sasongko Sastrosubroto; Anantyo Wahyu Nugroho

Work Group

Secretariat Team

Tasks of WANTIKNAS (Presidential Decree No. 1 Year 2014)

- Formulate the general policy and strategic direction of national development, through the development of information and communication technology, which includes infrastructure, applications, and content;
- Conduct assessment, evaluation, and input in determining the steps to resolve the existing strategic issues for the development of information and communication technology;
- Conduct National coordination with Central/ Local Government, State-owned Enterprise/ Regional-owned Enterprises, Businesses, Professional Agencies, and general public in the development of information and communication technology as well as empowering society; and
- Provide improvement on the implementation on inter-ministerial information and communication technology development programmes to ensure the effectiveness and efficiency

New Task of WANTIKNAS (National Development Planning Ministerial Decree No.45/2020)

The tasks referred to in the Presidential Decree No.1/2014 are also carried out in the context of digital transformation development

5 Priorities to Accelerate Digital Transformation

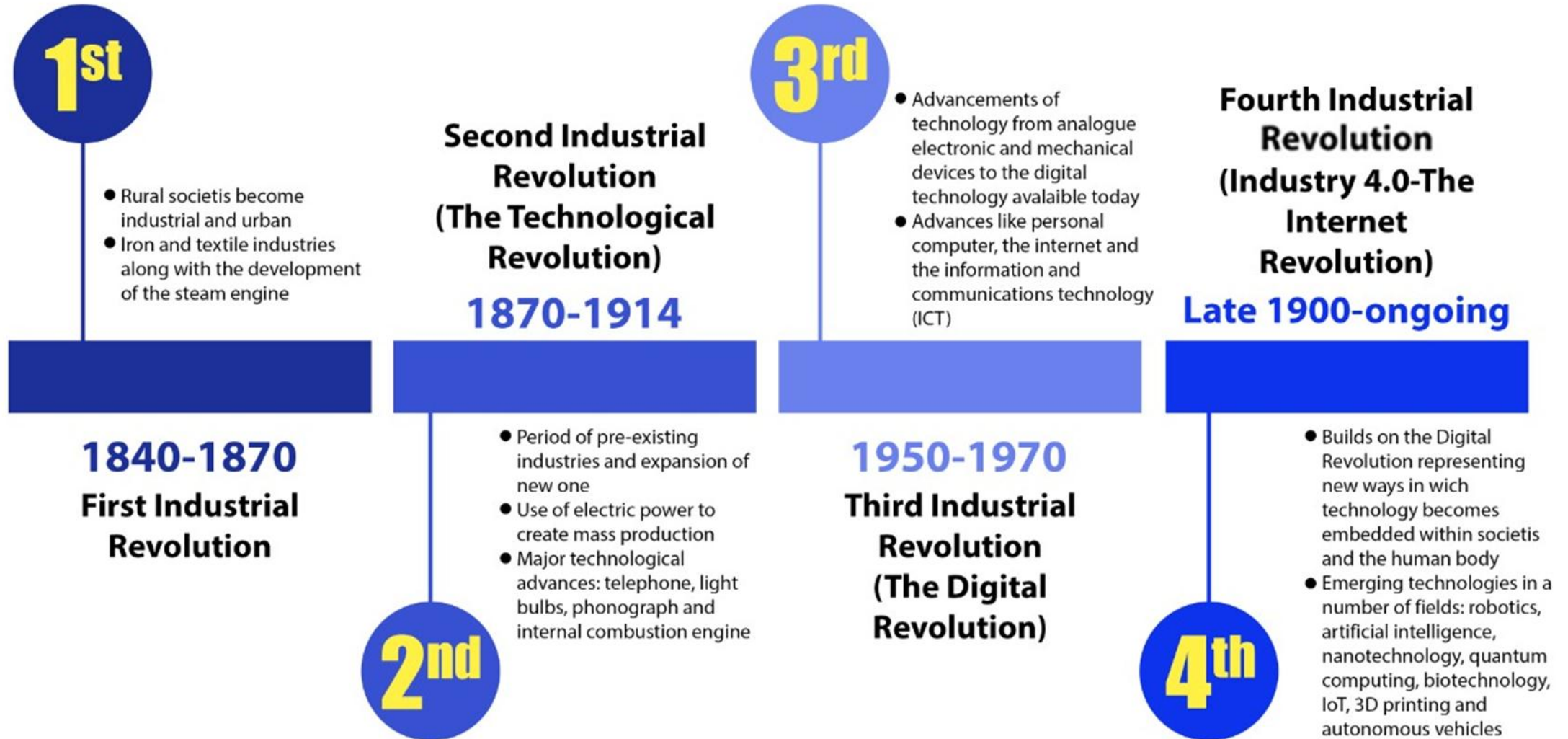
President Joko Widodo, 3 August 2020

1. “Accelerate the digital infrastructure access expansion and improvement, and internet service provision.”
2. “Prepare the digital transformation roadmap for strategic sectors. Including government, public services, social assistance, education, health, trade, industry and broadcasting sectors.”
3. “Accelerate the integration of national data center.”
4. “Prepare the digital talent human resource requirements.”
5. “Regulations, funding and financing schemes must be prepared immediately.”



Digital Transformation Era

Industrial Revolution from Time to Time



Technology in Industry 4.0

1. Connectivity, data, computational power

Sensors
Internet of Things
Cloud technology
Blockchain



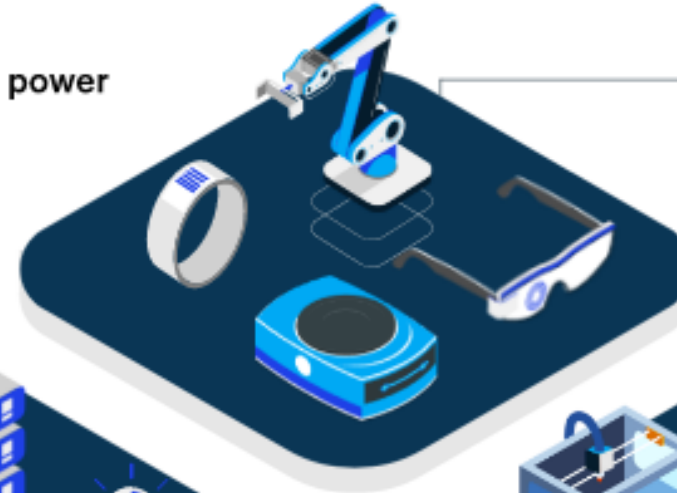
2. Analytics and intelligence

Advanced analytics
Machine learning
Artificial intelligence



3. Human-machine interaction

Virtual and augmented reality
Robotics and automation
(collaborative robots, AGVs¹)
RPA,² chatbots



4. Advanced engineering

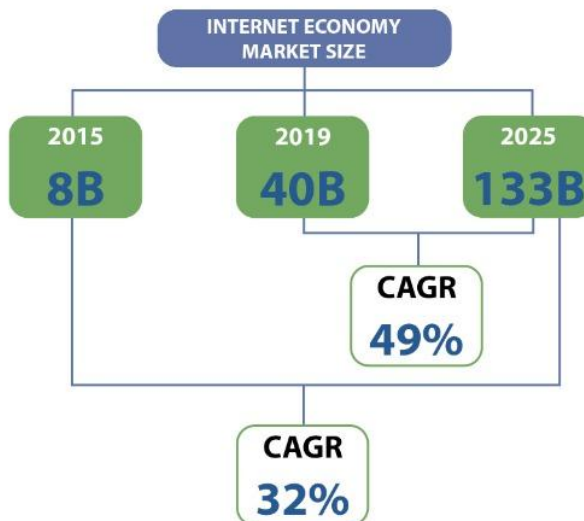
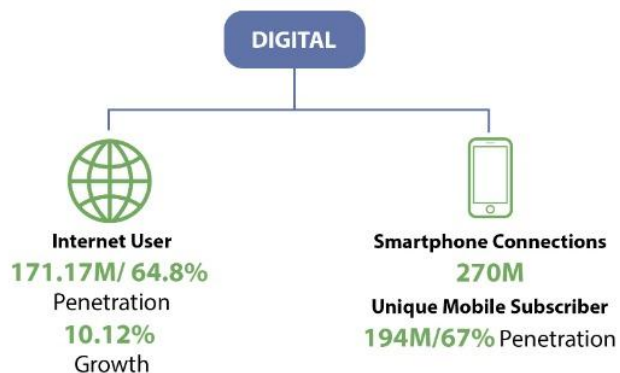
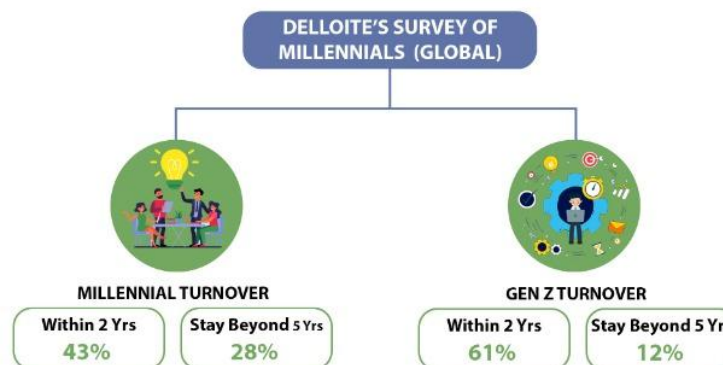
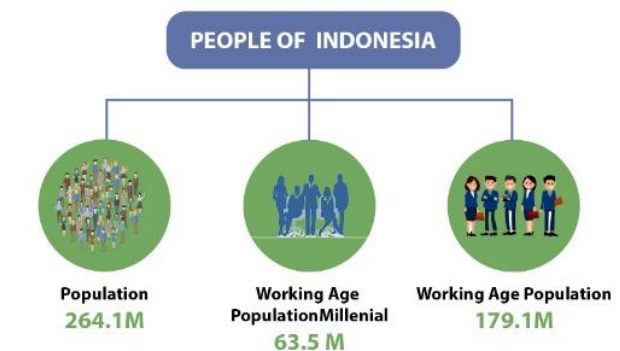
Additive manufacturing (eg, 3D printing)
Renewable energy
Nanoparticles



Indonesia's Digital Landscape

2019

2020



272,1 Mio.
Total Population



175,4 Mio.
Internet users

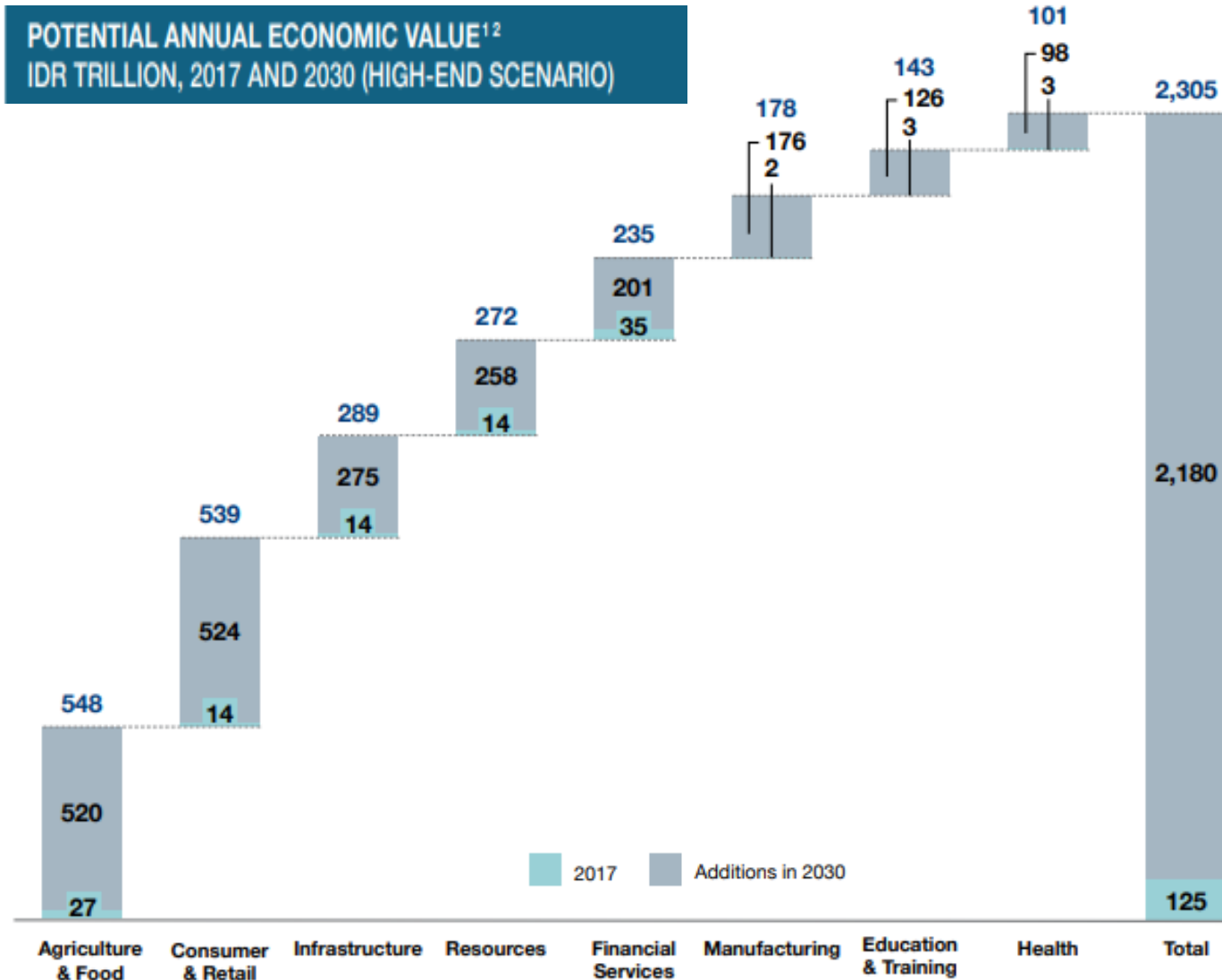


338,2 Mio.
Mobile Subscriptions



160 Mio.
Social media users

Digital Trade Potential of Indonesia



Digital trade in 2017 enabled
UP TO IDR 125 TRILLION
of economic impact in
Indonesia's domestic economy.

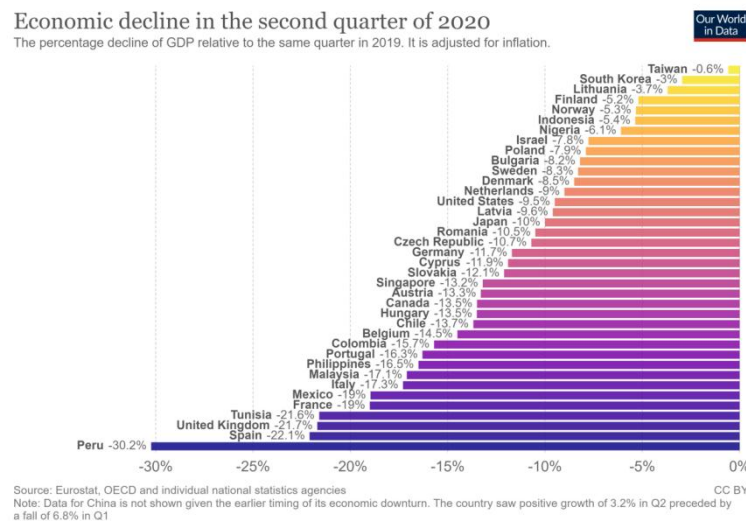
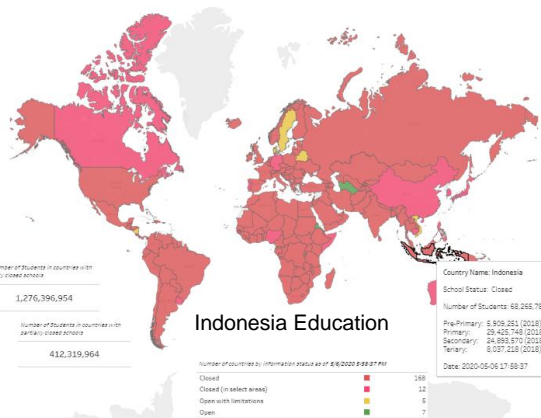
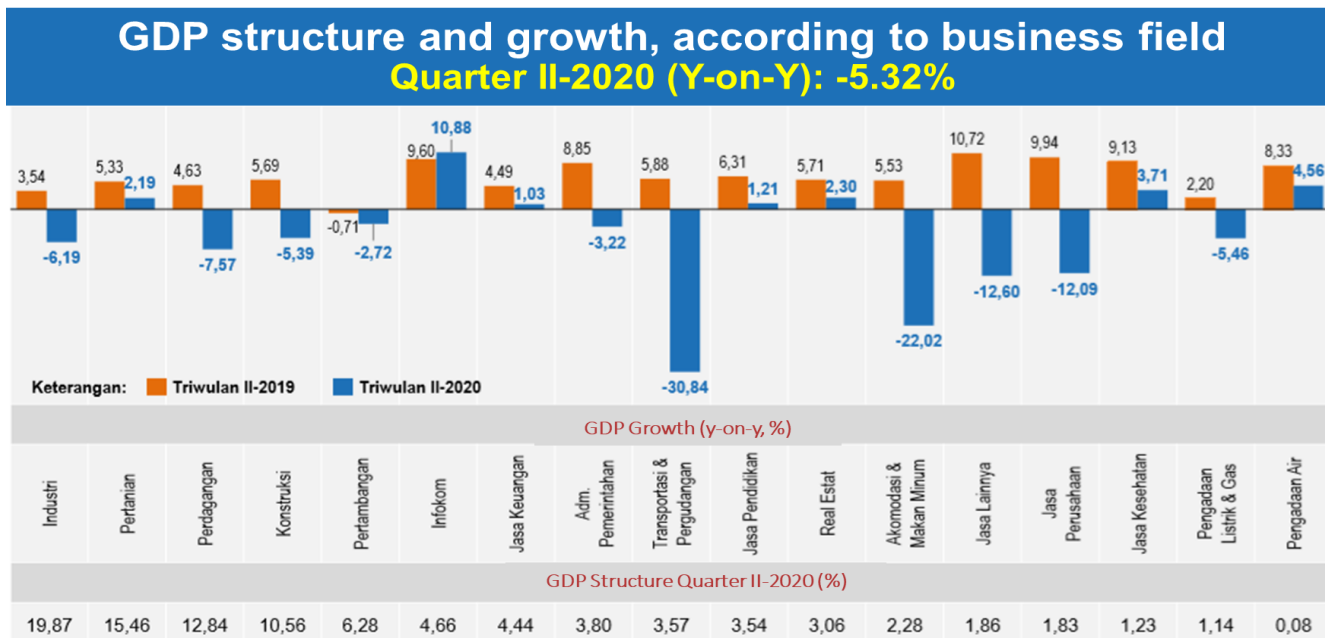


By 2030, digital trade will
enable an estimated
IDR 2,305 TRILLION
of economic value for
Indonesia's domestic economy.

1. These estimates do not represent GDP or market size (revenue), but rather economic value, including consumer surplus. The sizing includes the economic value that is both "somewhat enabled" and "highly enabled" by digital trade.
2. Due to rounding to the nearest billion, the numbers in this table may not add up precisely to the totals indicated

Source : The Digital Komodo Dragon: How Indonesia Can Capture The Digital Trade Opportunity At Home And Abroad (Alphabeta, 2018)

Pandemic Impact on Various Sectors





Education quality decreases



Unemployment rate increases



Poverty rate increases



Economic growth decreases

Harnessing Digital Technology during Pandemic Time

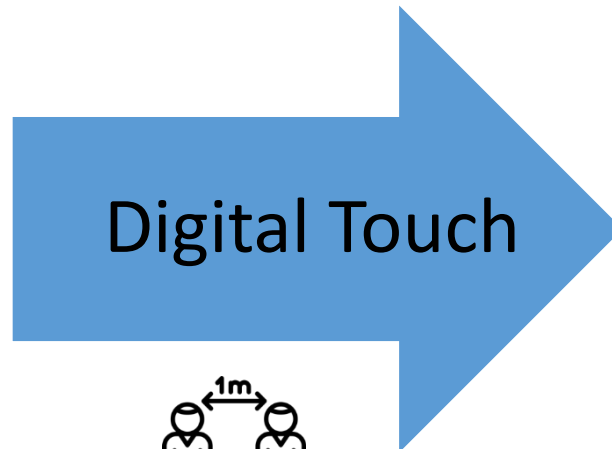
Office Working

Physical visit

Large group

Mall Shopping

Cash Payment



Work from home
(online meeting, e-office)



Digital Public Services
(LAPOR, e-procurement)



School from home
(online learning, edu broadcast)



Medication from home
(Telemedicine)



Shop from home
(e-commerce)



Online financial transaction
(online banking)

Top 10 Strategic Technology Trends for 2020

People-centric

Smart spaces



Hyperautomation



Multiexperience



Democratization



Human Augmentation



Transparency and Traceability



Empowered Edge



Distributed Cloud



Autonomous Things



Practical Blockchain

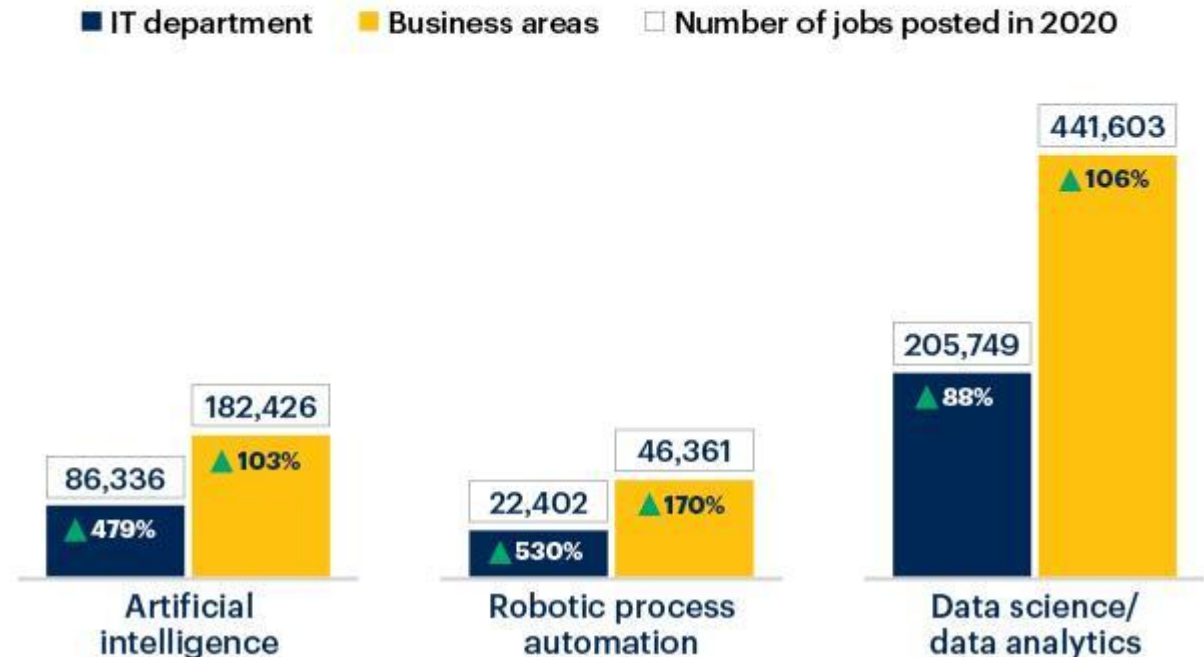


AI Security

Digital skills demand in top 12 countries by GDP

Digital skills in demand beyond tech companies and outside of IT

Growth in jobs posted by non-technology companies in top 12 countries by GDP, 2015-20



Skills Set and Future Workforce

THE EVOLUTION OF THE EMPLOYEE



Complex Problem Solving



Critical Thinking



Creativity



People Management



Coordinating with Others



Emotional Intelligence



Judgment and Decision Making



Service Orientation



Negotiation



Cognitive Flexibility

Digital Trade (1/2)

Digital technology changes how business is done

Large multinationals

- Attain truly global scale with new markets and suppliers. New strategies for products, assets, organization

SMEs

- Use digital platforms to find customers and suppliers abroad. 50M on Facebook, 10M on Alibaba, 2M on Amazon

Startups

- >80% of tech-based startups are “born global”. Foreign customers, financing, suppliers from day one

Individuals

- New ways to work, learn, and communicate across borders. >900M have international connections on social media



Barriers

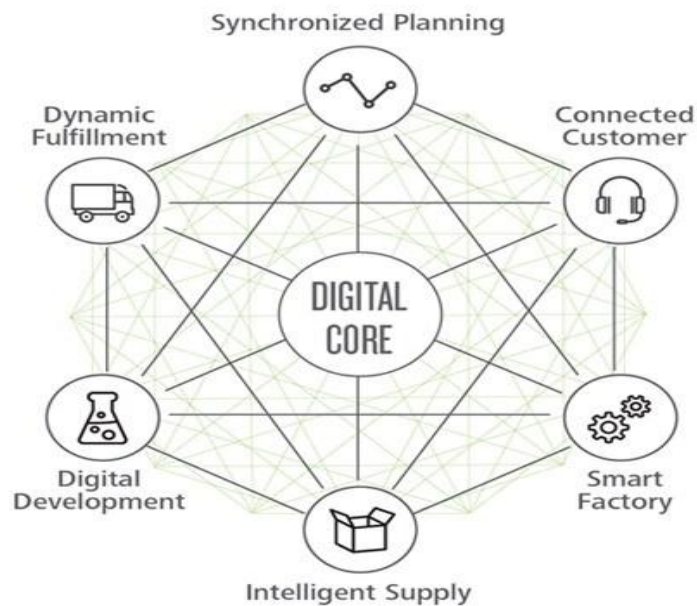
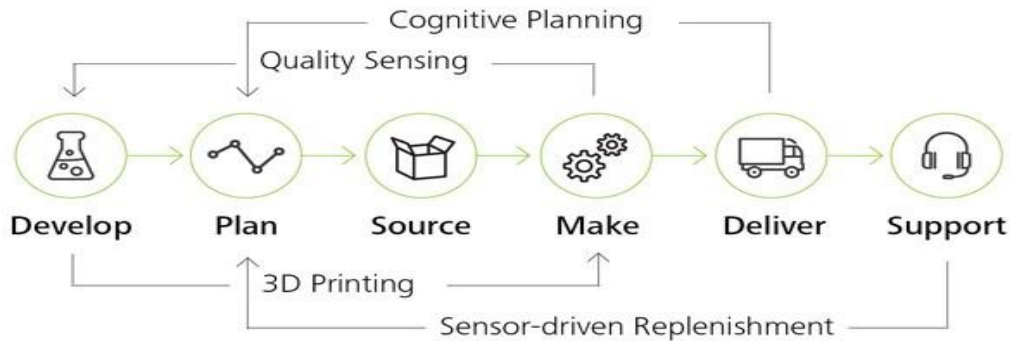
- Lack of e-commerce readiness
- Discriminatory and incompatible national policies
- Legal gaps in existing trade rules
- Digital protectionism

Benefits

- New business models
- Fast and easy access to a global market place
- Lower transaction costs
- Access to diverse goods

Digital Trade (2/2)

Digital Supply Network



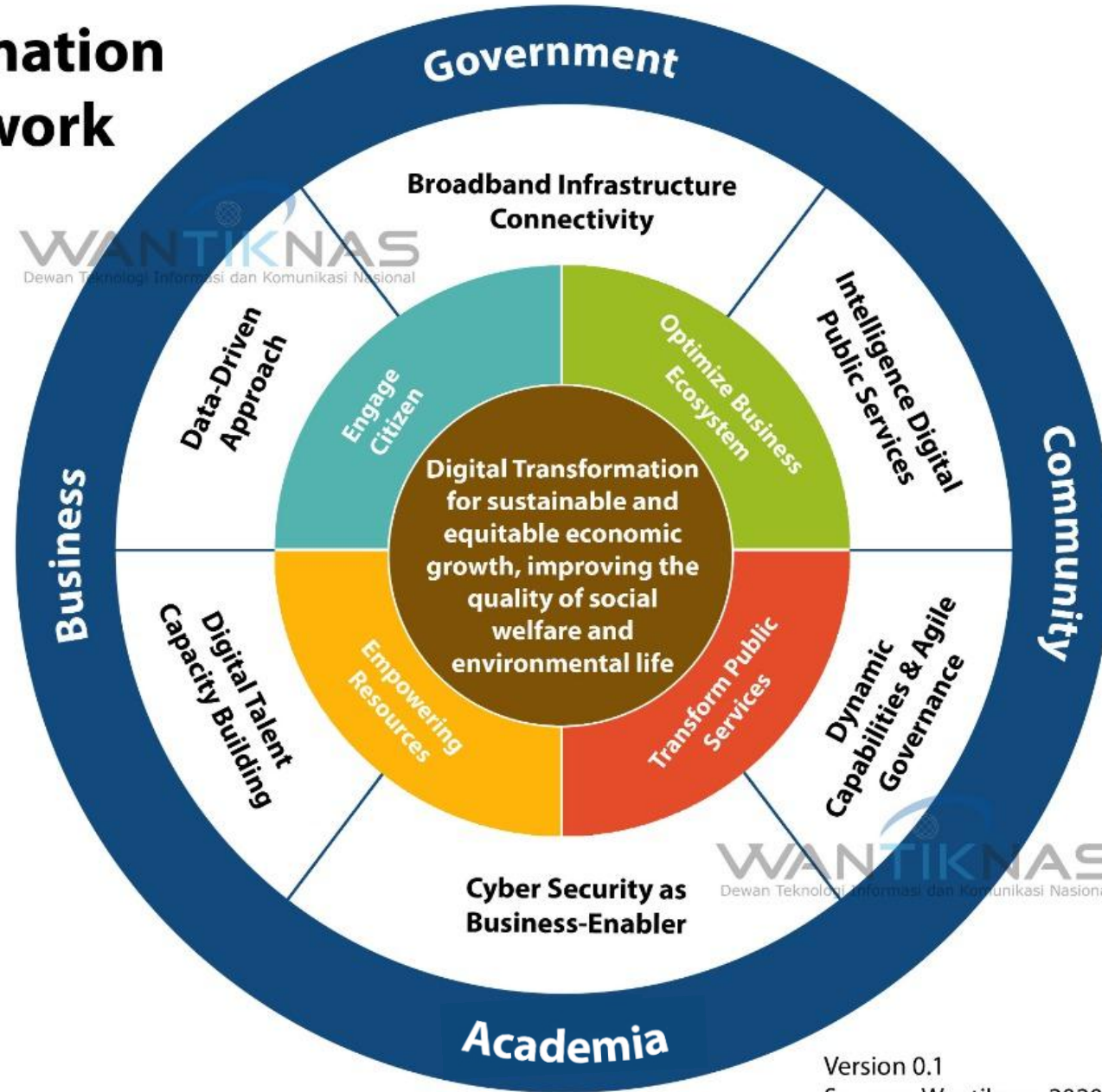
Dynamic and Integrated

Digital supply networks establish a “digital thread” through physical and digital channels, connecting information, goods, and services in powerful ways:

- Physical to digital: Capture signals and data from the physical world to create a digital record.
- Digital to digital: Exchange and enrich information using advanced analytics, artificial intelligence, and machine learning to drive meaningful insights.
- Digital to physical: Deliver information in automated and more effective ways to generate actions and changes in the physical world.

Digital Transformation Strategic Framework

-  STRATEGIC GOALS
-  STRATEGIC OBJECTIVES
-  STRATEGIC THRUST
-  STAKEHOLDERS



WANTIKNAS
Dewan Teknologi Informasi dan Komunikasi Nasional

Closing



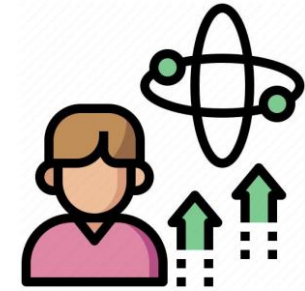
Information and Communication Technology (ICT) has an important role in the **recovery of the national economy** and to **compete** in the global arena.



The **technological leap** caused by the COVID-19 pandemic has accelerated the digital transformation process around the world.

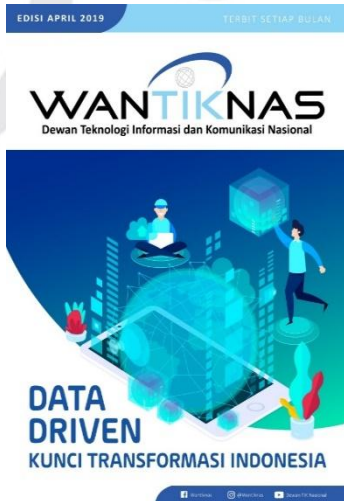


It is necessary to strengthen digital capabilities and provide compatible policies to support **business transformation**.



It is necessary to accelerate the growth of National Digital Talent human resources that possess **future skill set** thus create various innovations within the country.

Thank You



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Thank You




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