SECP1513 – 07
TECHNOLOGY & INFORMATION SYSTEM

ASSIGNMENT 1 : 4th IR, Industry Talk 1 & 2 Posters

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4TH INDUSTRY REVOLUTION
INTERNET OF THINGS

INTRO !!

The Fourth Industrial Revolution (4th IR) is a new phase of industrial revolutions that starting to make changes between physical and digital

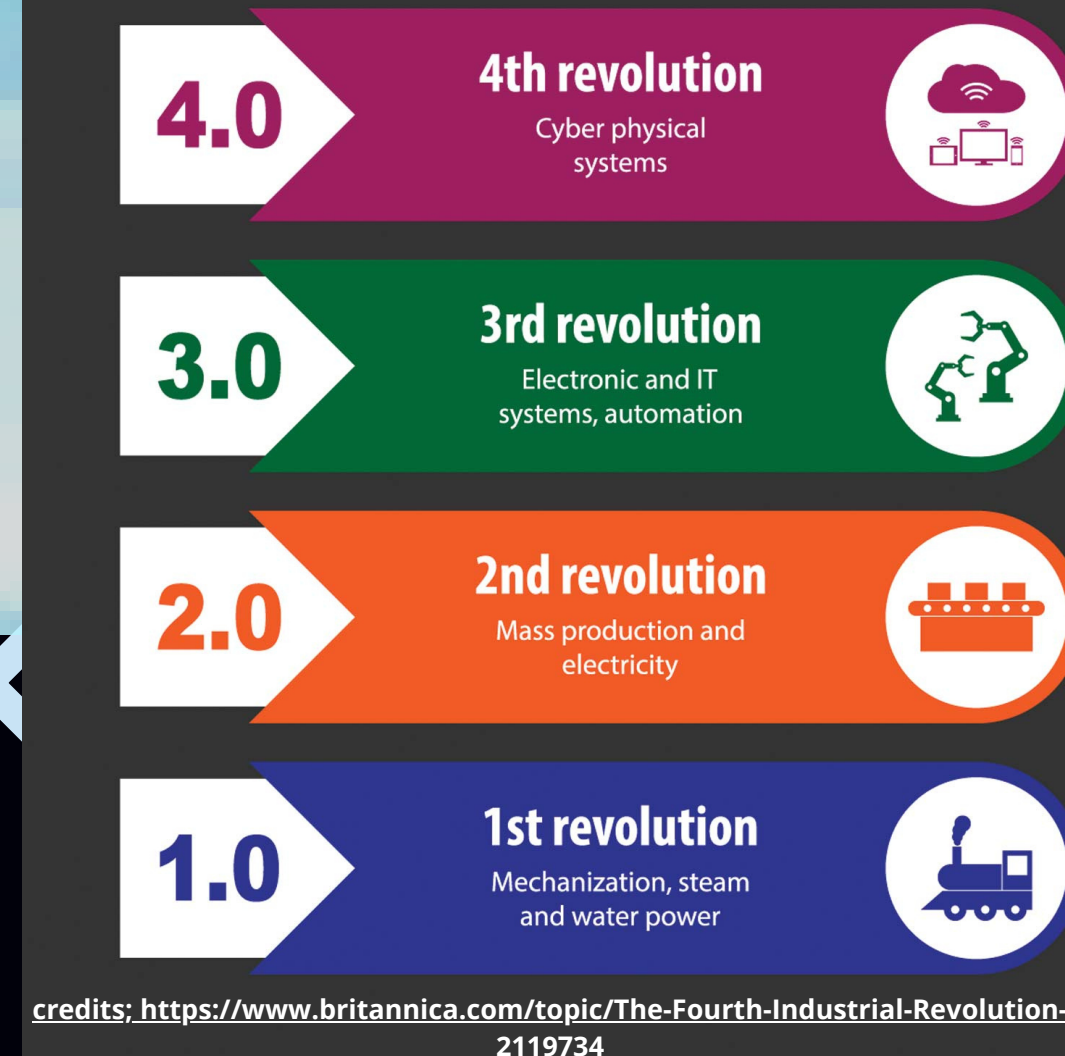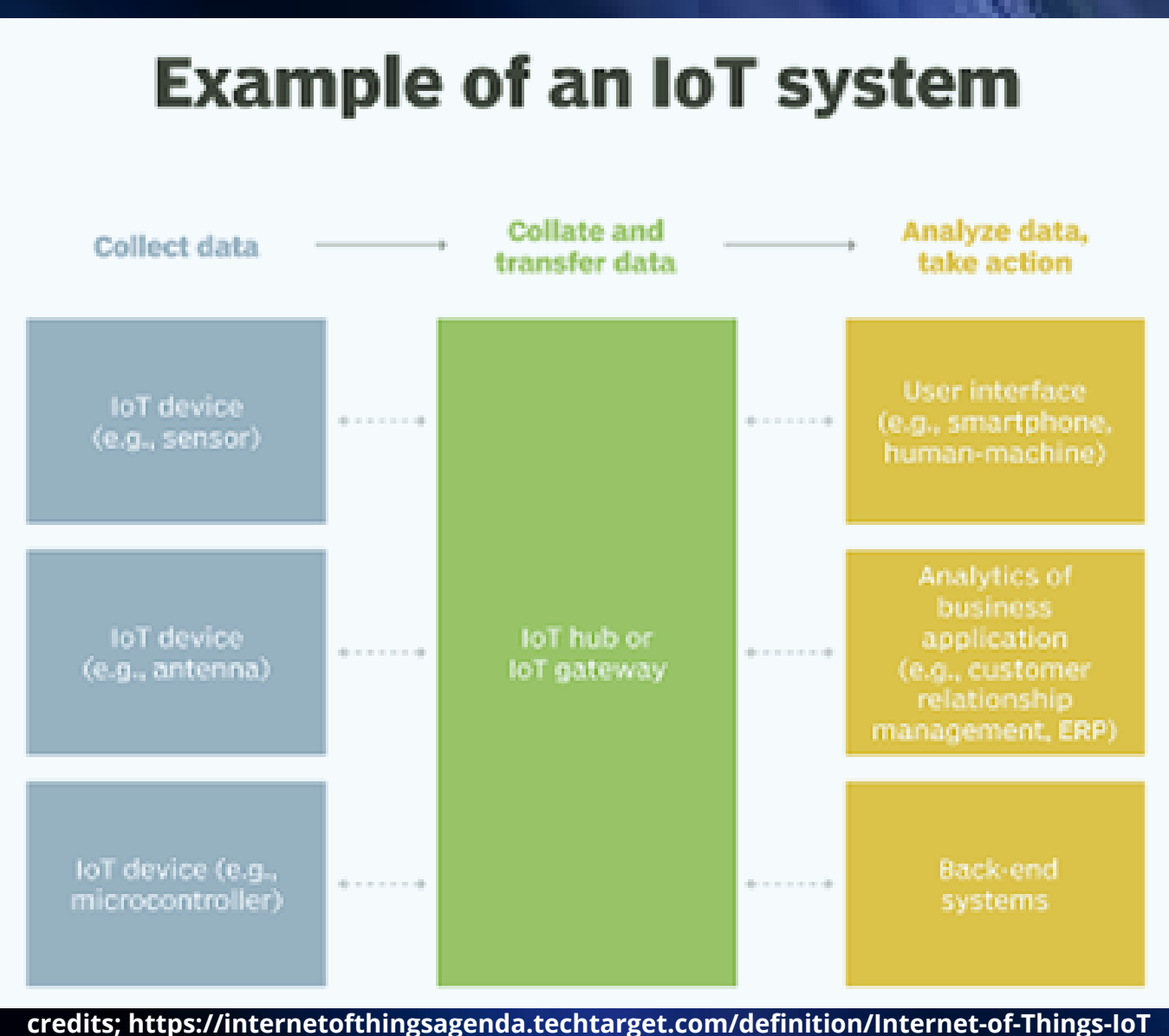It's the starting of new era using of Artificial Intelligence (AI), Internet Of Things(IOT), other technologies or can easily said using robots

The robots and technologies are the backbone of many products and services that can turn the world into a modern life.

4.0	4th revolution — Cyber physical systems
3.0	3rd revolution — Electronic and IT systems, automation
2.0	2nd revolution — Mass production and electricity
1.0	1st revolution — Mechanization, steam and water power

credits: https://www.britannica.com/topic/The-Fourth-Industrial-Revolution-2119734

WHAT IS IOT ??

OT is a concept of connecting devices that has sensors and software, to the Internet to send data and receive instructions to communicate and perform specific functions. In short term, ''Internet-connected smart device''

Example of an IoT system

Collect data → Collate and transfer data → Analyze data, take action

IoT device (e.g., sensor)
IoT device (e.g., antenna)
IoT device (e.g., microcontroller)

IoT hub or IoT gateway

User interface (e.g., smartphone, human-machine)
Analytics of business application (e.g., customer relationship management, ERP)
Back-end systems

credits: https://internetofthingsagenda.techtarget.com/definition/Internet-of-Things-IoT

HOW IOT WORKS ??

IOT devices has sensors and processors which acts as a mini computers using data received that connects to internet via machine learning to get data from surroundings. An overview of the system is shown in the illustration
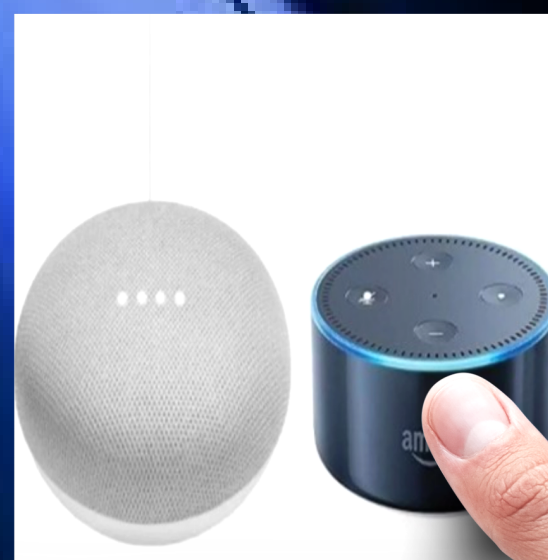
BENEFITS
- BETTER TIME MANAGEMENT
- CONSERVES ENERGY
- BETTER LIFE QUALITY

IOT EXAMPLES !!

SMARTWATCH
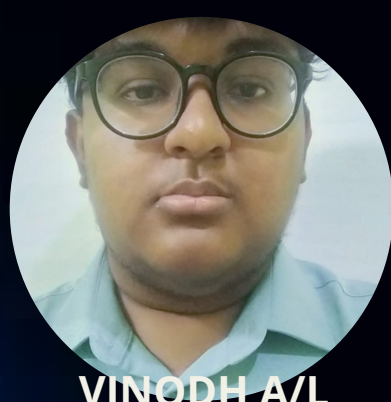
SMART SPEAKER

SMART SECURITY SYSTEM

REFLECTION !!

FROM THE TALK, WE GAINED FEW REFLECTION AND LEARNED WITH FEW THINGS. WHICH ARE;

1) IOT Increases human productivity - people will start make a fast and smarter decision
2) Smart City from IOT can ease people life with modern technologies
3) Digital Solution - Managing logistics performance&efficiency
4) IOT Increases execution performance with connected workforce - changing the working and studies environment from using papers to technology such as tablets.

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INDUSTRY TALK
TECHNOLOGY INFORMATION SYSTEM & INDUSTRY REVOLUTION 4.0

1

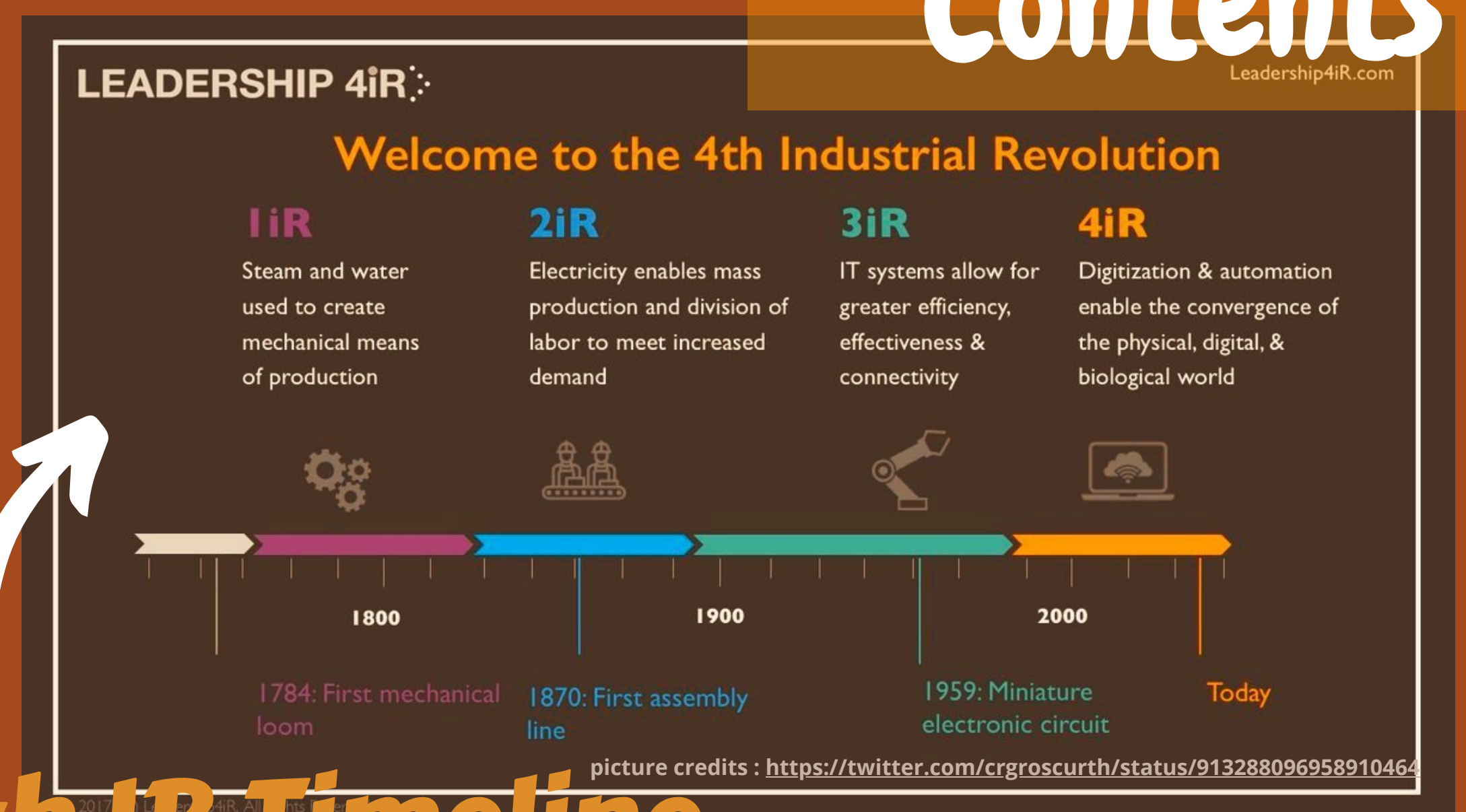**MR. NAZRI EDHAM**
Head of Product Design, TM Commercial

Executive Summary

In this talk, TM speaker talked about TM's milestone as a company. TM served as a enabler for development in our nation. TM also helped enabling global connections into and from Malaysia. Since 4th IR is actively taking place, the speaker talked about the history of the previous revolution and what is focused for the revolution. The 4th IR can cause massive changes to culture and business model due to improved technology and we need to be prepared to face those changes. TM had started their journey to support the evolution of 4th IR by building data centres, cloud services and IoT. This helps digitalize Malaysia making it easier to face the upcoming revolution. The adoption areas within 4th IR will be cloud/digital, smart cities and also 5g network connection. TM has also build a Network Operating Centre that can help gives visibility of network incidents and also security threats.

Introduction

TM has connected and served "The Nation" since 1946. TM Group is strategically organised into three main business clusters which are Unifi, TM Wholesale and TM One. TM has over 900,000 KM Fibre-Optic Cable all around the world. TM also has 9 Data Centres including 2 world-class Tier 3 Data Centres. There are over 21,000 *Warga TM* where 52.5% of them are non-executive while 47.5% of them are executives. A brief and good explanation about 4th and how many adapting to it was explain. 4th is taking place very fast across the nation.

Contents

LEADERSHIP 4iR
Welcome to the 4th Industrial Revolution

1iR — Steam and water used to create mechanical means of production

2iR — Electricity enables mass production and division of labor to meet increased demand

3iR — IT systems allow for greater efficiency, effectiveness & connectivity

4iR — Digitization & automation enable the convergence of the physical, digital, & biological world

1800 — 1784: First mechanical loom
1870: First assembly line
1900
1959: Miniature electronic circuit
2000
Today

picture credits : https://twitter.com/crgroscurth/status/913288096958910464

Leadership4iR.com

4th IR Timeline

Network Generation Timeline

1G - Analogue voice call
2G - Text messaging introduced
3G - Mobile Data Introduced
4G - Mobile Data Focused
5G - Everything Connected

4G VS 5G

Difference between 5G and 4G

	5G	4G
Latency	1 ms	30-50 ms
Throughput	10Gbps per connection	100 mbps per connection
Connections	1000k connections per km²	10k connections per km²
Mobility	500km/h	350km/h
Network Architecture	Slicing Ability required	Inflexible

Adoption Area within 4th IR cloud/digital

DIGITALIZATION OF SERVICES

Entrepreneur/Consumer App :
- Google, Dropbox, Apple

Telco Services Digitally :
- Whatsapp, Skype, Lync

OUTCOME OF TRANSORMATION

- Innovative business model
- Differentiated value proposition to beat competitor
- Enhances customer experience
- Operationally efficent

Reflection

- The 4th industrial revolution will change the people's lifestyle in few years
- From the talk, we also know that industry jobs opportunity will reduce as most industry uses robot as work power.
- Increased productivity, effienciency and quality in processes, greater safety for workers by reducing jobs in dangerous environments.
- Smart water intergrated management system shows us how well developed out technology system
- -the finding of digital logistics company like shopee and lazada make consumers life more eaiser

Smart Fleet

SMART CITIES
Technology to intuitively adapt and respond to the need of the citizen

Smart Water Integrated Management System (SWIMS)

Smart Manufacturing Solution

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INDUSTRY TALK 2
TECHNOLOGY INFORMATION SYSTEM & INDUSTRY REVOLUTION 4.0

Ms. Sarah Khadijah Taylor
Strategic & Project Manager Digital Forensics Department

CyberSecurity
MALAYSIA

Executive Summary

- The talk emphasizes on how Malaysia's industry trying the best to adapt with the new 4th industrial revolution.
- The talk also shared about the readiness and the way Malaysia is preparing towards IR 4.0.
- There are many challenges faced by the nation to cope with the new changes.
- The talk discussed on how industry like Cybersecurity Malaysia putting their efforts towards the change. Many collaborations have been made with other country and agencies to improve few sectors in Malaysia. MITI is one of the agencies that came up with new strategies to strengthen nation's industry sectors
- During the talk, the initiatives and strategies of Cybersecurity has been shared, one of it is the usage of A.I. With all these elements being shared, people get to know how Malaysia is moving forward in this era.

Introduction

- Malaysia has become one of the leading country in the 4th industrial revolution with a strong production base
- With the great shift in the global market, malaysia has been preparing towards 4IR to defend the local market by spreading more awareness about the importance of technology to the local market
- Through the advanced R&D & cybersecurity sector . Malaysia is currently standerdizing tech in its industry

Content

With the of aim of securing nation cyberspace, the agency associate with the ministry of communication have been contributing for the manufacturing sector and local industry to be more prepared towards the 4.0 I.R
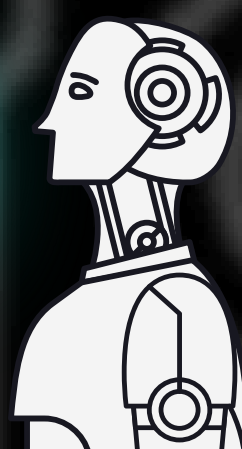
Through collaboration with other country that more focused for the improvements on the information technology sectors, many innovations have been created based on the current needs

To overcome the issues in Malaysia, the Ministry Of International Trade And Industry (MITI) has come out with a philosophy which is the A.C.T. it is a great strategy to attract potential investor and stock holder to support the local market

In order to align the tech between the security sector with other sector. The Cybersecurity, Malaysia have make many program in the public to improve the public awareness and to recruit more talented individuals in that sector. The Cybersecurity also has launch a new tech using the Artificial Intelligence (A.I) that can improve the efficiency of the face recognition

CyberCSI
MyCERT
CyberSAFE
CyberGuru

Way Forward

In order for us to move forward, upscaling and refining local talents need to be prioritized in the industry.

By doing so, it will give a positive output for the innovation and development sector because more collaborative and R & D program can be held effectively

Reflection

- From the talk , we are able to know 4th IR is being implemented in all aspect of life
- We must empowered the usage of A.I since it is a great way and it has been proved that A.I can improve the efficiency of any programme
- Instead of just focusing on industrial sector, 4th 1R must also be implemented in security sector to enhance it potential to the maximum
- Besides, we also gained much knowledge on how different sectors and agencies trying the best to improve their sector to sustain with the new 4th IR

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