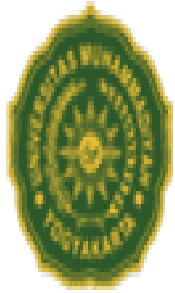


بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

**IN THE NAME OF ALLAH THE  
MOST GRACIOUS AND  
MOST MERCIFUL**



# UMY

Universitas  
Muhammadiyah  
Yogyakarta

Unggul & Islami

Terakreditasi A, No. 061/SK/BAH-PT/Ak-IV/PT/II/2013





**UMY**  
UNIVERSITAS  
MUHAMMADIYAH  
YOGYAKARTA  
Unggul & Islami



# **REVOLUSI INDUSTRI: PELUANG DAN TANTANGANNYA DI INDONESIA**

**Dr. Dimas Bagus Wiranatakusuma**

**DIREKTUR  
INTERNATIONAL PROGRAM FOR ISLAMIC ECONOMICS AND FINANCE  
(IPIEF)**

**PRODI EKONOMI PEMBANGUNAN  
FAKULTAS EKONOMI DAN BISNIS  
UNIVERSITAS MUHAMMADIYAH YOGYAKARTA  
INDONESIA**

**Dipresentasikan pada “NGOPI 6” BEM FEB UMY  
25 April 2019**



# KERANGKA PRESENTASI

**1. PERKEMBANGAN REVOLUSI INDUSTRI**

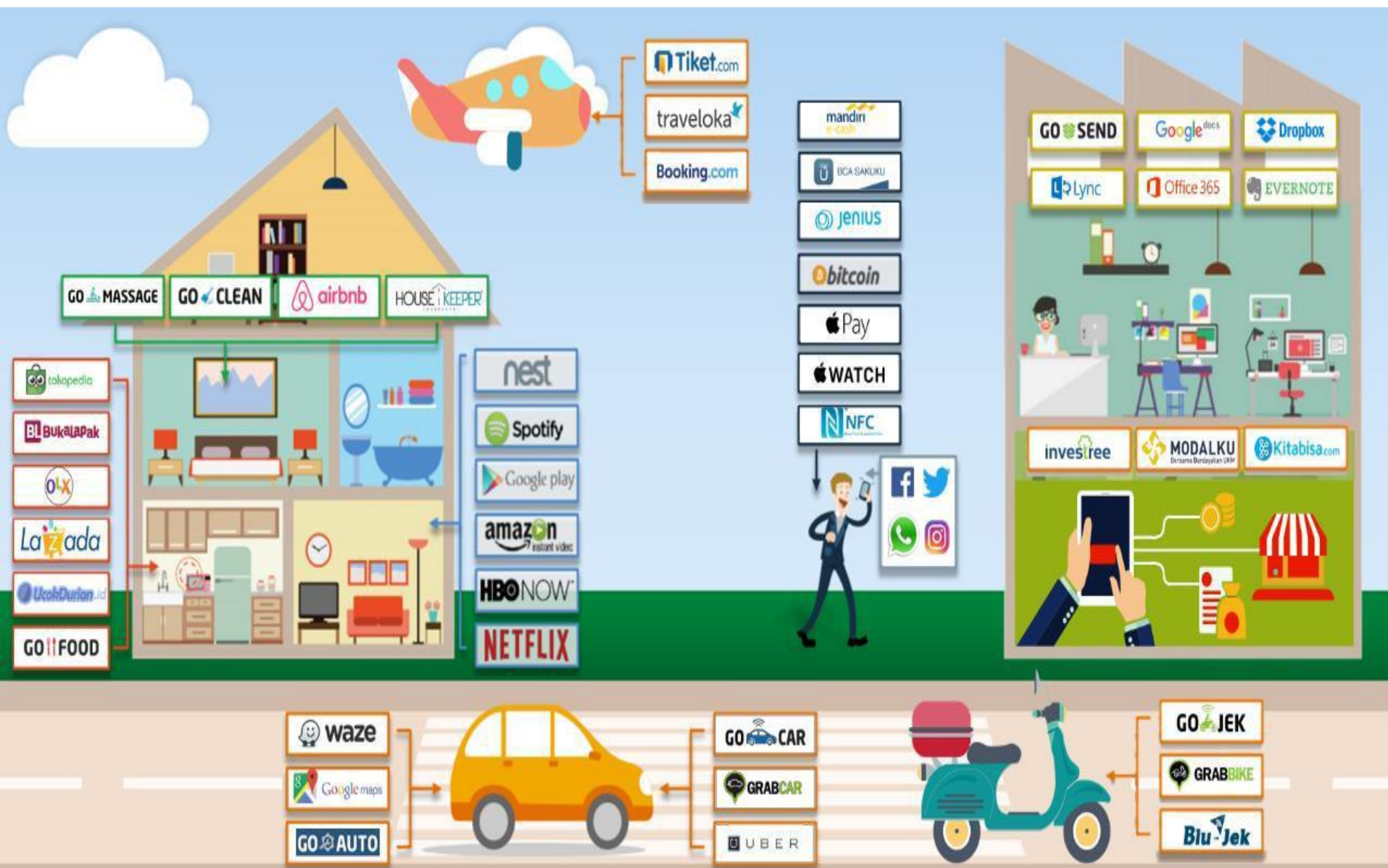
**2. REVOLUSI INDUSTRI 4.0**

**3. DAMPAK REVOLUSI INDUSTRI 4.0**

**4. SOLUSI REVOLUSI INDUSTRI 4.0**

**5. *THE WAY FORWARD : INDONESIA***

# Digitalisasi telah mentransformasi segala sendi kehidupan manusia

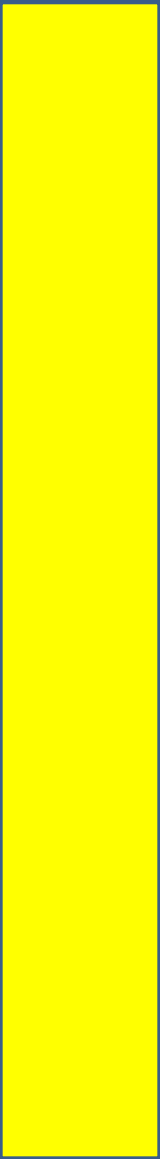




# Perkembangan Revolusi Industri (1st)

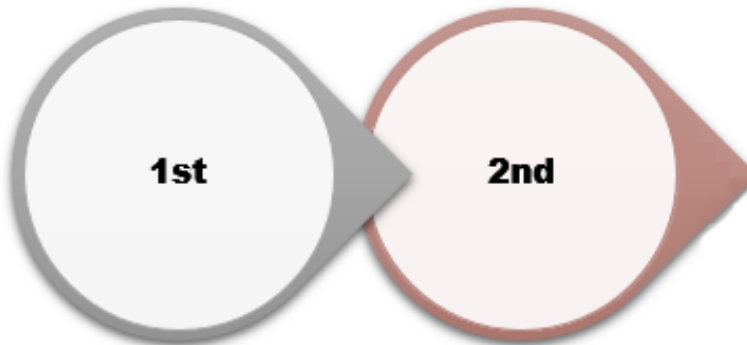


- **Mechanization**  
Machines replace  
animal and  
manual labor.  
Late 18th-Early  
19th Century





# Perkembangan Revolusi Industri (2nd)



**1st**

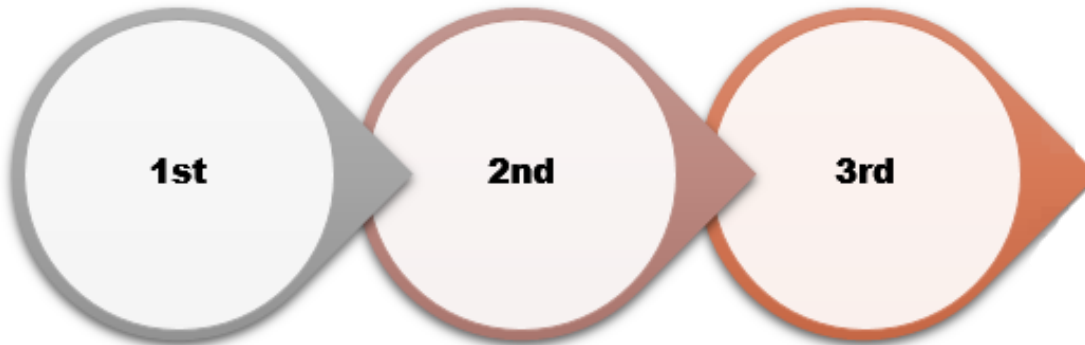
**2nd**

- **Mechanization**  
Machines replace animal and manual labor.  
Late 18th-Early 19th Century

- **Mass Production**  
Mass manufacturing, machines and processes.  
Late 19th-Mid 20th Century



# Perkembangan Revolusi Industri (3rd)



• **Mechanization**  
Machines replace  
animal and  
manual labor.  
Late 18th-Early  
19th Century

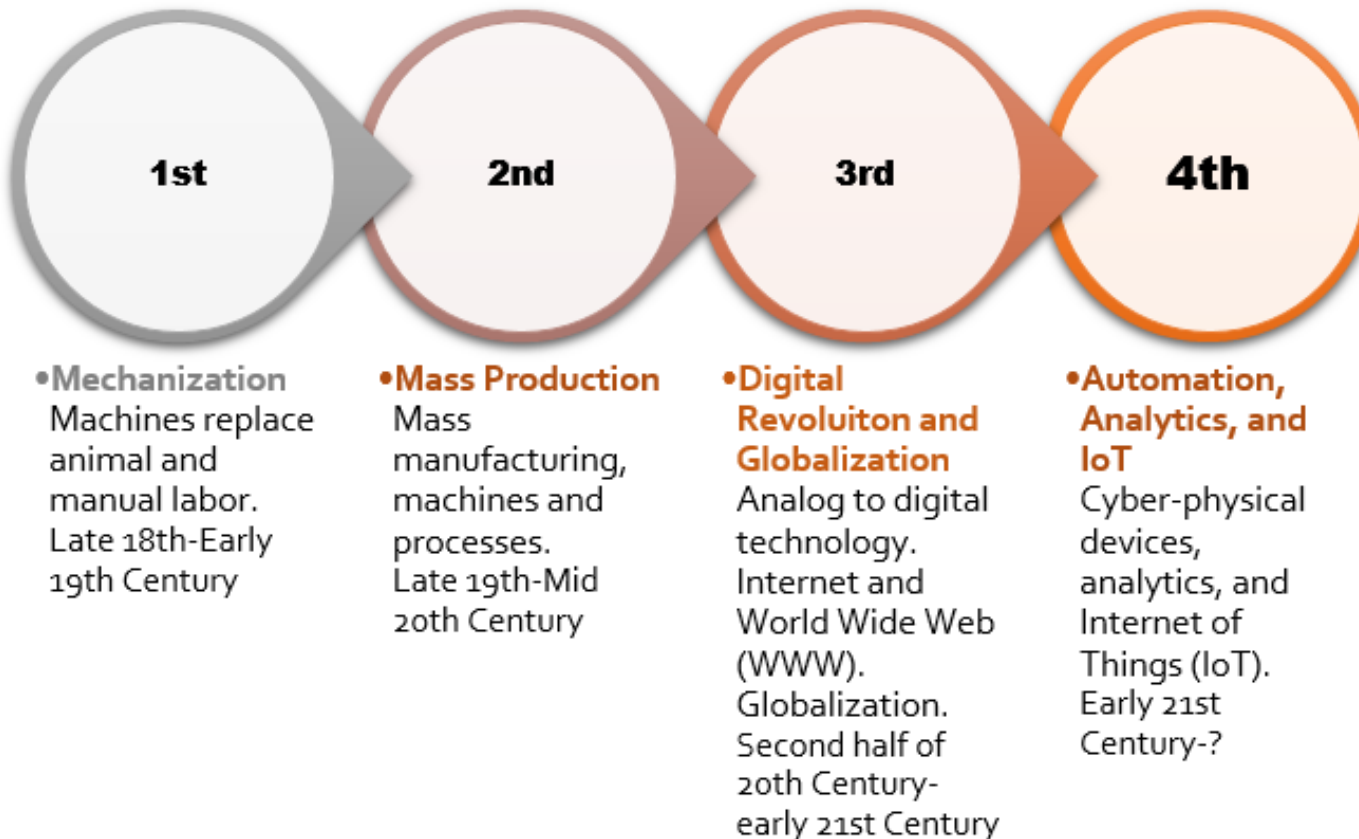
• **Mass Production**  
Mass  
manufacturing,  
machines and  
processes.  
Late 19th-Mid  
20th Century

• **Digital  
Revolution and  
Globalization**  
Analog to digital  
technology.  
Internet and  
World Wide Web  
(WWW).  
Globalization.  
Second half of  
20th Century-  
early 21st Century





# Perkembangan Revolusi Industri (4th)





# Revolusi Industri 4.0

- Apa?
- Bagaimana dampaknya?
- Apa yang perlu dilakukan?

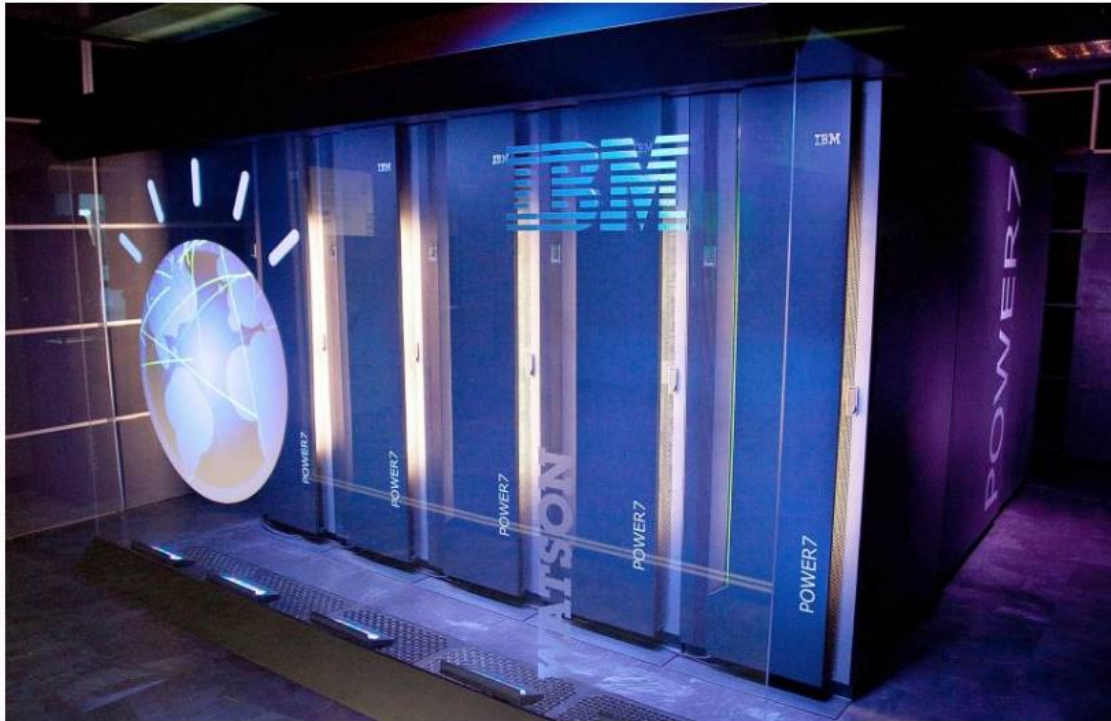


# Apa?

- Robotics
- Automation
- Genetic Engineering/Biotechnology
- Nano Technology







Doctors at the University of Tokyo's Institute of Medical Science used the Watson big-data system, seen here, to diagnose patients with blood diseases. | GETTY IMAGES / VIA KYODO

NATIONAL / SCIENCE & HEALTH

## IBM big data used for rapid diagnosis of rare leukemia case in Japan

BY TOMOKO OTAKE  
STAFF WRITER

### THE JAPAN TIMES

- WHAT'S TRENDING
- > Duterte's threat to der...
  - > Does Japan get enough...
  - > Japan's men and woma...
  - > Rags-to-riches Mexica...
  - > Japan's super-rich: fur...
  - > Japan braces for powe...
  - > Apology culture in Jap...
  - > Powerful Typhoon Lior...

JAPAN  
YEN FC

# Artificially Intelligent Lawyer “Ross” Has Been Hired By Its First Official Law Firm

cosmin4000/iStockphoto

## IN BRIEF

Ross, the world's first artificially intelligent attorney, has its first official law firm. Baker & Hostetler announced that they will be employing Ross for its bankruptcy practice, currently comprised of almost 50 lawyers.

## SHARE



## WRITTEN BY

Cecille De Jesus

May 11, 2016

#artificial intelligent lawyer  
#IBM Watson #ross

## ROSS: A VERY SMART ARTIFICIAL CO-WORKER

Law firm [Baker & Hostetler](#) has announced that they are employing IBM's AI Ross to handle their bankruptcy practice, which at the moment consists of nearly 50 lawyers. According to CEO and co-founder Andrew Arruda, other firms have also signed licenses with Ross, and they will also be making announcements shortly.

Ross, “the world's first artificially intelligent attorney” built on [IBM's cognitive computer Watson](#), was designed to read and understand language, postulate hypotheses when asked questions, research, and then generate responses (along with references and citations) to back up its conclusions. Ross also learns from experience, gaining speed and knowledge the more you interact with it.







# Bagaimana Dampaknya?



Oxford: %47-81% terancam untuk 20 tahun ke depan



# Bagaimana Dampaknya?

- Oxford: %47-81% terancam untuk 20 tahun ke depan
- McKinsey Quarterly: Hampir setengah dari pekerjaan saat ini dilakukan secara otomatis.



# Bagaimana Dampaknya?

- Oxford: %47-81% terancam untuk 20 tahun ke depan
- McKinsey Quarterly: Hampir setengah dari pekerjaan saat ini dilakukan secara otomatis.
- World Economic Forum: memprediksikan akan ada kehilangan 5 milyar pekerjaan dalam 5 tahun ke depan.



# Bagaimana Dampaknya?

- Oxford: %47-81% terancam untuk 20 tahun ke depan
- McKinsey Quarterly:  
Hampir setengah dari pekerjaan saat ini dilakukan secara otomatis.
- World Economic Forum:  
memprediksikan akan ada kehilangan 5 milyar pekerjaan dalam 5 tahun ke depan.
- The International Labour Organisation  
137 Juta pekerja di Asia Tenggara mungkin akan kehilangan pekerjaan dalam 20 tahun ke depan

## NEWS

[Home](#)[Video](#)[World](#)[Asia](#)[UK](#)[Business](#)[Tech](#)[Science](#)[Magazine](#)[Entertainment](#)[Technology](#)

# Foxconn replaces '60,000 factory workers with robots'

By Jane Wakefield  
Technology reporter

🕒 25 May 2016 | [Technology](#)

[Share](#)





# CROSSMAN RICHARDS

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## Case Study

### Robot power!

#### Our Client

Heinz Wattie's Robotic Palletising

#### Project Scope

Our client needed a solution to palletise 30 different types of products from three separate lines in their central food processing facility. These products travel from a 150m conveyor system through the factory to two lines running at once to mix and match them onto the pallets. The process includes barcode scanning, sorting, palletising, stretchwrapping, print-and-apply pallet labelling and ERP integration.

#### The CR Solution

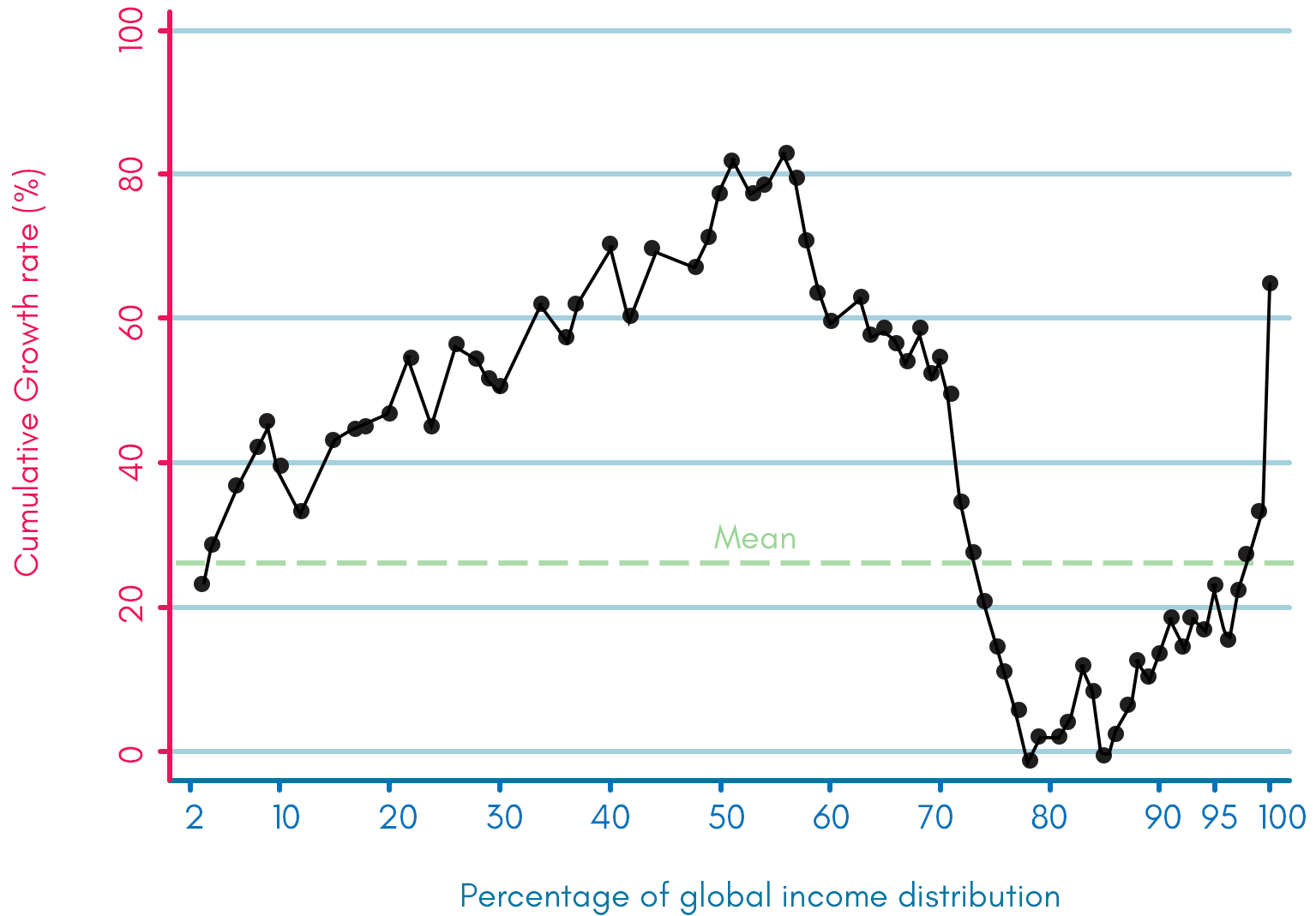
Working with our strategic partner DSK Engineering, we installed two ABB robots with a multi-zone grippers, custom designed for the wide range in pack sizes. Crossman Richards developed the PLC, robot, HMI and safety programs. We also provided the complete electrical design and installation.

#### The Result

A safe, reliable, easy to operate, fully integrated carton palletising system in a demanding high speed application.



Global growth incidence curve, 1988-2008





# Bagaimana Solusinya?





# Bagaimana Solusinya?

- Memperpendek Jam Kerja



# Bagaimana Solusinya?

- Memperpendek Jam Kerja
- Penyetaraan *Basic* Pendapatan



# Bagaimana Solusinya?

- Memperpendek Jam Kerja
- Penyetaraan *Basic* Pendapatan
- Pendidikan



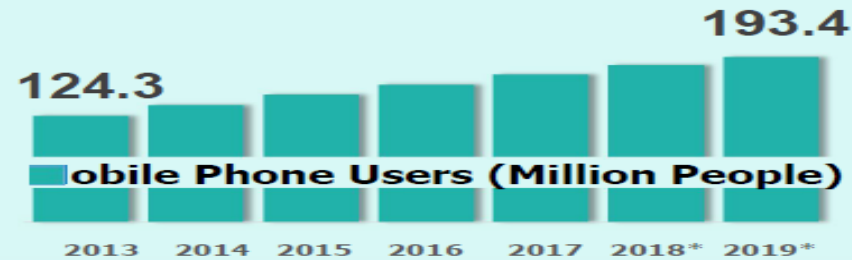
# Bagaimana Solusinya?

- Memperpendek Jam Kerja
- Penyetaraan *Basic* Pendapatan
- Pendidikan
- Adaptasi

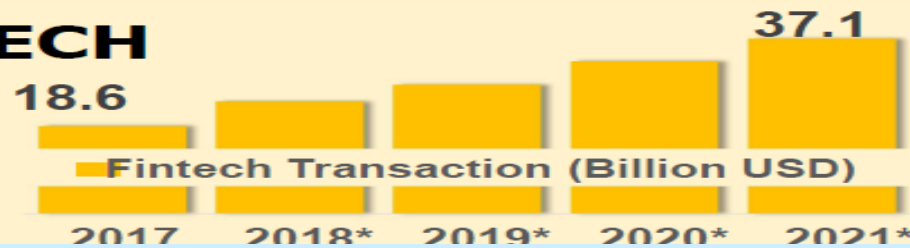


# FINTECH DEVELOPMENT IN INDONESIA

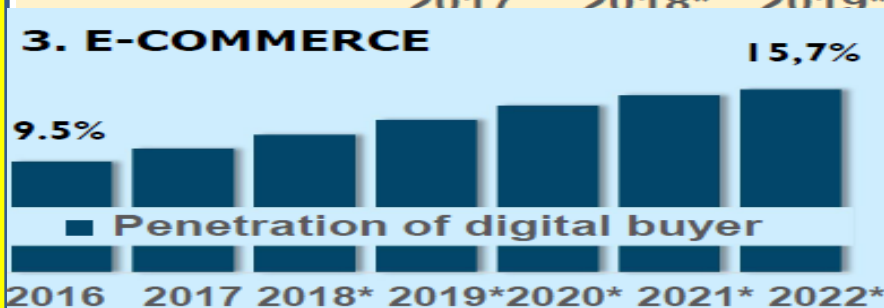
## 1. DEMAND



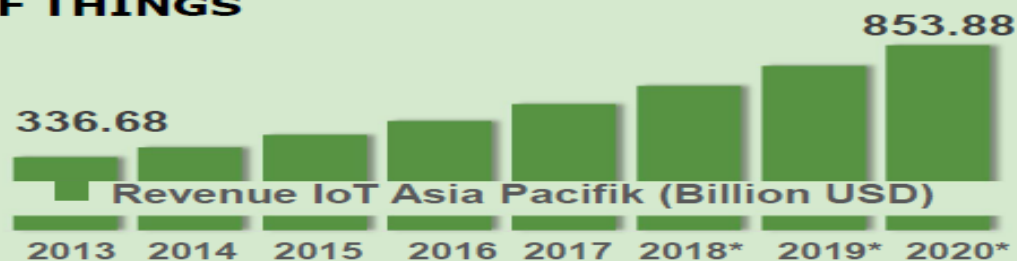
## 2. FINTECH



## 3. E-COMMERCE



## 4. INTERNET OF THINGS



\*Projected Value



# FINTECH DEVELOPMENT IN INDONESIA



**POPULATION**  
261.12 Million



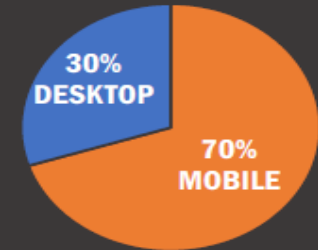
**BANKED  
POPULATION**  
48.9%



**ACTIVE SOCIAL  
MEDIA USERS**  
130 Million



**INTERNET  
PENETRATION**  
143.2 Million



**GDP GROWTH**  
5% per annum



**BORROWED FROM  
FINANCIAL  
INSTITUTION**  
17.2%



**MOBILE  
SUBSCRIPTIONS**  
415.7 Million



**URBAN 72.4%**  
**SEMI-URBAN 49.4%**  
**RURAL 48.2%**



**Total value of disclosed  
Fintech investment (2017)**

**USD \$176.75 Million**



**Transaction value in the  
Fintech market  
(projected 2018)**

**USD \$22,338 Million**



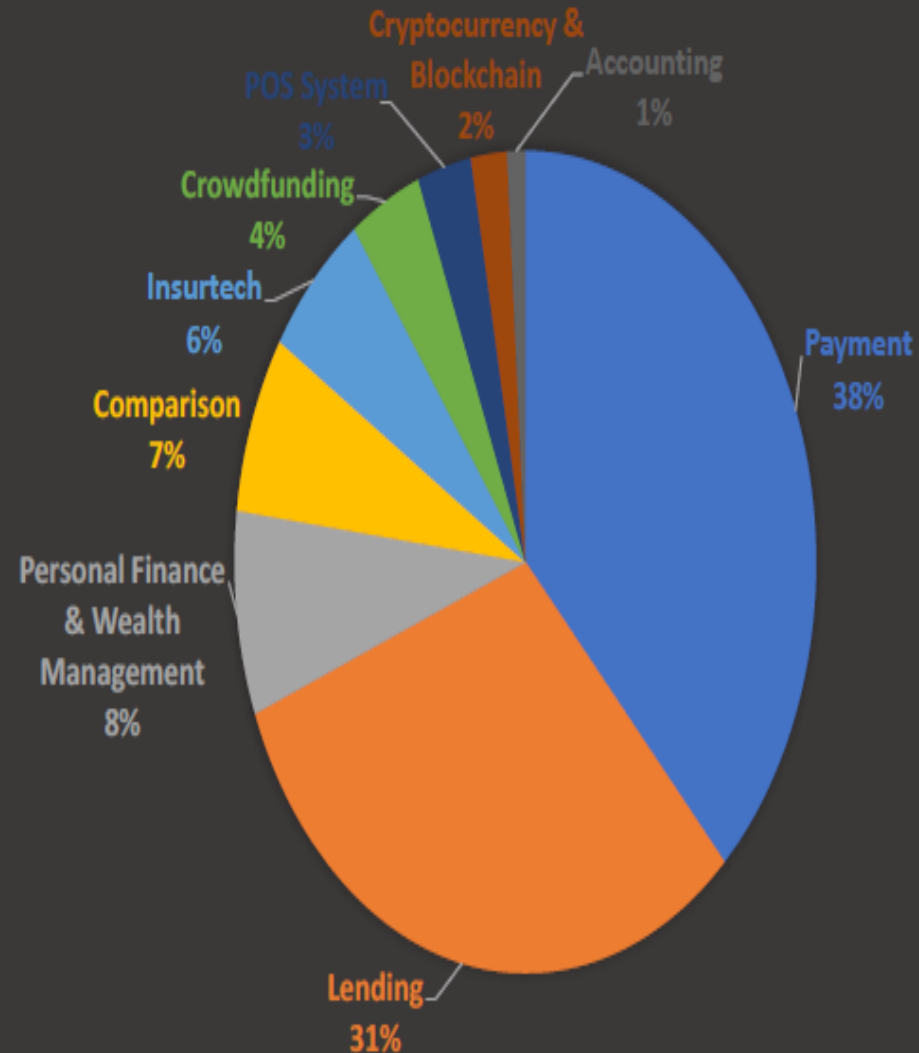
**Transaction value  
expected to show  
a growth rate of**

**16.3%**  
**annually**



# FINTECH DEVELOPMENT IN INDONESIA

**Percentage Distribution of the  
Indonesian Fintech Ecosystem**





# FINTECH DEVELOPMENT IN INDONESIA

## Indonesia Fintech Map







# FINTECH DEVELOPMENT IN INDONESIA

**Payment | Go Pay** Powered by FINTECH SINGAPORE

**GOJEK GO-PAY**

**Description**  
GO-JEK (PT Aplikasi Karya Anak Bangsa) is an Indonesian-owned and run technology start-up that specializes in ride-hailing, logistics and digital payments. GO-PAY is not only to pay for GO-JEK services but also available to help you with new features and products. In October 2017, GO-PAY transactions have contributed 20 percent of overall e-money transactions in Indonesia.

**Company**  
Go Jek/Kao Pay

**Website**  
<https://www.go-jek.com/go-pay/>

**Country/City**  
Indonesia/Jakarta

**Founded**  
2010

**Lending | Doctor Rupiah** Powered by FINTECH SINGAPORE

**Doctor Rupiah**

**Description**  
Doctor Rupiah presents innovative financial services in Indonesia to help people get small cash loans without asking for lots of documents, to be with collateral, go through long process and complicated procedures, once you submit online. Doctor Rupiah operates under the auspices of PT Digital Solutions Indonesia.

**Company**  
Doctor Rupiah

**Website**  
<https://drupiah.com/>

**Country/City**  
Indonesia/Jakarta

**Founded**  
2012

**Finance & Wealth Management | Bareksa** Powered by FINTECH SINGAPORE

**bareksa**

**Description**  
Bareksa.com is the first integrated online mutual fund marketplace in Indonesia, under PT Bareksa Portal Investasi which was established on February 17, 2013. This portal, in addition to providing a platform to conduct mutual fund trading online, also provides data services, information, and investment tools of mutual funds, stocks, bonds, and others, to facilitate the public to invest.

**Company**  
Bareksa

**Website**  
<https://www.bareksa.com/>

**Country/City**  
Indonesia/Jakarta

**Founded**  
2013

**Comparison | SikatAbis** Powered by FINTECH SINGAPORE

**SikatAbis.com**

**Description**  
Home Ownership Loan (KPR) is a long-term commitment. SikatAbis.com is a home loan comparison site from various banks, making you easily choose the cheapest mortgage.

**Company**  
SikatAbis

**Website**  
<https://www.sikatabis.com/>

**Country/City**  
Indonesia/Jakarta

**Founded**  
2015

**Insurtech | Asuransi88** Powered by FINTECH SINGAPORE

**asuransi88.com**

**Description**  
Asuransi88.com is the most comprehensive web site for insurance products in Indonesia. They partner with certified insurance agents and leading insurers. Their aim is to "Help you find the right product at the best price, while saving you TIME and MONEY."

**Company**  
Asuransi88

**Website**  
<http://www.asuransi88.com/>

**Country/City**  
Indonesia/Jakarta

**Founded**  
2014

**Crowdfunding | GandengTangan** Powered by FINTECH SINGAPORE

**gandengtangan.org**

**Description**  
GandengTangan is a collaborative venue for business owners who need capital with investors seeking to safety and transparency impact social. Through short-term investment, GandengTangan is intended to bridge the two in order to join hands to create a good impact for Indonesia.

**Company**  
GandengTangan

**Website**  
<https://gandengtangan.org/>

**Country/City**  
Indonesia/Jakarta

**Founded**  
2015

**POS System | Olsera** Powered by FINTECH SINGAPORE

**olsera**

**Description**  
Olsera is a creative solution that helps you design and build online stores, while presenting Point of Sale (POS) to you smart phone or tablet, with every convenience that today's technology can bring.

**Company**  
Olsera

**Website**  
<http://www.olsera.com/id/pos>

**Country/City**  
Indonesia/Jakarta

**Founded**  
2015

**Cryptocurrency & Blockchain | Bitcoin.co.id** Powered by FINTECH SINGAPORE

**bitcoin.co.id**

**Description**  
Bitcoin.co.id is the Biggest Indonesia Bitcoin Exchange that act as bitcoin's backbone for the finance ecosystem in Indonesia.

**Company**  
Bitcoin.co.id/indonesia

**Website**  
<https://indodax.com/>

**Country/City**  
Indonesia/Jakarta

**Founded**  
2013

**Accounting | Akunting Mudah** Powered by FINTECH SINGAPORE

**akunting mudah**

**Description**  
Akunting Mudah (which translates to "Easy Accounting") is another cloud-based accounting software. Akunting Mudah helps users prepare and analyze their financial statements. The firm claims users don't even need to understand the basic theory of accounting to use the product.

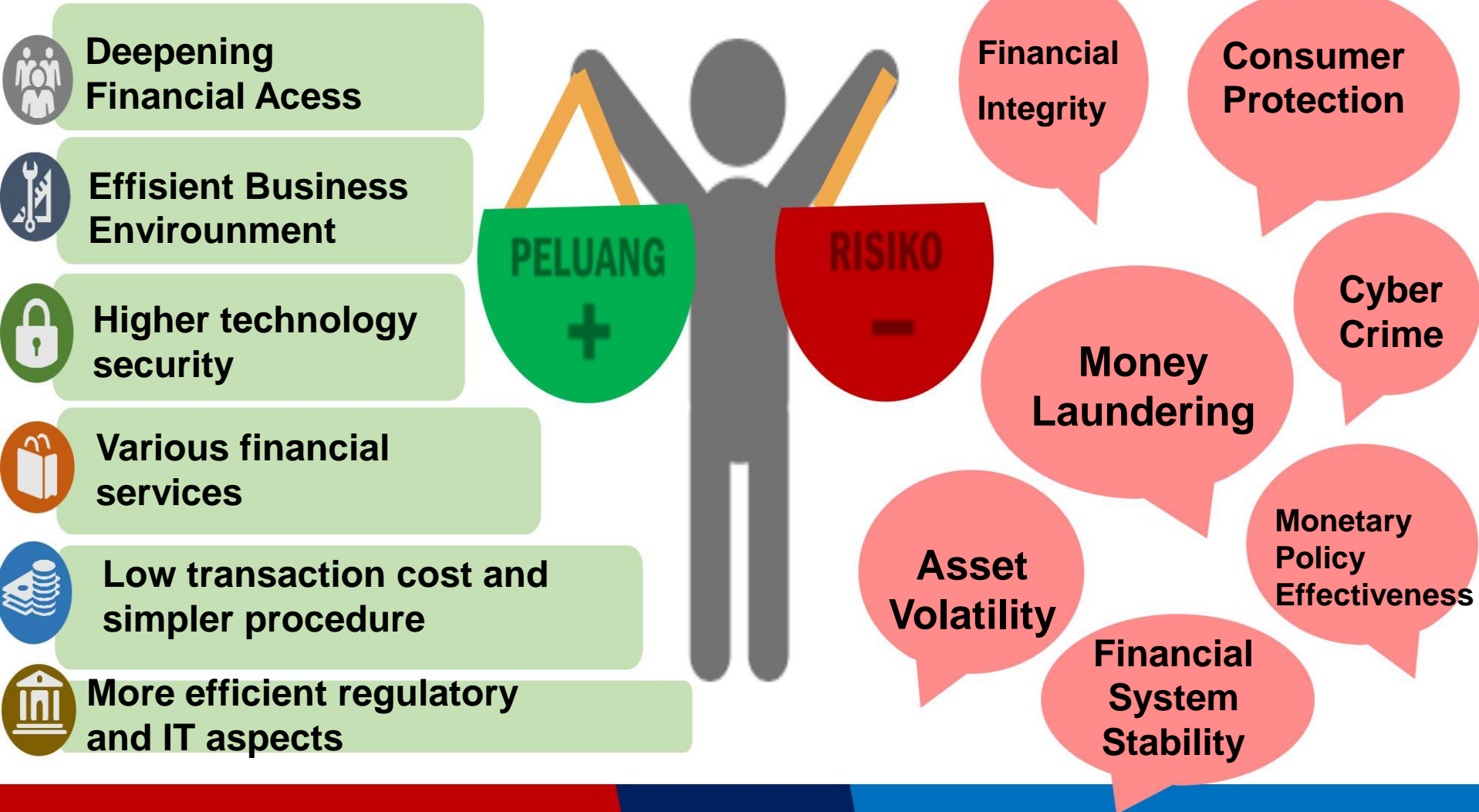
**Company**  
Akunting Mudah

**Website**  
<https://akuntingmudah.com>

**Country/City**  
Indonesia/Jakarta

**Founded**  
2013

# *Digital Technology shares huge opportunities and outstanding challenges in the financial system.*



# THE WAY FORWARD

## *Balancing Approach by Promoting Fintech Development while Maintaining Financial Resilience*

### INNOVATION

1. Promote Innovation in Financial Sector
2. Promote Economic growth by utilizing digital technology

Conducive business environment for fintech innovation

### SUSTAINABILITY

1. Maintaining Monetary Stability
2. Maintaining Financial System Stability
3. Sound, strong, and efficient payment system
4. Mitigating risk and consumer protection

Surveillance Fintech Development

**Balancing Innovation & Sustainability**

### REGULATION

# END OF PRESENTATION



**THANK YOU FOR YOUR PRECIOUS TIME  
MAY ALLAH BLESS US WITH KNOWLEDGE AND WISDOM**

**WASSALAM**

