INDUSTRIAL TALK 4.0 :

PAST, PRESENT, FUTURE

BY GROUP : 8

EXECUTIVE SUMMARY

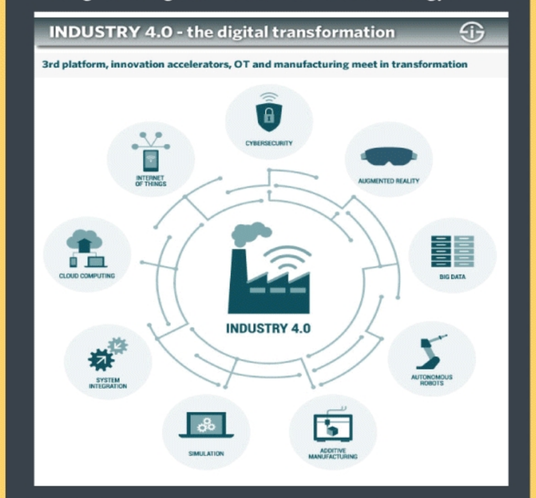
As time goes by, technology keeps evolving in our life. This new technology brings many benefits to world either in economy, organization and many more. One of factor that contribute to technology development is Industrial 4.0. It started off with Industrial 1.0 where mechanical power replace manual work before electrical power emerged in Industrial 2.0. With electricity, computer is introduced in Industrial 3.0 and during Industrial 4.0, smart machines and autonomous systems are created.

Industrial 4.0 show us many new discoveries that bring changes in our life. Internet of Things (IOT) have been used widely in world, same goes to cloud computing. While autonomous robots are useful in manufacturing process, Augmented Reality (AR) giving us chances to feel the virtual world in real world. Big data and analytics also help us to make better choice in industry.

Since technology are developing rapidly, it is important to look forward to future industry. Virtual Reality (VR) is one of new invention that gaining people attention and we can easily try it by playing games. Smart Home can provide intelligence services due to advancement in Artificial Intelligence (AI). Therefore, future jobs also can be different from nowadays because new technology can replace our present job. It will be tough competition as more expertise people are needed in industry.

INTRODUCTION

Industrial 4.0 have changed the world with new discovery that ease our work. From past decade, our industry has been growing where many new technologies emerge such as cloud computing and Internet of Things (IOT). The concept of Industrial 4.0 itself is made of many pieces that integrated together become new technology.



The fourth industrial revolution, also referred to as Industry 4.0 is starting to change the way goods are produced, and organizations of all sizes

JOURNEY TO INDUSTRY 4.0

INDUSTRIAL 1.0

Began during 17th century up to 18th century where production evolved from muscle power to mechanical power. Water and steam engine are used to power things such as boats.

INDUSTRIAL 2.0

The birth of electrical technology helped in mass advancement of machines to produce goods. Innovation in factory system such as assembly lines is more efficient to speed up the production and increase the output.

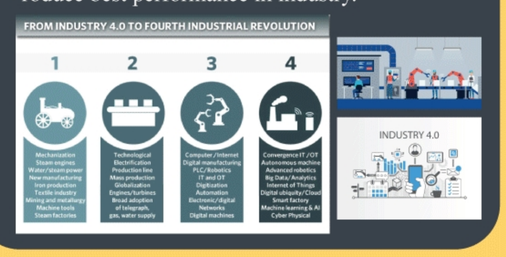
INDUSTRIAL 3.0

– This industrial revolution is marked as era of computing. The creation of many electronic devices such as Programmable Logic Controller (PLC) and microcontroller has helped to support automated system.

– It is also known as Digital Revolution where computer and Information Technology (IT) become the key drivers of industry.

INDUSTRIAL 4.0

Technology advancement in 3rd Industrial Revolution has led to cyber physical systems where computers, networks and physical systems work together to perform specific tasks. Through Internet of Things (IOT), Artificial Intelligence has successfully developed to p roduce best performance in industry.



TRENDS TO IR 4.0

AUTONOMOUS ROBOT

- An independence robot that used software, sensors or camera to do the desired tasks.
- Autonomous robot helps companies in lessening error and giving better performances for output.

INTERNET OF THINGS (IOT)

- Devices that connected to Internet where the data can be collected using sensors and accessed anytime.
- IOT enable us to monitor and control the devices in real-time.

CLOUD COMPUTING

- Access of computing services using Internet such as storage, servers or networks

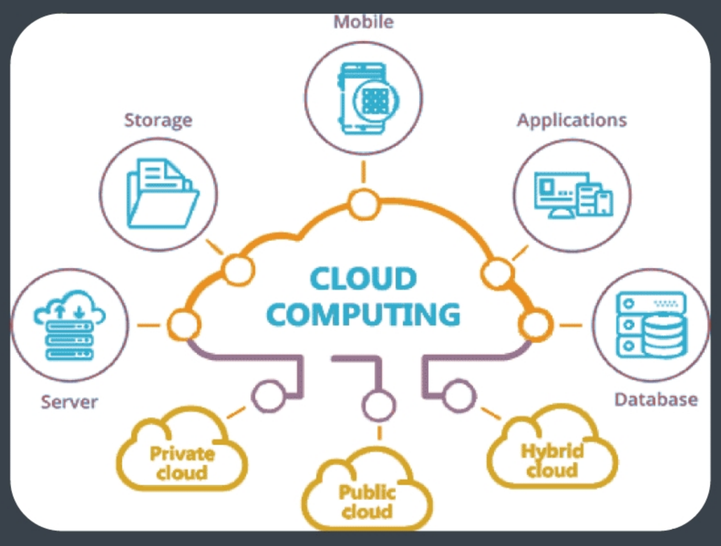
AUGMENTED REALITY (AR)

- A technology where the users experienced their real world blended together with digital world.
- AR is useful in education by giving better description on abstract things.

BIG DATA & ANALYTICS

- A process of collecting big amount of data before analyze them for benefits and improvement.

CLOUD COMPUTING



Cloud storage is one of the greatest benefits cloud computing has to offer. Any relevant business data can be stored in the cloud, which makes it more accessible and usable.

WAY FORWARD

- Invisible Analytics
- Artificial Intelligence (AI)
- Virtual Reality (VR)
- Video Consumption
- Wearables
- Mobile Payments
- Smart Home
- Connected Car
- Drones
- 3D Printing

Our Digital Infrastructure,Connectivity and Digital Solutions will fast forward Malaysia into Industrial Revolution 4.0 era and beyond.

- **Data centre** : stores and shares applications and data.
- **Cloud Services** : a wide range of services delivered on demand to companies and customers over the internet.
- **Internet of Thing (IoT)** : the network of physical objects that are embedded with sensors, software, and other technologies for the purpose of connecting and exchanging data with other devices and systems over the Internet.
- **Digital Malaysia**
  - Digital Government
  - Digital Economy
  - Digital Society

CONCLUSION

We need to take appropriate actions in moving forward to Industrial 4.0 because its really important to our country.It connects Malaysians everywhere,inclusively with enriched digital lifestyle. It empowers and creates values for businesses through borderless digital possibilities which will boost our economy. It supports our government initiatives for betterment of our country.

REFLECTION

It is undeniable that the Industrial Revolution has contributed many inventions that helps us in life. Even until now, the industry keeps undergo the revolution to maximize the productivity. We as the current generation need to adapt with the changing trends and advanced technology. New problems or risks in industry also may occur, thus we need to be prepared by predicting them from current IR 4.0 trends.

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