



# AUTONOMOUS ROBOTS



## INTRODUCTION



In an industrial environment, the concept "Industry 4.0" refers to the mix of hardware, software, and other technologies. Manufacturing companies are incorporating digitalized manufacturing operations and the Internet of Things to take advantage of the benefits of communication and connectivity (IoT). **Autonomous robots** are a seminal example across countless industries, including manufacturing. **Autonomous robot** operations can be coordinated and mechanised to a higher extent than ever before by connecting to a central server, database, or programmable logic controller. They are able to **complete tasks intelligently** and in a **coordinated manner with minimal human interaction**.



photos from : <https://www.assemblymag.com/articles/95694-robotics-in-the-age-of-industry-40>

## DESCRIPTION



**Autonomous robots** are designed that are programmed to carry out tasks with little or no human assistance. From **robotic process automation** to **electric vehicles** with artificial intelligence, they can vary significantly in size, capability, mobility, accuracy, intelligence, and cost. **Autonomous robots** are capable of recognising and learning from their surroundings, along with making decisions on their own.



## REFLECTION

- 1)
  - Due to the rapidity of technological development, I got the **motivation** to develop software and robots that can **help humans to have a safe and better environment**.
  - Robots that can help with human chores such as folding clothes and cleaning dishes
- 2)
  - **Information** that I gain from the development of autonomous robots is that they can increase the **efficiency of work**, **reduce error** and **improve safety** for employees in **high-risk work environments**.
  - Even though these robots will reduce humans jobs, they also build many new jobs scope related to this industry.



## EXAMPLES



pick & place logistics tasks



screwing & drillings



remove weeds & harvest corps



becoming waiter



# TECHNOLOGICAL INFORMATION SYSTEM AND 4TH INDUSTRIAL REVOLUTION

BY 

## INTRODUCTION

Brought to us by Telecom Malaysia Berhad, this talk is the first session of our industry lecture where we are introduced to the Technological information system and 4th Industrial Revolution by the driving force of the Digital Nation agenda of Malaysia itself. In this talk, we are exposed to a lot of new term, process and implementation such as digitalization, smart cities and 5G as it is the closest to the people needs. Moreover, we are also being shown on what the 4th I.R will bring to our current industry and insight on what our future will demand from us.

## 3 Adoption area within the 4th I.R

### Cloud /Digital

- Digitalization of services with the benefit of enriching customer experience by increasing execution performance using mobile and digital platforms.
- Changing the working environment for a lot of industries, such as from paper to digital, live feed to on demand and enterprise to consumer.

### Smart city

- creating a city that is able to intuitively adapt to its citizen needs and respond to the needs. One of it include managing logistic performance and efficiency with smart fleet
- engage a broader community of innovators which unify people and to co-create smart cities.

### Getting Malaysia to 5G

- 5G plays an important role in the realization of realising 4th I.R.

Benefit/possibilities of 5g

- massive machine type communication, enhance mobile broadband, ultra reliable low latency communication

5g contains lots of potential and is not limited to any field including agriculture, tourism, transport, etc.



## EXECUTIVE SUMMARY

Since 2015, the 4th Industrial Revolution has begun advancing globally, and it involves all corners of industry and is changing our everyday lives. In the time of pandemic, for a short duration of 1.5 years, we can see a lot of things taking digital establishment. With TM being the digital backbone using ISG Digital framework for implementing the digitalisation of Malaysia, we can shape the action that is going to be taken. Through the implementation of digitalisation of service/cloud, smart cities and 5G, the nation is starting to take a leap towards the digital era, where we are realising our 4th industrial revolution.

## REFLECTION

The exposure on the 4th industrial revolution in this talk which include terms we've never heard before, help us expand our understanding on the topics, further our knowledge on the benefits and importance of 4th I.R. for our country and fueled my curiosity on the future of computer science.

Furthermore, as we are approaching the digital era, we can see a wide variety of innovation around, such as the implementation of smart cities, where everything is connected through the network and easily accessible through our smartphone. This ease everyday life hustle such as finding a parking spot or even booking for a reservation. After the talk session, we're feeling really impressed and excited at the change that the 4th Industrial Revolution will bring, which ultimately inspire us to contribute in the advancement of technologies for our country.



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**INTRODUCTION** CyberSecurity Malaysia is committed to providing a wide range of cybersecurity innovation-led services, programmes, and initiatives to lower the vulnerability of digital systems while also strengthening Malaysia's cyberspace self-reliance. The following specialised cybersecurity services are offered by the agency. There are 4 agency under the Ministry of Communications and Multimedia which is CyberCSI , MyCERT , CyberSAFE and CyberGuru .

## CYBERSECURITY IN MALAYSIA INDUSTRY

**PEOPLE** -To develop workers who are knowledgeable

- Upskilling
- Programme with certification and job placement
- Awareness program

**PROCESS** - To create a process that meets global standards

- Develop standard operating procedure

**TECHNOLOGY** - To manufacture test products and set up labs

- Design and testing of products
- Pilot project

## Reflection

Nowadays, many people use the internet as the most important medium in their daily lives. For example, users use the internet as a medium to communicate via Whatsapp, Twitter, Telegram and others. The enlightenment that has been given from this talk is a lot of knowledge gained as an example highlights the dangers of cyber digital. In addition, the Agency also explained the readiness in Cybersecurity Malaysia to succeed in the progress of IR 4.0. We also need to strive to achieve national goals which are labor productivity growth, manufacturing contribution economy, Innovation capacity and also high-skilled jobs. Due to the changes towards the progress of industry 4.0 change, many positive sides have helped human daily routine. Cybersecurity has helped many people throughout the flow of time since the beginning of the digital era. This is why Malaysia is actively trying to recruit more talented people in this field in order to keep our national digital safety.



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