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# Industry 4.0 and its implications to SMEs



Ministry of International Trade and Industry



**NEGARAKU**

# Malaysia GDP growth expected to improve in 2017 supported by domestic demand amidst challenging economic situation

**World growth** is projected to **pick up** gradually in 2017-18, mainly in US, Canada and emerging markets



## Malaysia Real GDP Growth Forecast, (%)

	2015	2016	2017 <sup>f</sup>	2018 <sup>f</sup>
	Annual growth, %			
Official (BNM)	5.0	4.2	4.3 - 4.8	n.a
IMF	5.0	4.2	4.5	4.7
Analysts Consensus	5.0	4.2	4.4	4.4

Source:

1)Asia Pacific Consensus Forecasts, April 2017

2)World Economic Outlook (WEO) Updates, April 2017

e: estimate f: forecast

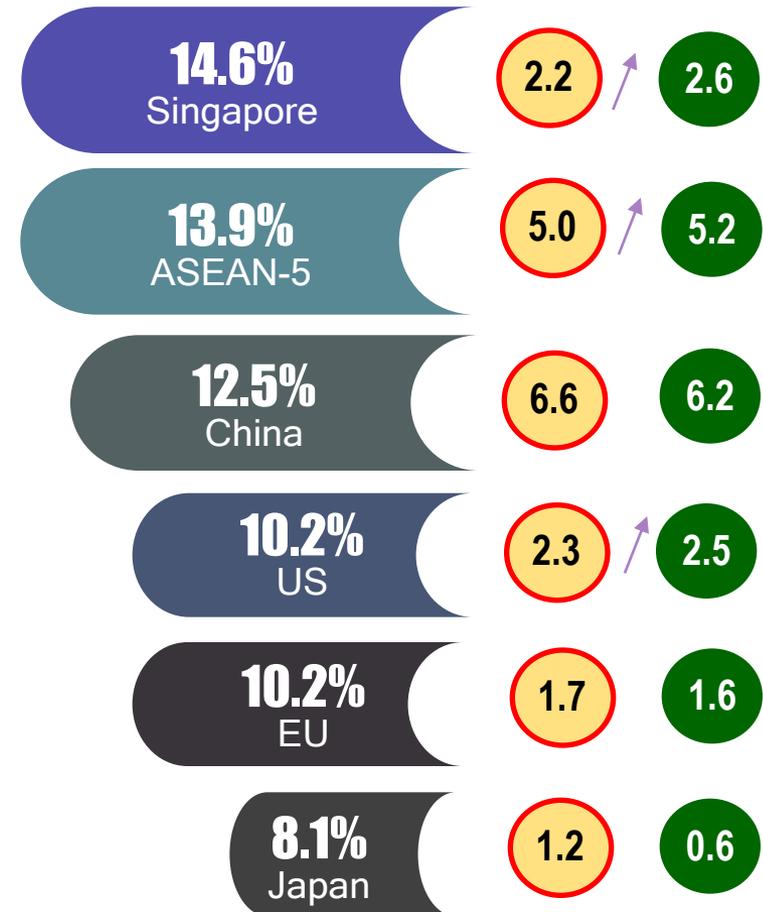
## Malaysia's Major Trading Partners

in 2016 (% share)

## Real GDP Growth Forecast

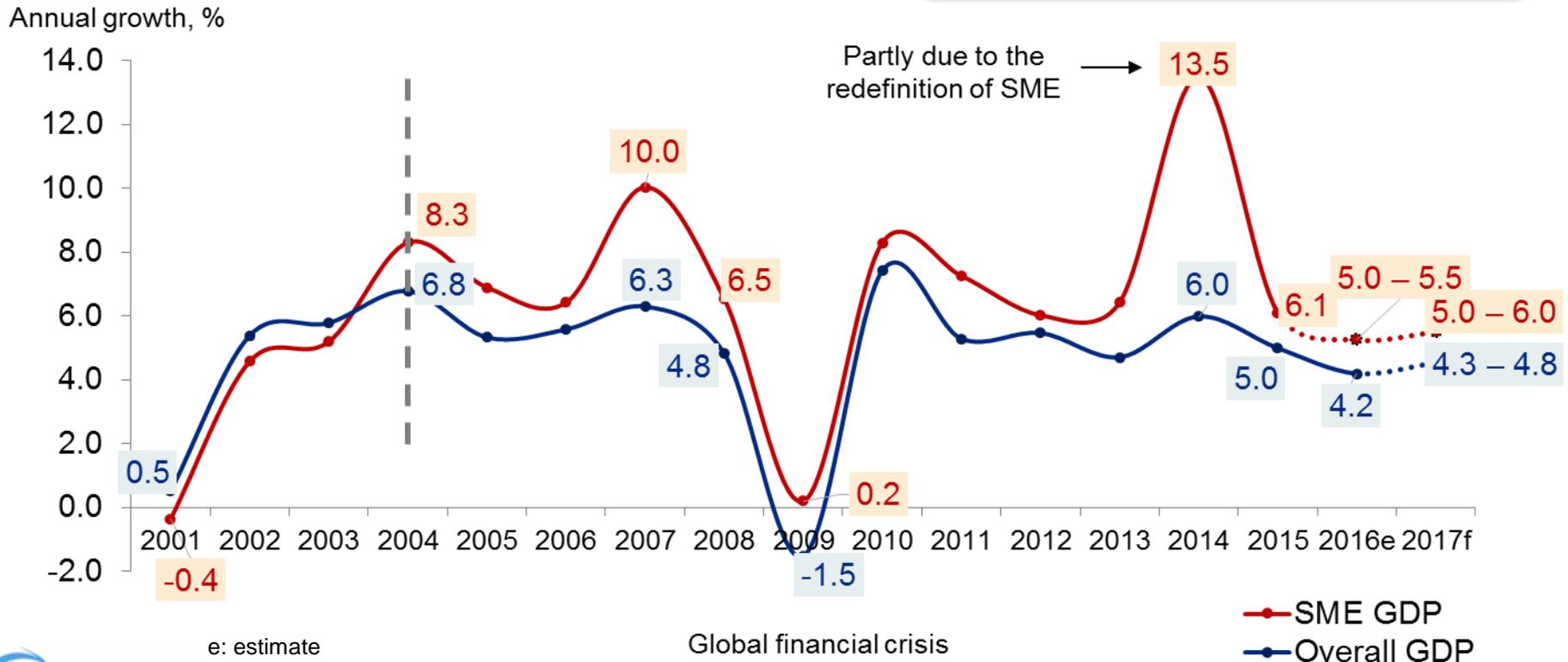
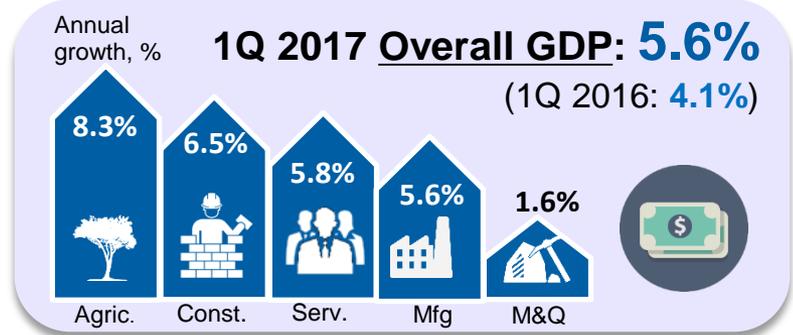
(%)

2017<sup>f</sup> 2018<sup>f</sup>



\* ASEAN-5 refers to Indonesia, Malaysia, Philippines, Thailand and Vietnam  
Source: Department of Statistics, Malaysia

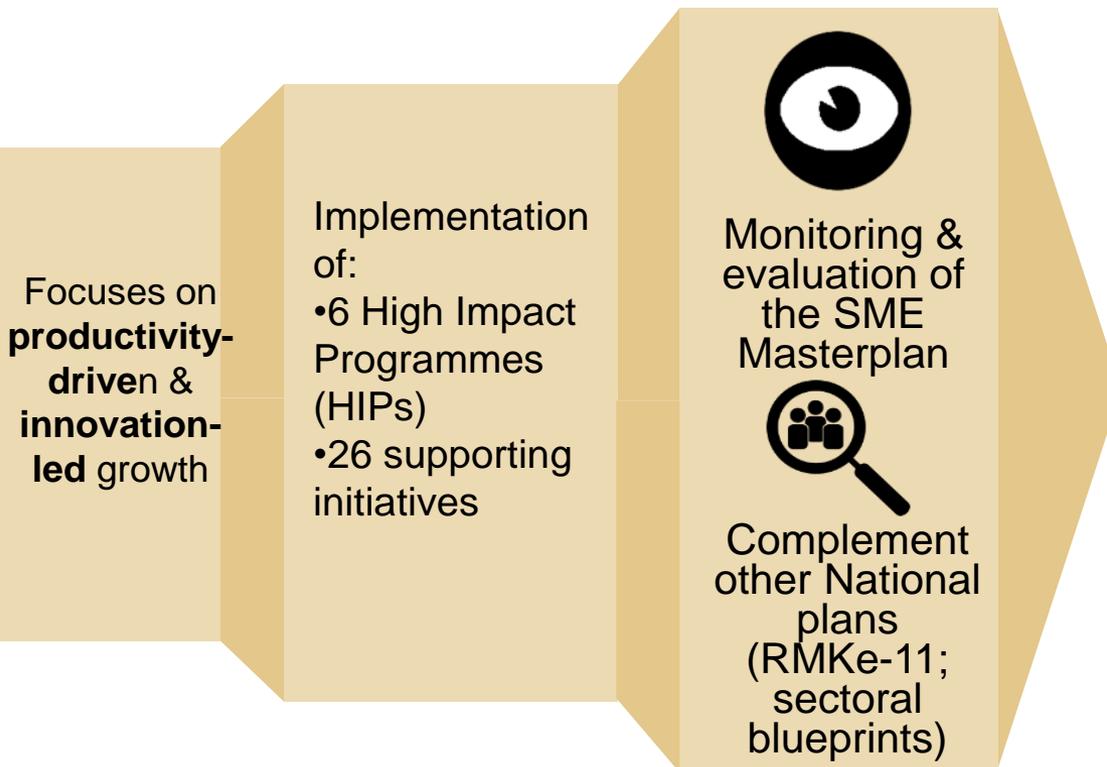
# Prospects for **SME GDP** growth to hover around **5 - 6%** in 2016 - 2017



e: estimate  
f: forecast

# SME Masterplan (2012 - 2020) to contribute significantly to SME growth

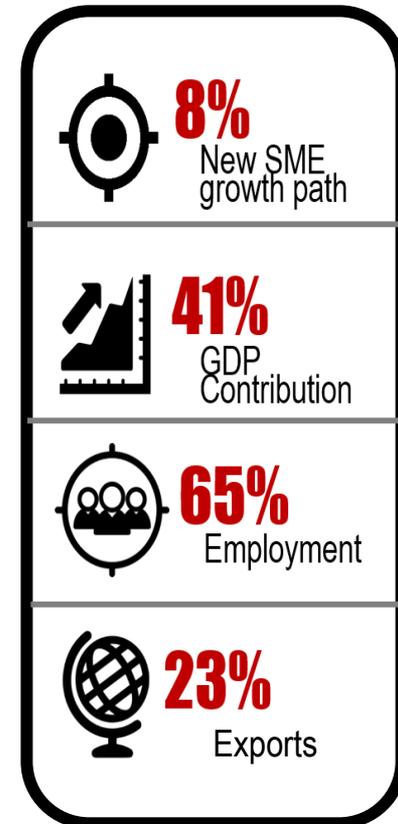
## Recap on the SME Masterplan...



### GOALS

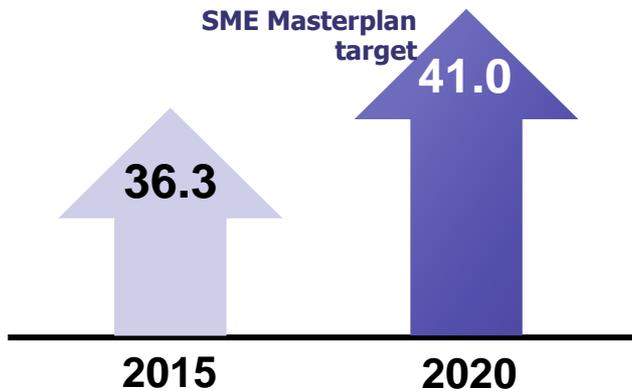


### MACRO TARGETS



# Aligning SMEs with the **new trends** will accelerate SME Masterplan

## Contribution of SME GDP to Overall GDP (%)



New **trends** will facilitate achievement of the targets in the **SME Masterplan**



Megatrends

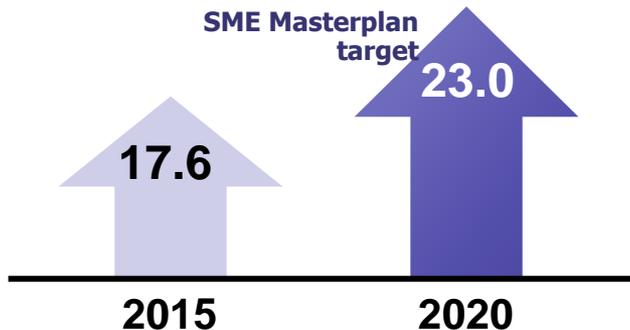


Industrial Revolution 4.0

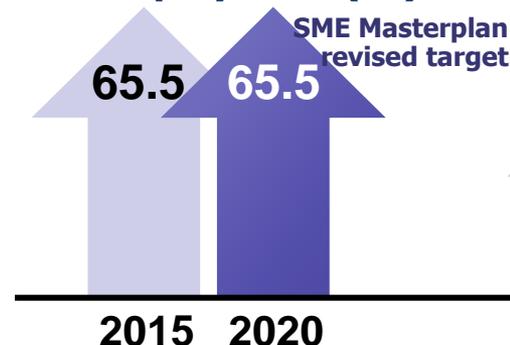


Digital Free Trade Zone (DFTZ)

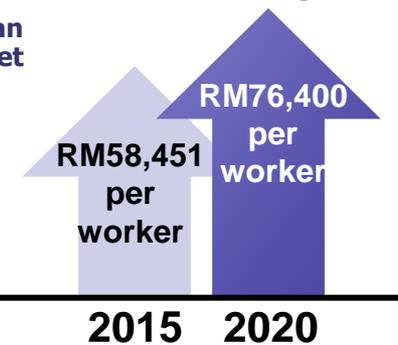
## Contribution of SME Exports to Total Exports (%)



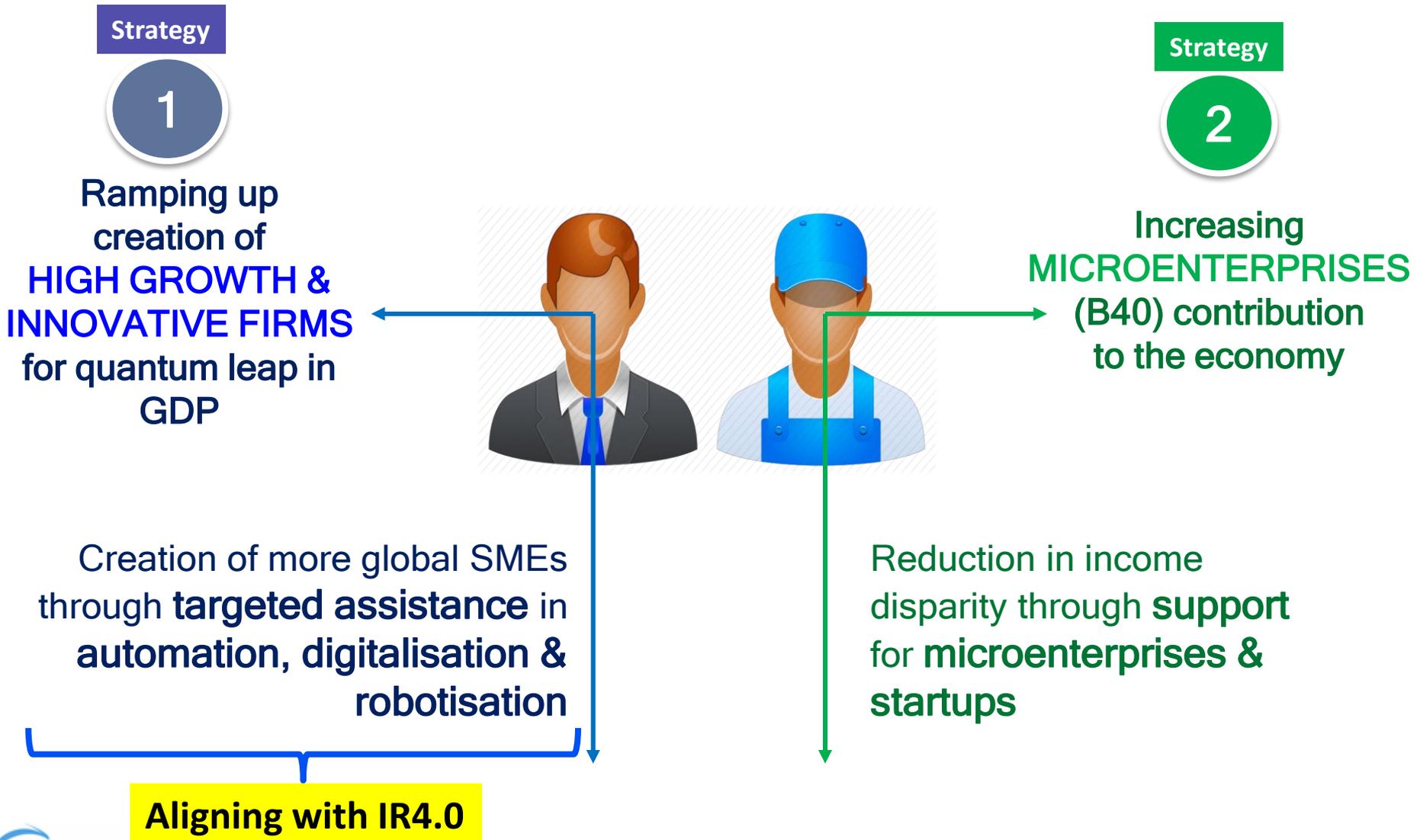
## Share of SME Employment (%)



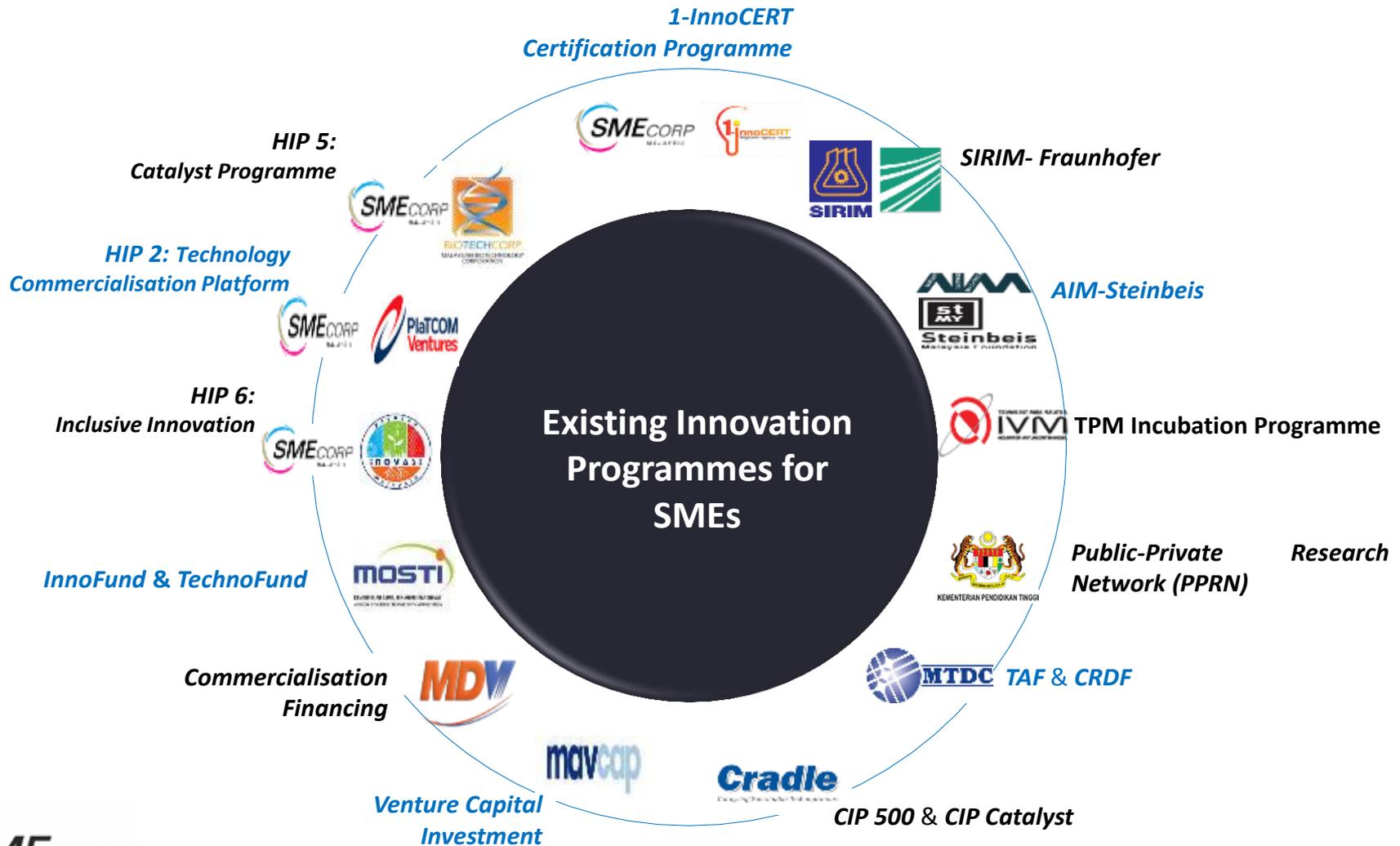
## SME Labour Productivity



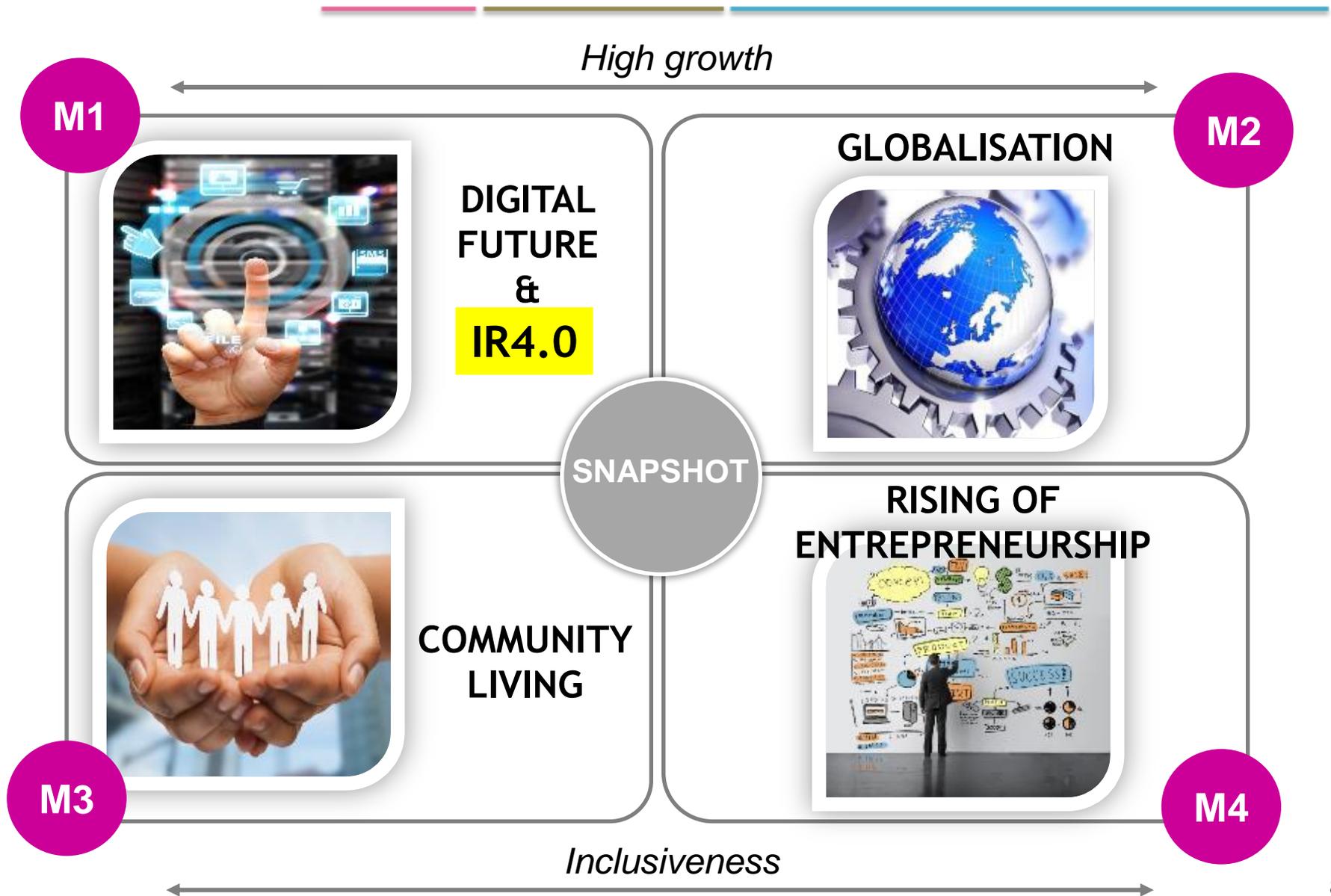
# A **two-pronged strategy** need to be undertaken for sustainable and inclusive development



# Government Initiatives to support growth of Innovative SMEs



# 4 megatrends which will have far-reaching impact on SMEs





## Digital transformation changing business & delivery models



- Big data
- Cloud computing
- Social media
- Virtual stores
- Subscription-based models
- 3D printing
- Robots
- IoT
- AI
- On-line platforms
- Digital village

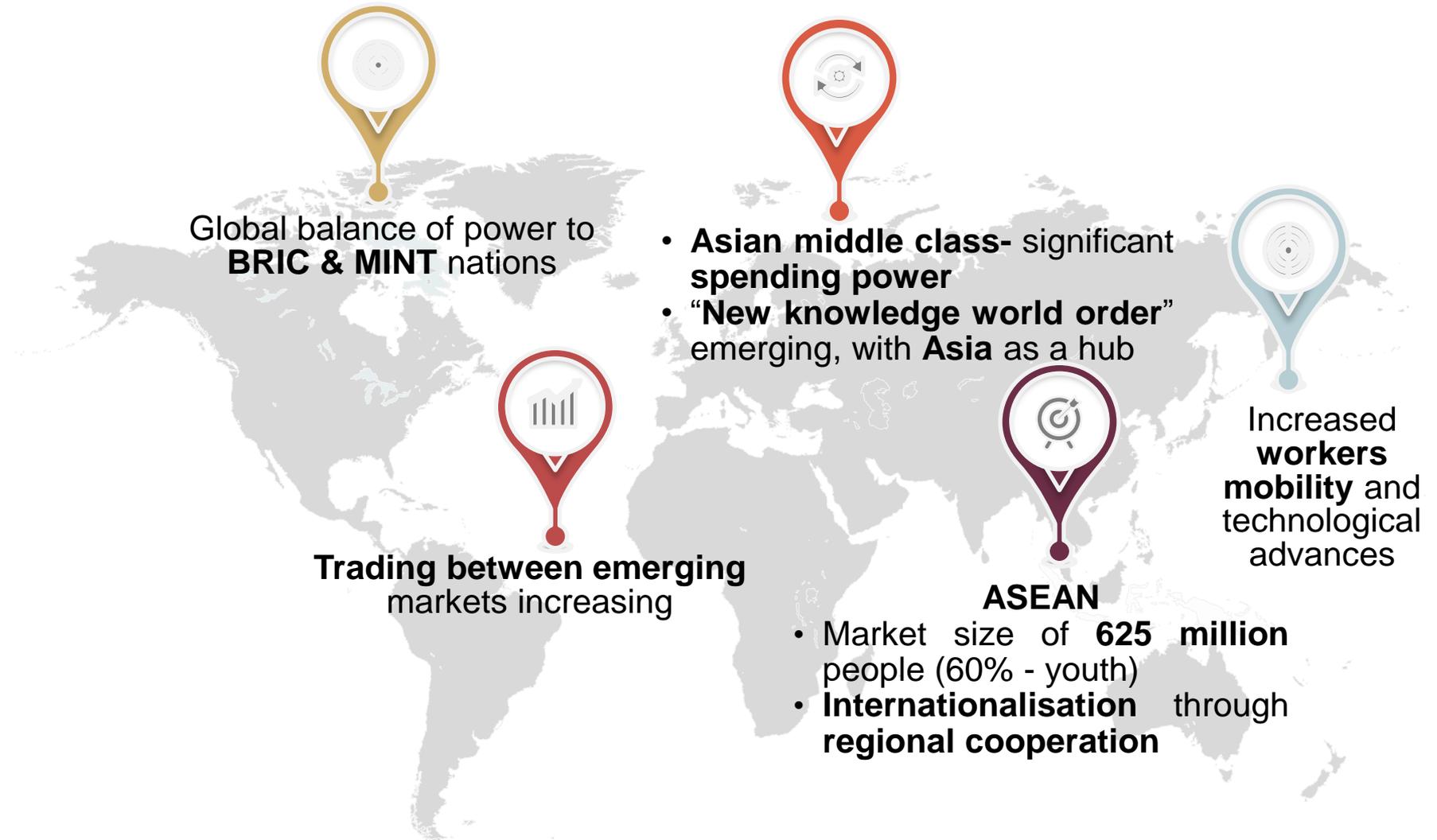


## Increasing mobile device adoption, a “mobile first” world



Cloud, mobile and social technologies

# Globalisation: Faster growth and favourable demographics in Asia & rapid-growth markets



Global balance of power to **BRIC & MINT** nations

- **Asian middle class**- significant spending power
- “**New knowledge world order**” emerging, with **Asia** as a hub

Trading between emerging markets increasing

### ASEAN

- Market size of **625 million** people (60% - youth)
- **Internationalisation** through regional cooperation

Increased **workers mobility** and technological advances

Globally there will be more devices connected to the internet than people (50 billion devices vs 7.5 billion people by 2020)



1

## CURRENT CHARACTERISTICS

- More microenterprises** in developing world (77% in Malaysia)
- Lack of automation**
- More** mobile phones; cheaper and more powerful each day.

Going forward, **microenterprises** in **rural area** need to be part of **digital economy**



2

## 3 PUSH FACTORS FOR ICT ADOPTION

- Low cost
- Easy access
- Peer pressure

Go Global Malaysia  
#MYGoGlobal



Google maxis



ALLIANCE BANK



- build up business capabilities
- connect with digital ecosystem partners
- promote exports
- to be globally competitive companies

**#YOU CANDUIT™**

# Rising of Entrepreneurship: The drivers of entrepreneurial activity moving from Necessity to Opportunity



Start-ups with innovative ideas, making a high-impact

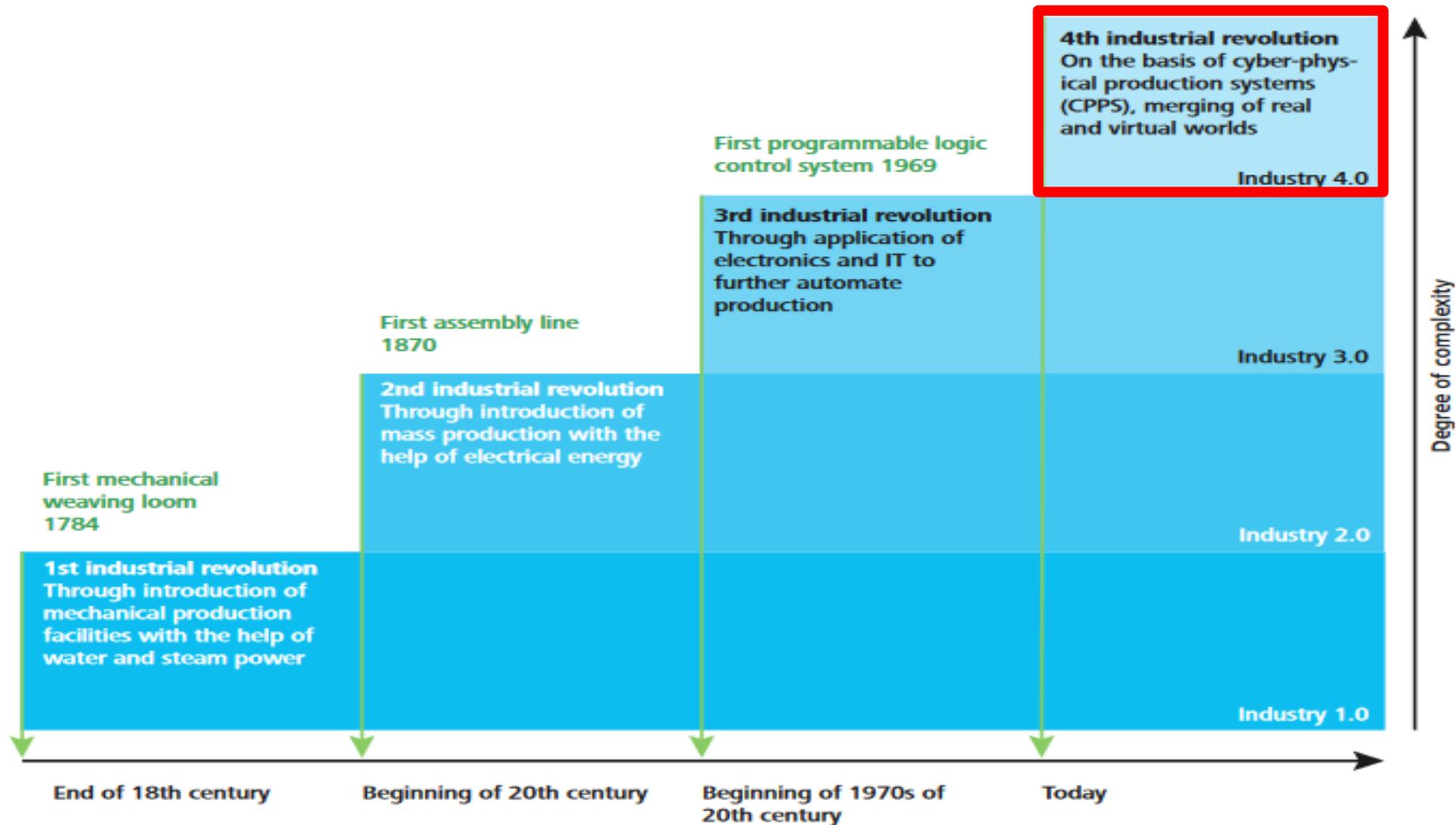


The face of entrepreneurship is increasingly young

The face of entrepreneurship is increasingly female



# What is Industry 4.0?



# Industry Revolution 4.0 is not only about smart and connected machines or systems, it is much wider...

..from Gene Sequencing to Nanotechnology..

..from Conventional Computing to Quantum Computing..

..from Traditional Supply Chain to Digital Supply Chain..

Fusion of these technologies & interaction across the **physical, digital** and **biological domains** make IR 4.0 is fundamentally different from previous revolutions.

# Why IR 4.0 ?

*The revolution will help elevate the industry further...*



**Efficiency**



**Productivity**



**Return of Investment**



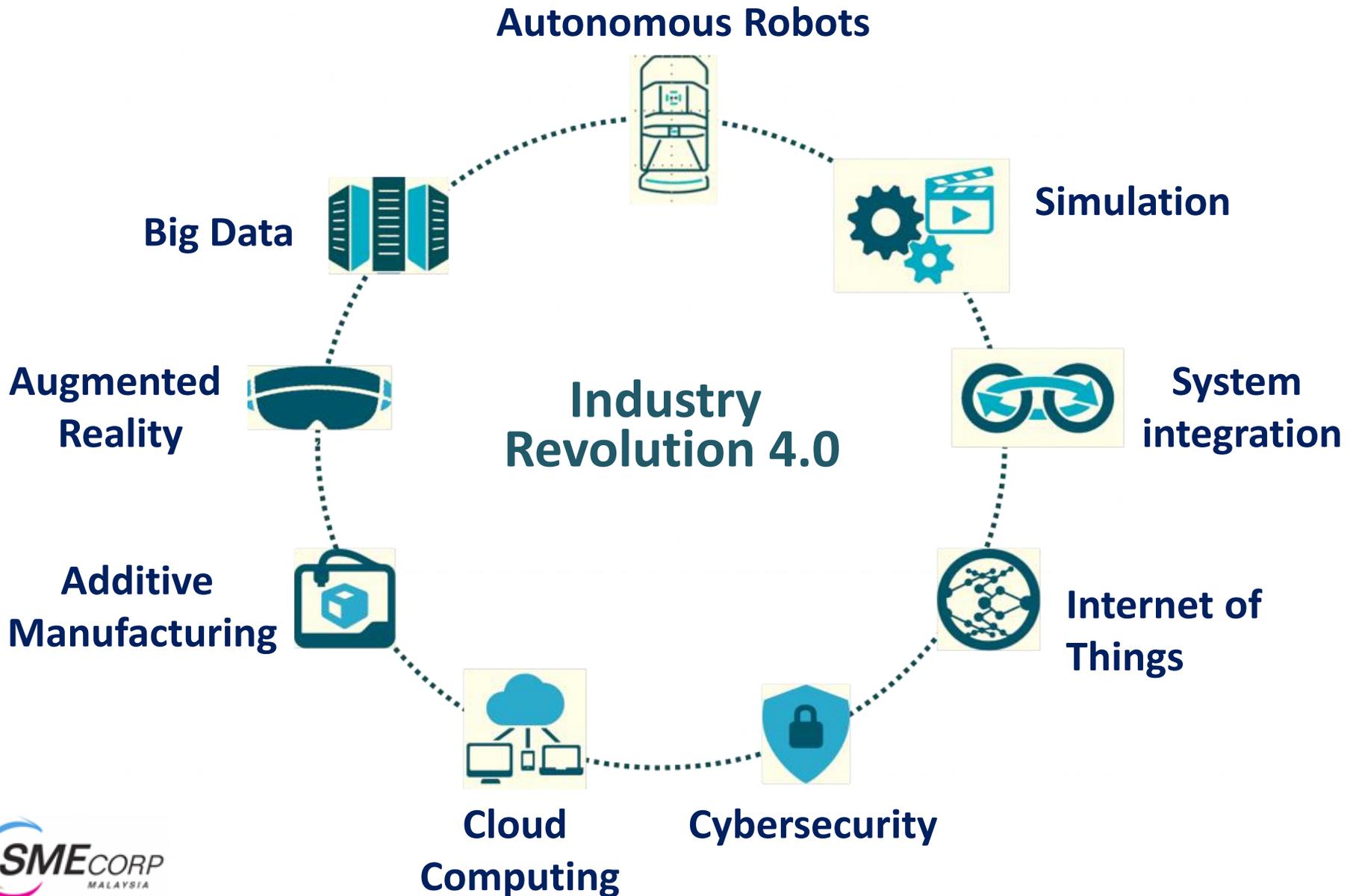
**Technology Convergence**



**Mega Trends**



# 9 pillars of **Industry Revolution 4.0** are interrelated



# Some **Tipping Points** of Technological Shifts expected to occur by 2025



10% of people wearing **clothes** connected to the internet



90% of people having unlimited and free **storage**



1 **trillion sensors** connected to the internet



10% of reading **glasses** connected to the internet



80% of people with a **digital presence** on the internet



The 1<sup>st</sup> **3D-printed car** in production



The 1<sup>st</sup> **Government** to replace its census with **big-data** sources



The 1<sup>st</sup> **robotic pharmacist** in the US



5% of consumer products printed in **3D**



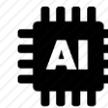
90% of population with regular access to the **internet**



**Driverless cars** equaling 10% of all cars on US roads



The 1<sup>st</sup> **transplant of 3D-printed liver**



30% of corporate **audits** performed by AI



**Tax collected** for the 1<sup>st</sup> time by a Government via **blockchain**

# Examples of strong **Government** support in digitalisation and IR4.0 of SMEs in various countries...

## DENMARK: Innovation Fund

- *Innovation Fund Denmark* for innovative SMEs to innovate further

## FRANCE: Industrie du Futur

- *Invest for the Future Fund* comprises subsidised loans for SMEs and mid-tier, tax incentives for private investment and tax credit for research

## GERMANY: Industries 4.0

- To finance projects and applied research centres, tax breaks for investments in tech start-ups

## SOUTH KOREA: Technology & Innovation

- A three-year plan to spur the country's biotech innovation
- Govt. R&D budget allocated

## CHINA: "Internet Plus" & "Made in China 2025"

- To fund the "Made in China 2025" action plans

## US: Manufacturing USA

- To fund research projects by SMEs

## ITALY: Italia 4.0 Plan

- IR4.0 fund allocated for SMEs from 2017 to 2019

## AUSTRALIA: Advanced Manufacturing Industry Growth Centre

- *Growth Centre Project Fund* covers over 4 years from 2017 to 2020

## THAILAND: 4.0 Start-ups

- To sponsor and support local start-ups

## SINGAPORE: Industry Transformation Programme

- IR4.0 fund allocated for the *Industry Transformation Programme*

# Existing tax incentives on automation, robotics and ICT for SMEs in Malaysia

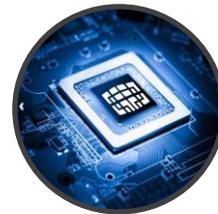
## Capital Allowance to Increase Automation in Labour Intensive Industries (MIDA)

Capital Allowance (CA) of 200% maximum of RM 4 mil

**Accelerated Capital Allowance (IRB)**  
for plant and machinery



**Enhance Use of ICT (IRB)**  
for ICT equipment and software



**Reinvestment Allowance (IRB)**  
60% on Qualifying Capital Expenditure incurred within 15 years

**Production of Selected Machinery and Equipment (MIDA)**  
100% tax exemption for 10 years



## High Technology Companies (MIDA)

100% tax exemption for 5 years

# IR 4.0 has **four main effects** on business for SMEs

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1



**Customer expectations** are shifting – packaging, brand, customer service, customised offering

2



Products are being enhanced by **data**, which improves asset productivity – new materials, data analysis of asset maintenance

3



**New partnerships** are being formed as companies learn the importance of new forms of collaboration – resource sharing through collaborative innovation

4

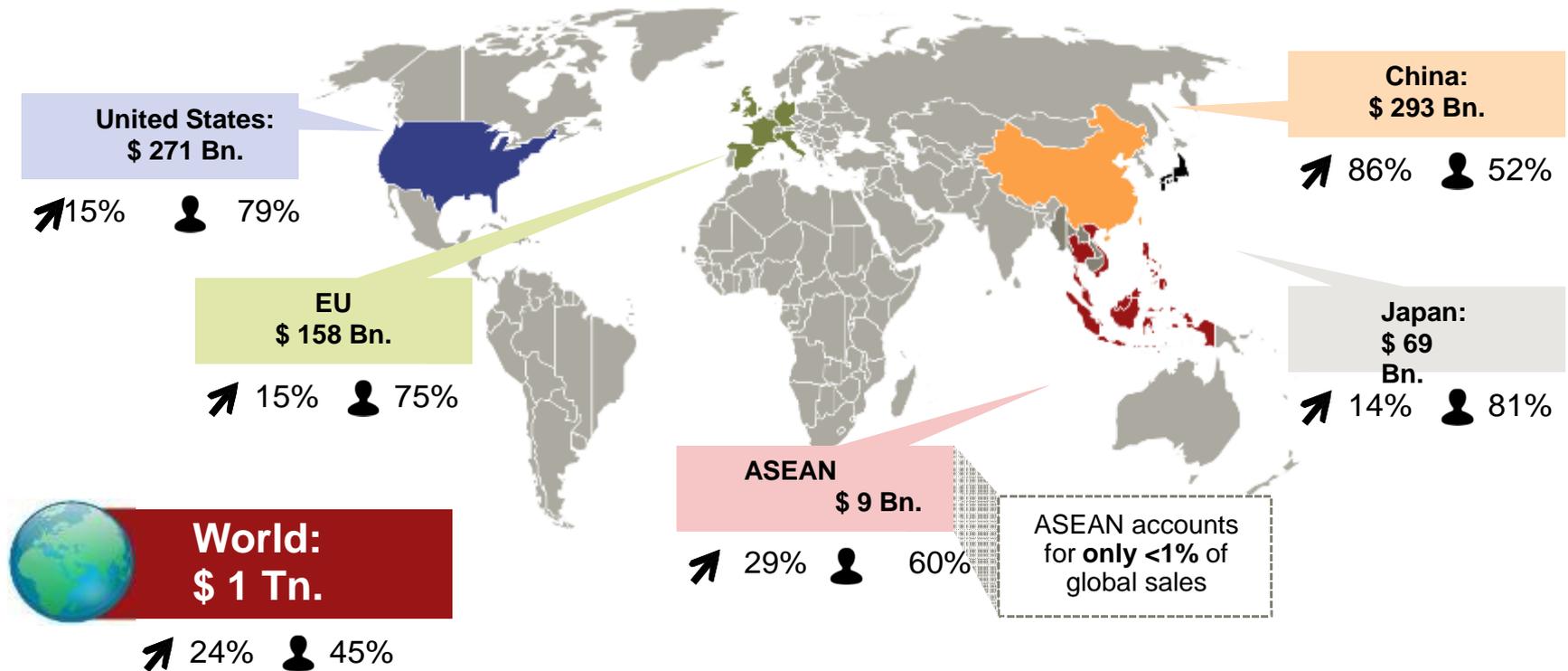


Business and delivery models are being transformed into **new digital models** – data-powered models are faster with greater agility, increasing productivity through **e-Commerce**

# Global e-Commerce sales have reached \$1.0 trillion in 2015 with double digit sales growth in all continents...

## e-Commerce Sales Growth

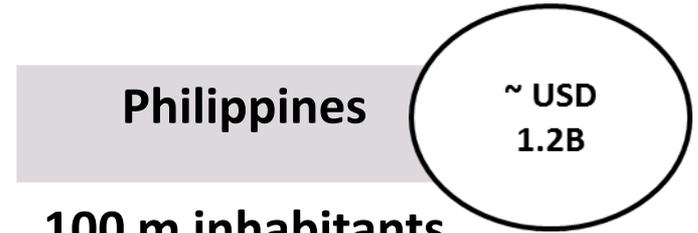
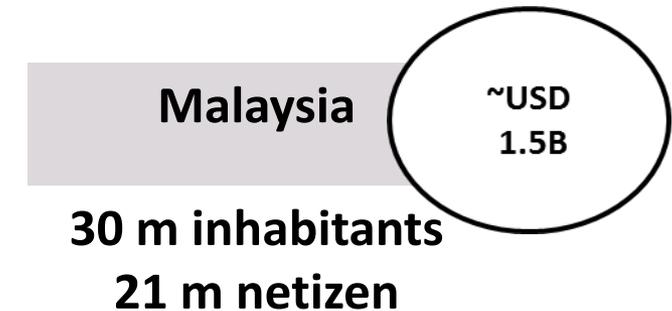
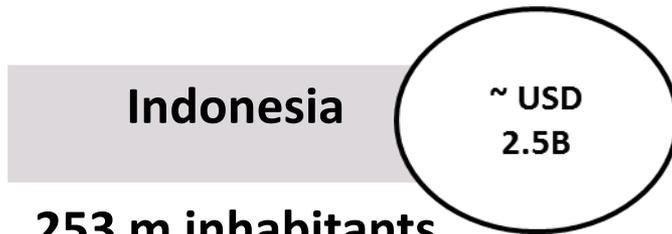
(2015, USD, % sales growth compared to 2010)



\$ e-Commerce Sales    ↗ Sales Growth    👤 Online Buyer Penetration

# Within **ASEAN**, Malaysia ranks 3<sup>rd</sup> behind Indonesia and Singapore in B2C e-Commerce market size

## ASEAN retail e-Commerce market size in 2015

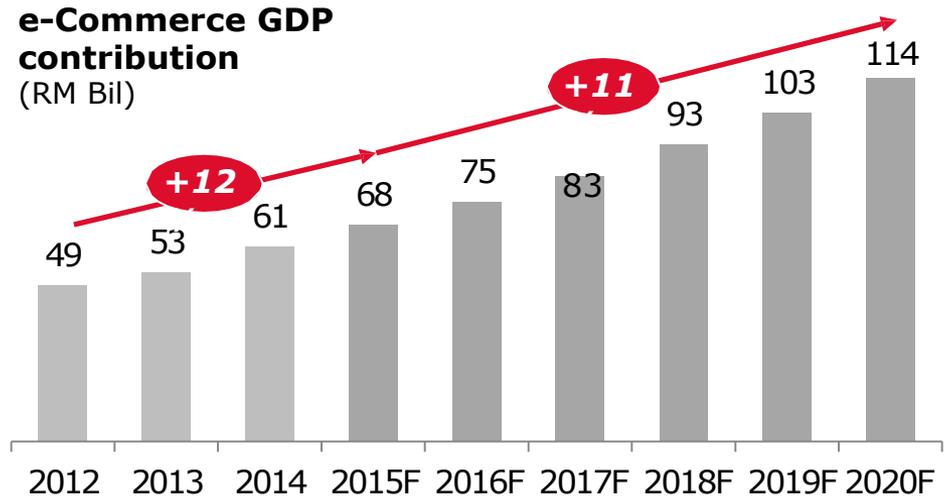


 Retail eCommerce size (USD B)

# Current State of e-Commerce in Malaysia

✓ **Malaysia e-Commerce GDP contribution is at 5.4% vs. US (35%), China (21%) and Chinese Taipei (14%)\***

✓ **e-Commerce GDP contribution growth is steady but gradual**



**Additional government interventions will drive higher GDP contribution**



## CRITICAL SUCCESS FACTORS



**Favourable demographic & economic trends**



**Ready infrastructure and ecosystem**



**Specific government interventions**

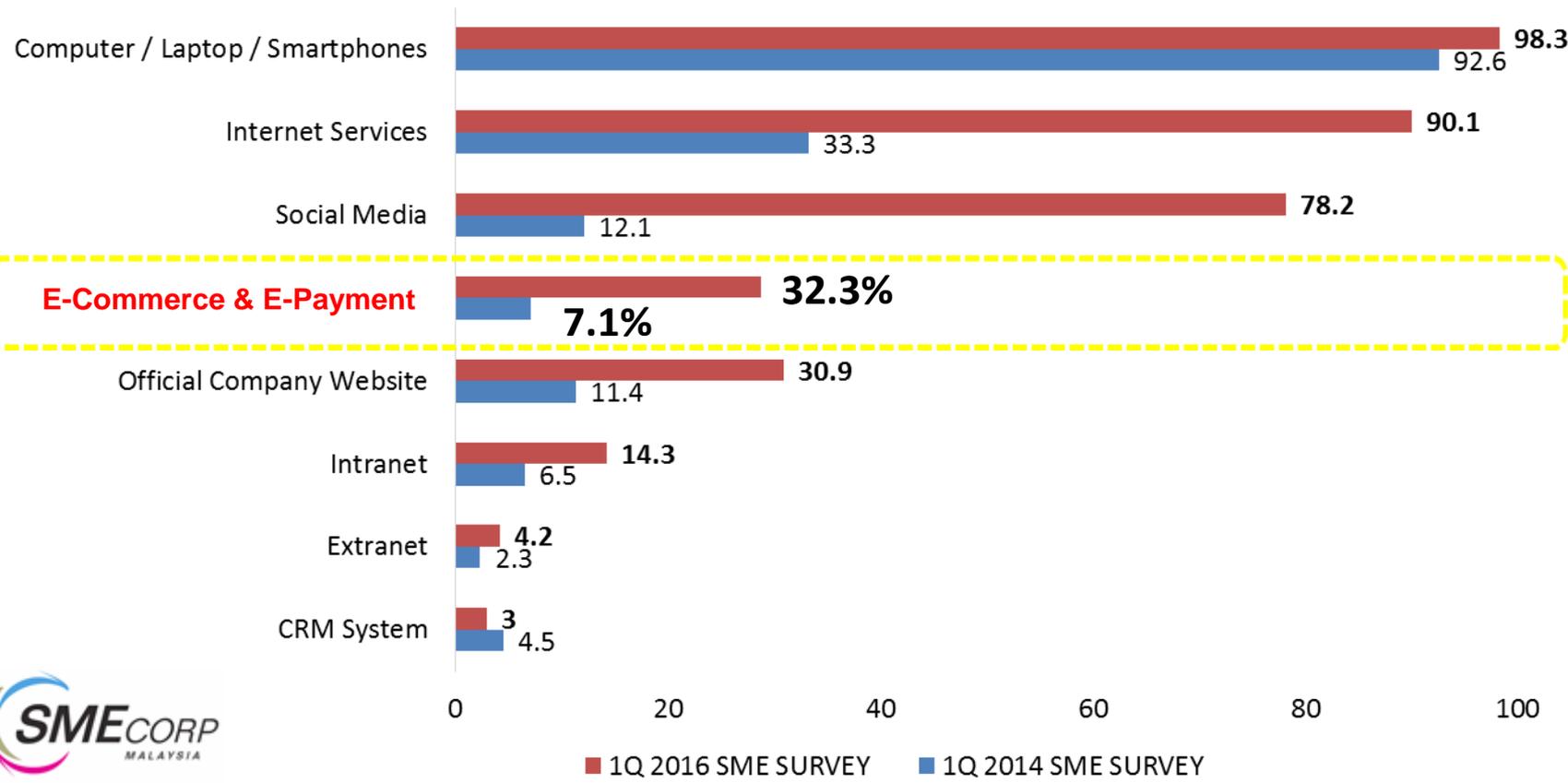
# 1Q 2016 SME Survey : ICT and e-Commerce Adopted by SMEs

2,176 Respondents

1<sup>st</sup> Q 2016 Survey

Usage of ICT for business **increased** from **27%** in 2011 to **89%** in 2016

20.3% involved in Online Business



# SME Corp. Malaysia's end-to-end approach for eCommerce adoption among SMEs in 2017

## eCommercePlus Strategic Approach – Collaboration with Agencies, eCommerce Players & Associations

### 1 Register User via eCommerce Portal

- **eCommerce portal** to guide SMEs in eCommerce adoption journey.

#### eCommerce Portal

To launch an eCommerce portal that provides guidance on eCommerce adoption journey.

#### Components of the Portal

eCommerce Wizard

eCommerce References

Integrated eCommerce Application Centre

### 2 Trained via eCommerce portal

- SMEs trained via **eCommerce Wizard & eLearning Module**
- **Portal gamification** to enable SMEs earn '**graduation**' points to redeem partners' offers (eg: Amazon Subscriptions, EasyParcel Credits)

#### COURSES



BRICK & MORTAR SMES



GETTING STARTED



GOING GLOBAL

### 3 Trained via neutral training provider/ workshops/ seminar

- Develop and implement a **common traditional eCommerce training programme**. Partnership with the following partners:



# Total immersion activities for SMEs to adopt eCommerce platform



## Handholding & Coaching Programme with LAZADA

- ❑ Facilitate SMEs to get onboard Lazada eMarketplace via customised training;
- ❑ Potential SMEs to be trained at Lazada Seller Conference



## Go Global Malaysia Programme

- ❑ 1000 SMEs to be assisted – going digital via training and education programme regionally



## 11 Street Awareness & Training Activities

- ❑ Training activities to encourage SMEs to adopt 11 street eCommerce platform



## Awareness & Outreach Programme on SME Enabler Programme and eBusiness Centre

- ❑ Regional coaching activities on SME Enabler programme;
- ❑ Trade facilitation & Guidance on eCommerce solution via POS eBusiness Centre

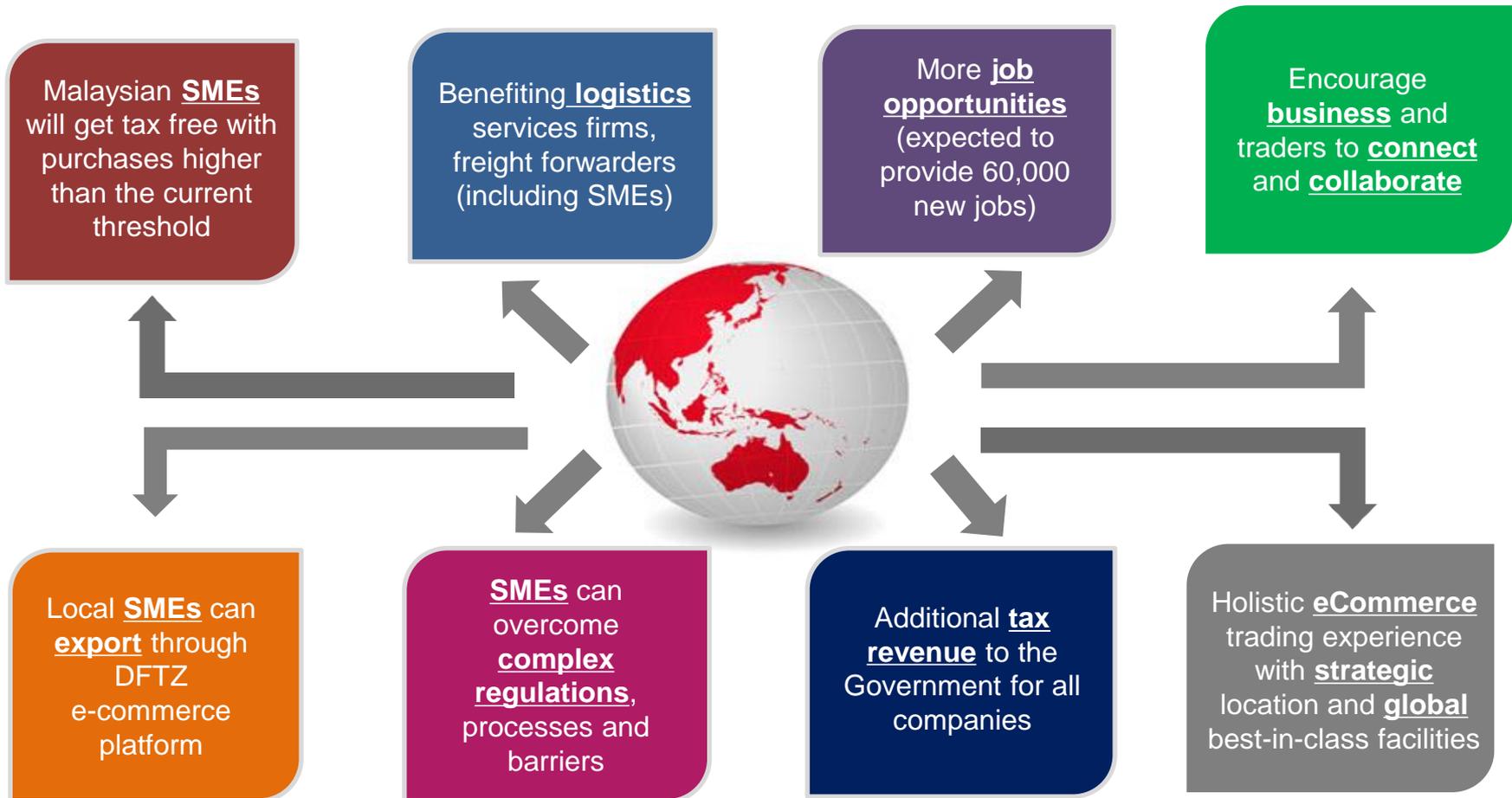


## Programme with Facebook-Avana

- ❑ Facebook eCommerce Marketing for SMEs via selection and coaching programmes regionally

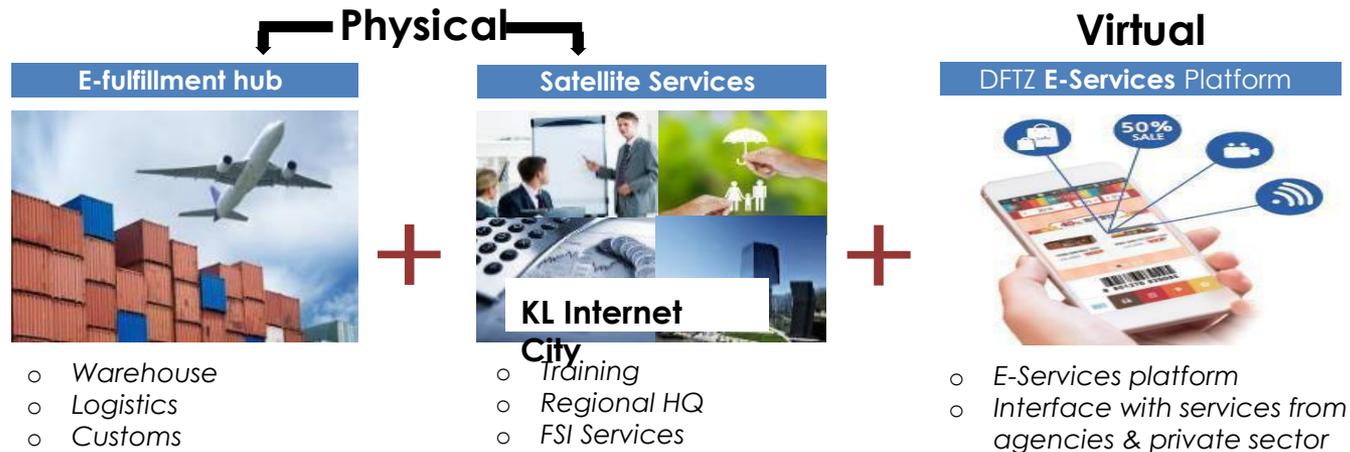


...resulting in positive spillover effects to Malaysian economy



# World's 1<sup>st</sup> Digital Free Trade Zone (DFTZ)

To capitalize on the confluence & exponential growth of the Internet Economy & Cross Border e-Commerce activities



**Strategic partnership with global leaders:**



Enabling Policies

Investment

**Outcome:**

1. Increase SME e-Commerce exports
2. Make Malaysia a key sourcing & fulfillment hub for global marketplaces
3. Nurture an ecosystem to drive innovation in eCommerce and other Internet
4. Economy-related innovations Drive investments into Malaysia

# Malaysia's DFTZ e-Services Platform



- One Touch platform to be customised by Alibaba for Malaysia
- Firewall to separate National applications for governance and data protection

# KLIA Aeropolis has a comprehensive development Masterplan aligned to the objectives of DFTZ

11



## KLIA Aeropolis as the Hub Connecting ASEAN and beyond

### City airports to Airport Cities

Airport City

Traditional Airport



Strategic Location & Connectivity



Synergistic Masterplan



Leading Infrastructure Provider



Facilitation via Government Engagement



Proven Track Record

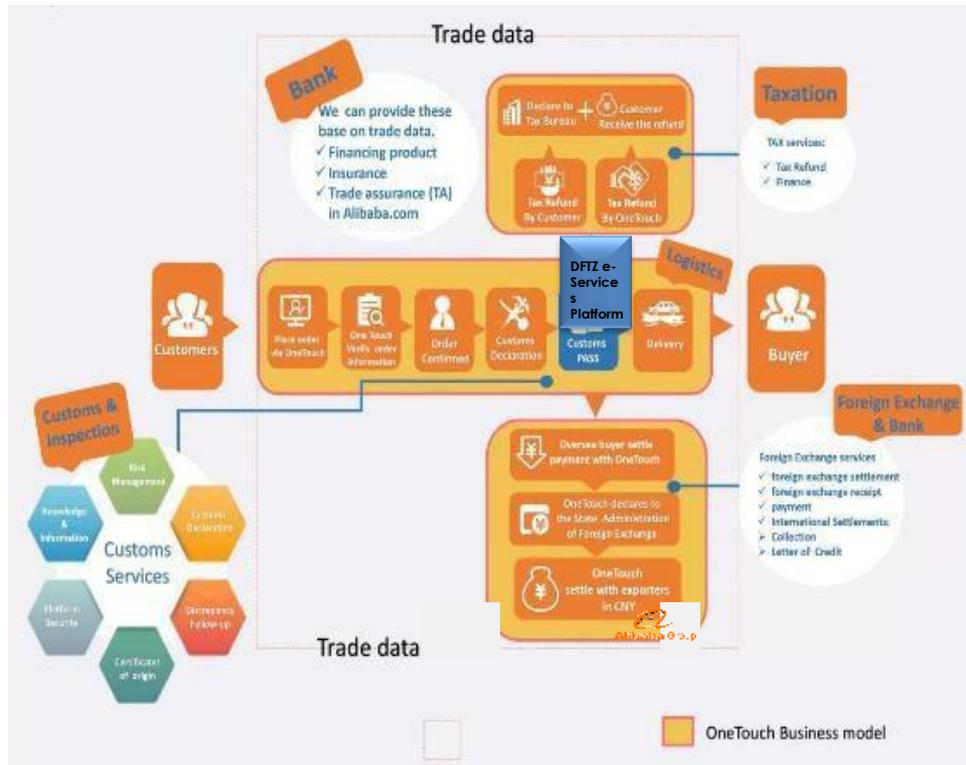
# ALIBABA One Touch Platform

Enabling Seamless Cross Border Trade and Financing Services for SMEs



## ALIBABA One Touch Platform facilitates Cross Border Trade by:

1. Performing end-to-end **customs clearance** on behalf of SMEs
2. Providing **foreign exchange** service to SMEs for convenience and better exchange rate, based on economies of scale
3. Providing fast **trade financing** services to SMEs based on their trading data
4. Consolidating **logistics** requirements for SMEs to lower cost for SMEs and consumers



# Success Story #1: e-Commerce Adoption



STE Engineering Sdn. Bhd.



- supplier and manufacturer of **Cable Tray, Cable Ladder and Cable Trunking**
- Established in May 2002



- Using Google AdWords to market its products and services
- Starts using Google AdWords in 2013



Before Google Adwords: Sales RM3mil

After Google AdWords: Sales RM8million

**Increase by 166%**



# Success Story #2: e-Commerce Adoption

**BookCafe**.com.my  
KEDAI BUKU ONLINE



- Online Book Store established Dec 2010
- 19 employees



- 45,000 monthly visitors
- 54,894 subscribers
- 72,660 registered users
- 177 publishers



- 2010: RM132k
- 2016: RM2.7 mil

**Increase by 1933%**



# Success Story #3: 1-Innocert programme resulted in higher domestic sales and exports



**JF Microtechnology Sdn Bhd**

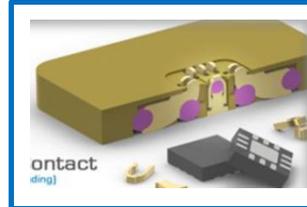
- **1InnoCERT Rating** : AAA
- **SCORE Rating** : 4 Star
- **Sector** : Manufacturing
- **Nature of Business** : Design, develop, manufacture integrated circuit test socket, interconnect, test solutions for semi-conductor and electronic assembly



## Assistance from SME Corp

- Innovation Voucher RM400k
- Utilised on purchase of high precision machinery for the development of new product

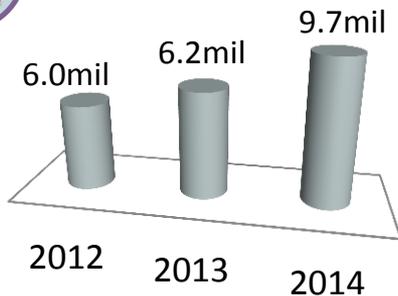
## New Product Developed – Bell Contacts



- Smallest actuating Grounding Solution for IC final testing
- US Patent granted in Feb 2015



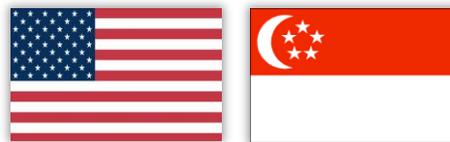
## Annual Sales (RM)



**Annual sales increased by 63% since 2012**



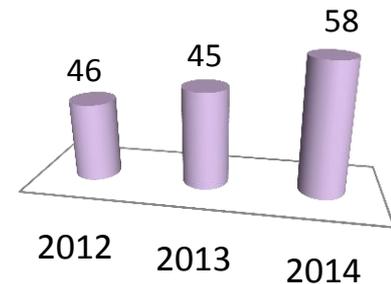
## Exports



**Successfully exporting to US & Singapore**

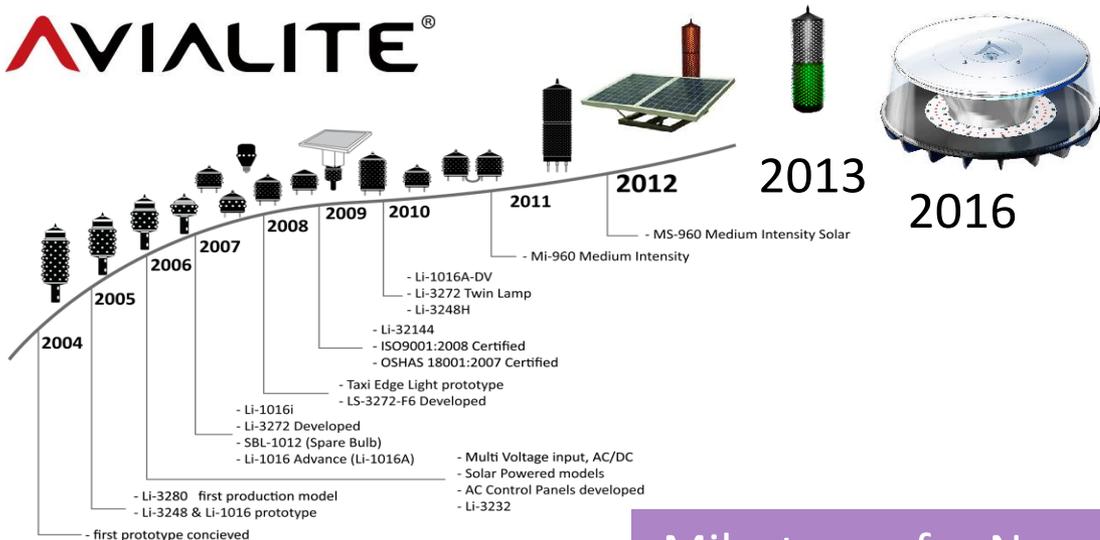


## Manpower



**Manpower increased by 26%**

# Success Story #4: Innovative Products & Services Evolution



## EPP 10 Programme

- comprehensive assistance and machinery and systems upgrade

## 1-InnoCERT

- Strengthening of innovative practices and products

## Milestones for New Factory

### Bigger Production Capability

- Bigger space for storage of raw materials
- Increase by **200 percent** of production capability
- Increase QCD of the products

### R&D for New Products

- Medium intensity AOL Mi-20KP & Mi-20-2KP for TM
- R&D stage: Induction light for TNB, all new low intensity total internal reflection light Li-3201

### Jobs

- New job creation for local community
- Hiring **2 new R&D engineers**

### Branding and Confidence

- Better confidence to win bigger contracts
- **Launch Pad** for international market



## Industry 4.0

- is about companies orienting themselves to the customers through eCommerce, digital marketing, social media and the customer experience.

## Productivity

- Investment into Automation
- Adoption of platforms such as eCommerce
- Digitalization of business

## Policies

- To support SMEs
- More engagements

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Thank you...