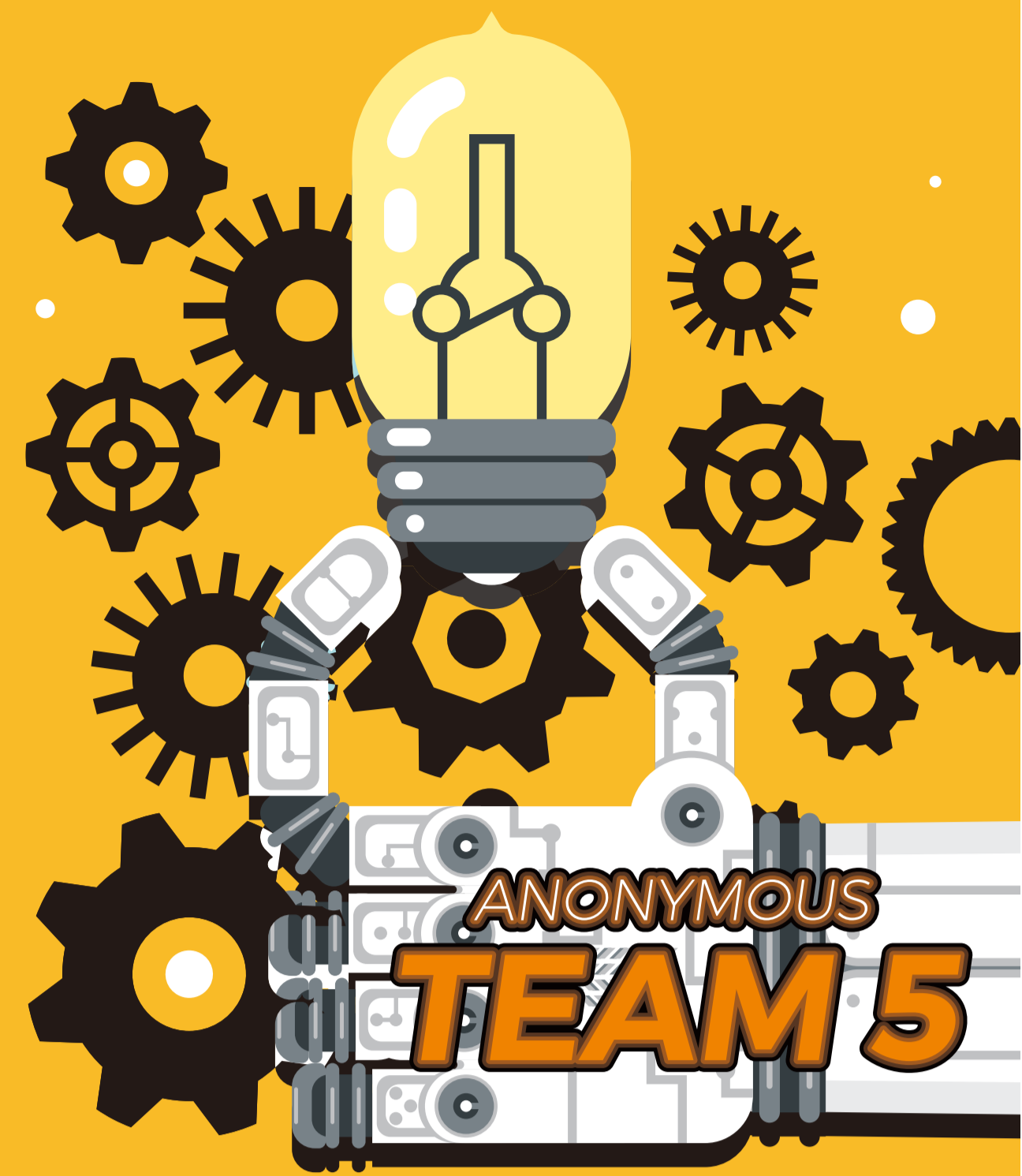


# INDUSTRY 4.0

*Past, Present, Future*

## Introduction

Over the past few years, industrial 4.0 technology has grown more and gain attentions everywhere. However, the concept of industrial 4.0 is not a simple one it involves a lot of fields of technology that defines its core and when processed right it can reach high levels of efficiency that wasn't reachable before. The technology is ready for manufactures that's willing to contribute to the change. and most of the time change is good.

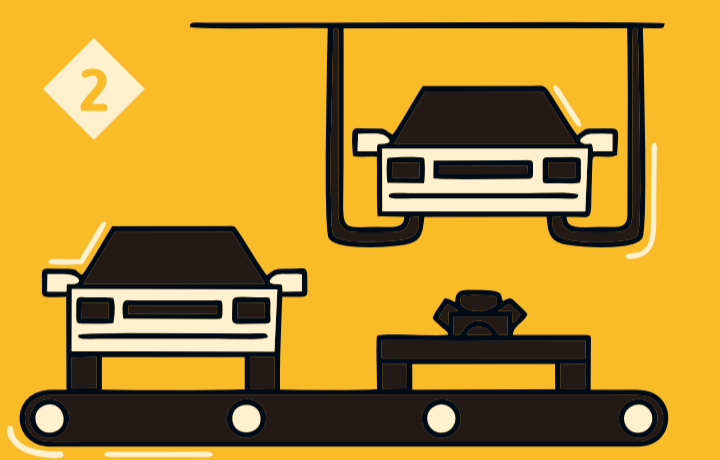


## Evolutions & Creations of Industrial Revolutions



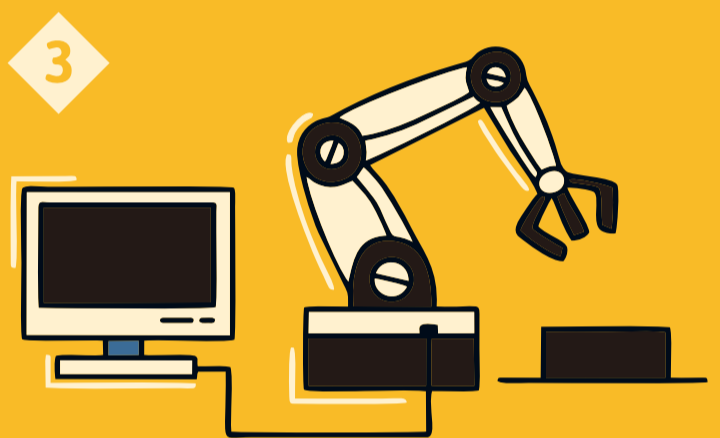
1<sup>st</sup> Industrial Revolution  
(17<sup>th</sup> century - 18<sup>th</sup> century)

Mechanical production or manufacturing mechanization. Master power (man power) - Mechanical power (steam engine).



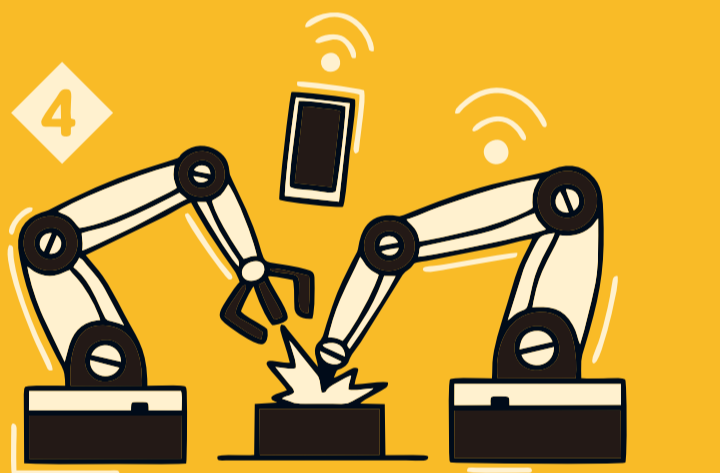
2<sup>nd</sup> Industrial Revolution (Technical Revolution)  
(18<sup>th</sup> century - 19<sup>th</sup> century)

Electrification, Industrialization. Mass product of materials and goods.



3<sup>rd</sup> Industrial Revolution (Digital Revolution)  
(19<sup>th</sup> century - nowadays)

Move to digital automation. Internet, mass communication, IT, digital social systems.



Industry 4.0 (4<sup>th</sup> Industrial Revolution)  
(Nowadays - indefinite time)

Digital technologies interaction. Cyber-physical systems, internet of things, artificial intelligence.

## Examples of Products Change Our Life

- Uber / Grab (Transport Services)
- Shopee / Lazada / Amazon (E-Commerce)
- Aerodyne (Drones Accessories / Services)
- TM (Connected Vehicle System)

- Foodpanda (Food Delivery Services)
- Tesla (Autonomous Industrial)
- Google (Search Engine / Email / Storage Service / Analytic Smartphone / Smart Applications)

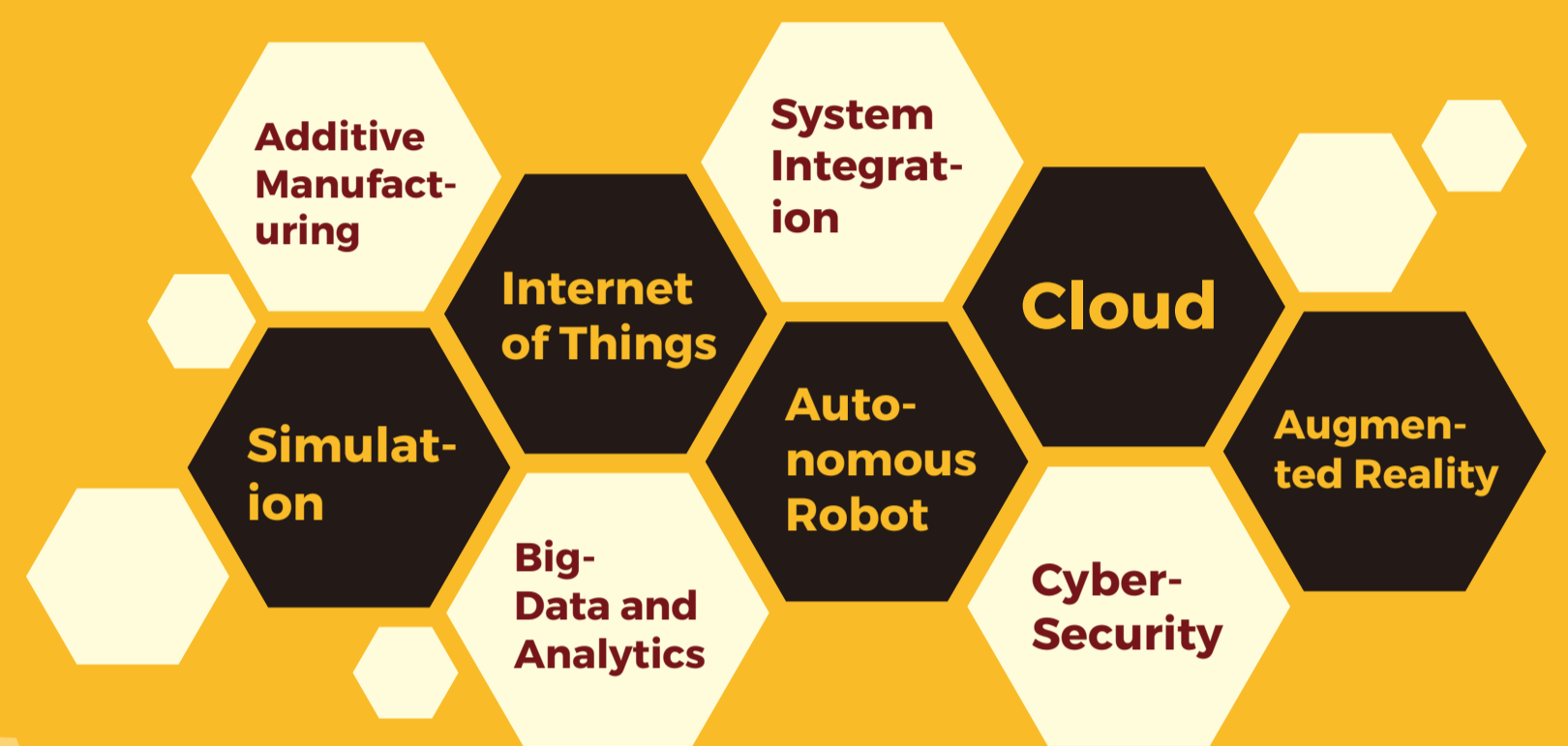


**5G Digital Malaysia**  
Connecting everywhere.  
Supporting government initiatives.  
Empowering and creating values.  
Responsibly helping Malaysian.  
Protecting nation's sovereignty.

## 5G Use Cases for Smart Tourism

- Smart Agriculture - Automated farming
- Smart Safety and Security - Real-time monitoring for safety and crime prevention
- Smart Traffic Light - Traffic congestions and management
- Smart Parking - Parking bay monitoring, enforcement and parking search via app
- Smart Tourism App - Trip planner, parking, Qiblat finder, city services and alert button
- UNESCO 8K virtual reality - Promote point-of-interest
- Geolocation Safety App - People safety tracking and monitoring
- Smart Helmet - Connected safety tool
- Smart Vehicle System - Vehicle tracking, performance monitoring and management
- Smart Water System - Usage analytic

## 4.0 Industry Revolutions



<b>Autonomous Robot</b> Intelligent machines capable of performing tasks by themselves without human control. - Reduce errors - Improve cycle times - Application - Spaceflight - Household maintenance - Waste water treatment - Delivery - Car manufacturing	<b>Cloud Computing</b> Can be private / public / hybrid cloud. Examples (personal) - iCloud - Google Cloud Examples (enterprise) - Huawei Cloud - Alibaba Cloud Example (TM) - Cloud Alpha	<b>Internet of Things</b> Application, Network, & Perception Layer. Monitor, control, provide insight for the benefit of business and operation. Examples - Google Home - Samsung SmartThings - CCTV - Smart Helmet
<b>Products 4.0</b> Cloud-connected and fully autonomous vehicle. Now start used in US and certain area. Smart Home can control house appliances such as air conditioner, kettle and light inside or outside the house, alarm, and auto light.	<b>Augmented Reality</b> Overlays digital content and information onto the physical world. Used in tourism and education Examples - Pokémon GO - Google Maps AR	<b>Big Data &amp; Analytics</b> Large number of unstructured data being organized in an analytics engine. Advantage: Obtain insight and report that is beneficial. Application - Smart Traffic Light
	<b>Education 4.0</b> Most of higher learning institutions are in Education 3.0 Example: Use Virtual Reality in education.	<b>Commerce 4.0</b> Example: Intelligent system of e-commerce study user shopping behavior.

## The Jobs of Tomorrow

- 3D printing technician
- Biomechanics service person
- Computer vision engineer
- De-extinction zoologist
- Electronic textile designer
- Ethical hacker
- Infographic designer
- Machine learning engineer
- Transportation technician
- Urban agriculturist
- Web history archivist

## Reflection & View

Based on the talk, that the fourth industrial revolution is helping us improve in a lot of fields of studies and technology systems when processed correctly. It can make manufactures faster, more efficient and more connected to customers while at the same time detecting and optimizing new business opportunities, saving costs, reduce waste while also speeding up production. So, it's really great for manufactures and the end consumer in so many ways.