



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

SCHOOL OF COMPUTING
SESSION 2020/2021 SEMESTER 1

SECP1513 - 07
Section 07

Technology and Information System
Industrial 4.0: Past, Present, Future

2020

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1st Industrial Revolution

Introduction of machines, water and steam power to replace manual work

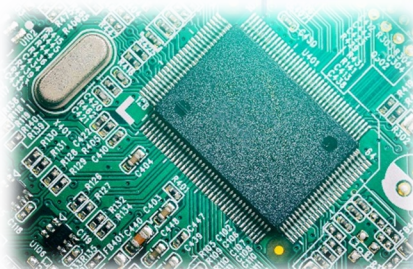
2nd Industrial Revolution

Mass production of goods due to discovery of electricity and use of petroleum and steel



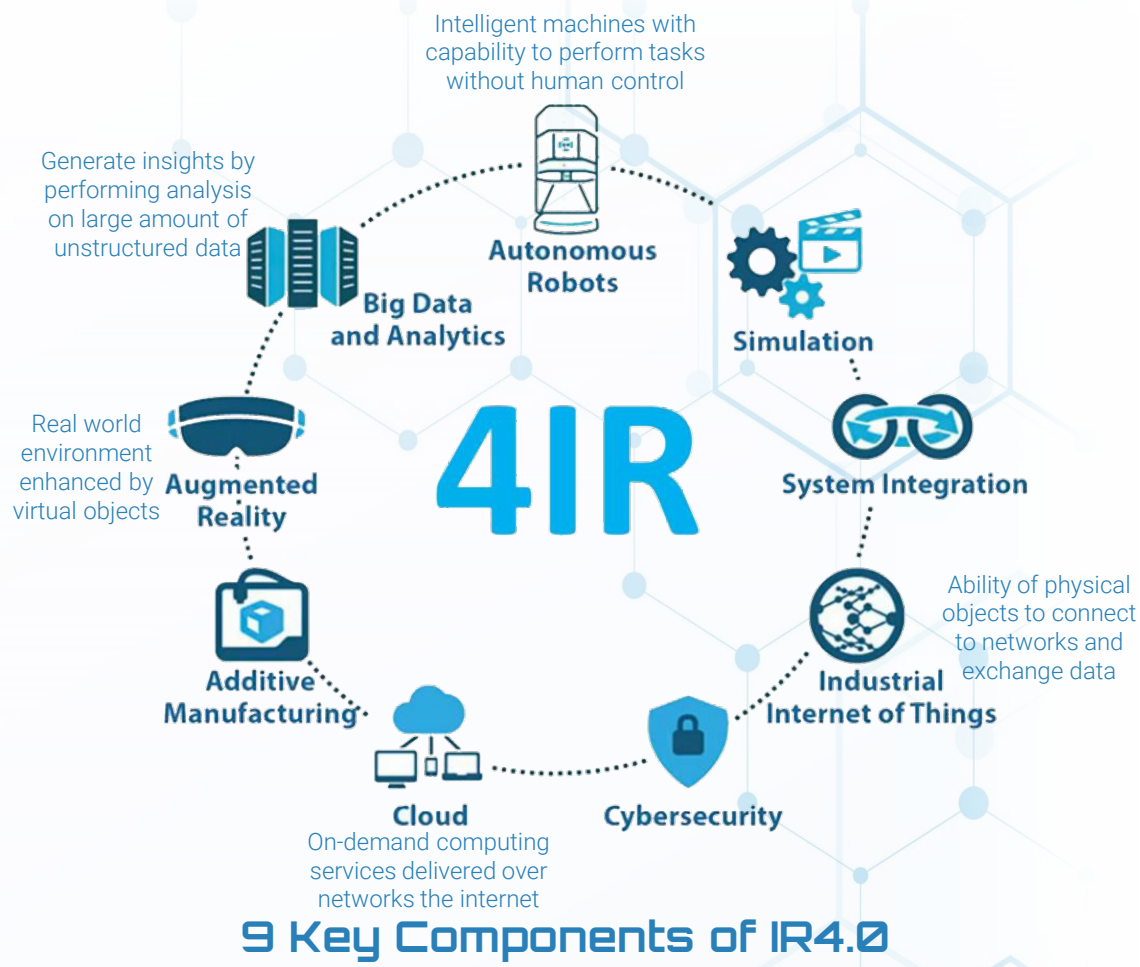
3rd Industrial Revolution

Also called "Digital Revolution", Computers and IT became key drivers in industries



4th Industrial Revolution

Integration of Artificial Intelligence into industries. Workflow became autonomous. Based on 9 key components of IR4.0



Introduction



Introduced to embrace the IR4.0 technologies in businesses, people, government in Malaysia

Industrial 4.0

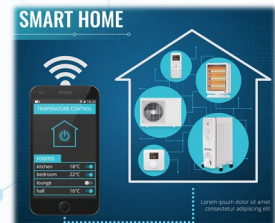
Past, Present, Future

Examples

- Rise of online shopping platforms (Shopee, Lazada, 11street)
- Use of Machine Learning technology to study shopping behavior and patterns



- Smart cars (Tesla Model 3) connected to the cloud
- Autonomous and self-driving / navigation ability



- Smart home – Homes that are connected to the internet
- Control and access household appliances remotely
- Intelligent home system, more efficient security

Digital Infrastructures



Cloud Services

Virtual Private Cloud, Hosted Private Cloud



Internet Of Things



Data Centre

Primary location in Iskandar Puteri

Fast

Forward

Digital Malaysia



Smart Home, 5G, Green Technology, Apps, Solar System, Electric Car



Digital Government

Smart City, Smart Traffic Light, Security, CCTV, Smart Water System, ICT/BPO Data Analysis



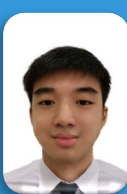
Digital Economy

Smart Building, Smart Farming, Drone, DC/Cloud, Digital Payment, Data Analytic

TM's Contribution

- Analytics help organizations make impactful decisions. Big data analytics for data transformation Malaysia is being adopted
- Collaboration with developers to create "Smart Homes" for the community
- 5G Smart City solution introduced to accelerate the IR4.0 adaption.

Reflections



Technologies are surely advancing rapidly today. Industrial Revolution 4.0 will soon become our reality even in Malaysia. Therefore, to not fall behind, we as students in IT must be motivated and committed in our studies to be able to contribute to the society in near future in realizing IR4.0, which promotes even better life quality of humans



Day after day, technology is improving speedily. Very soon the industrial revolution will develop in Malaysia. That's why we students must strive to be present as soon as possible to help our country get to IR4.0, which enhances the quality of life and makes it better and more comfortable for human



The modern world is evolving every now and then. Industrial Revolution is the result of this evolution. From early 17th century the life of humankind started being technology oriented gradually and this technology is changing and developing rapidly resulting us to move to the 4th industrial revolution. As the people of this era we must keep ourselves updated to adopt with the continuous changes and also play effective roles in moving to IR4.0

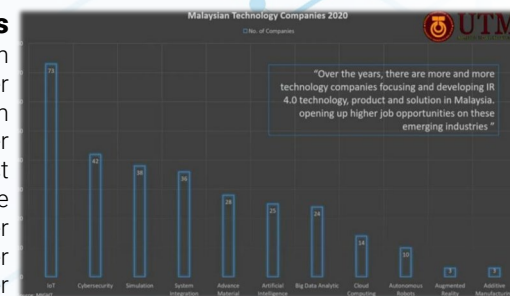


We need 5G and connect to cloud computing. 5G can accelerate IR 4.0 and make human life more comfortable. For IR 4.0 5G is not only important because it has the potential to support millions of devices at ultra fast speeds, but also because it has the potential to transform the lives of people around the world.

Future

Future jobs

- 3D Printing technician
- Biomechanics servicer
 - Computer vision engineer
- De-extinction zoologist
 - Electronic textile designer
 - Ethical hacker
- Infographic designer
 - Machine learning engineer
 - Transposition technician
- Urban agriculturist
- Web history archivist



Technology companies are emerging in Malaysia, especially those related to IoT services, potentially opening more available job opportunities in technology related field.

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