Internet Of Things

Introduction

Physical objects that are embedded with sensors, processing ability, software, and other technologies, and that connect and exchange data with other devices and systems over the Internet or other communications networks.

Example of IoT

- Smart Home
- Wearable Health Monitors
- Biometric Security Systems
- Process Automation
- Smart Car
- Smart Cities
- Voice Assistant
- Smart Applications
- Wireless inventory trackers

Description

IoT system consists of web-enabled smart devices that use embedded systems to collect, send and act on data they acquire from their environments. IoT devices share the sensor data collected by connecting to an IoT gateway or other edge device where data is either sent to the cloud to be analysed. These devices communicate with other related devices and act on the information they get from one another. The devices do most of the work without human intervention.

Reflection

IoT enables human-to-human, machine-to-machine, and human-to-machine interactions. It optimizes productivity and reduce waste. IoT technologies makes life better and comfortable.

TECHNOLOGY INFORMATION SYSTEM & 4.0TH INDUSTRIAL REVOLUTION

Introduction

This Industrial Talk 4.0 was held on 1 Nov 2021 with Mr. Nazri Edham (TM) as the speaker. This talk was happened on 3.00pm - 4.30pm in Webex. This talk is about how the Industrial Revolution 4.0 takes place in the world taking place global.

1IR - 4IR

- **1st** Mechanization, water power, steam power
- **2nd** Mass production, assembly line, electricity
- **3rd** Computer, electronic and production/automation
- **4th** Cyber physical systems

Application areas within 4IR

Cloud/Digital
- Market forces promote digital transformation of enterprises
- Successful digital transformation requires digital infrastructure

Smart Cities
- Smart Fleet
- Smart Manufacturing Solution
- Smart Water

5G
- Generation mobile network
- Difference between 5G & 4G

Cloud/Digital

Market forces promote digital transformation of enterprises

Service digitization

- Digital IT infrastructure
- Digitalization of enterprise/consumer applications
- Digital TV Service
- Digitization of Telecom Services
- Digital payment service
- Taxi service digitization
- number games
- Digital music
- Digital education
- Other innovators

Innovative business model

Differentiated value proposition to beat competitors

Improve customer experience

Efficient operation

The result of the conversion

Cloud/Digital

Successful digital transformation requires digital infrastructure

Participate in data collection (sensors, mobile devices)
↓
Aggregation & analysis
↓
Real-time insight
↓
Targeted & personalized participation

Smart Cities

Technology that intuitively adapts and responds to the needs of citizens

Smart Fleet:
Manage logistics performance and efficiency

Photo from other resources:
https://exspeedite.com/blog/best-transportation-management-system/

Smart Cities

Smart Manufacturing Solutions:
Drive output & accelerate sales transactions & manage overall manufacturing performance

- Product Performance Analysis - Income & Profitability
- Analysis of Product Performance Volume by Product Type
- Sales Distribution Volume & Value by Geographical Region
- Sales Trends & Forecasts for Production Plans
- Analysis of Market Coverage by Product Segment
- Propose New Potential Regions or Distribution Channels to Increase Sales
- Analysis of Product Distribution & its Correlation with Demographic Data

Smart Cities

Smart Water Integrated Management System (SWIMS):
Full visibility of the water industry, reducing water waste and increasing water revenue

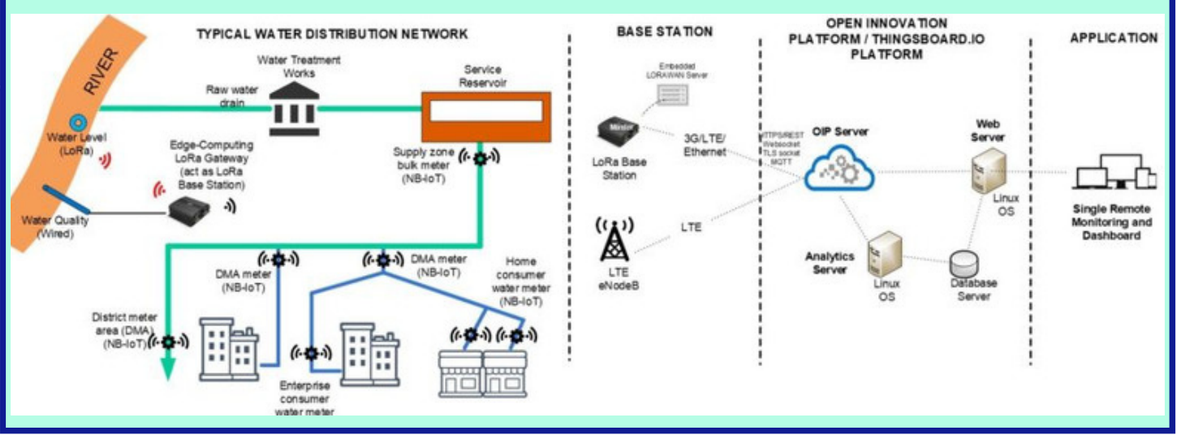

Photo from other resources:
https://inform.tmforum.org/casestudy/tm-rd-and-air-selangor-partner-on-an-internet-of-water-that-optimizes-usage-efficiency-and-more/

5G

The evolution of next-generation mobile networks - a unified social connection structure for new industries and a broad mobile ecosystem

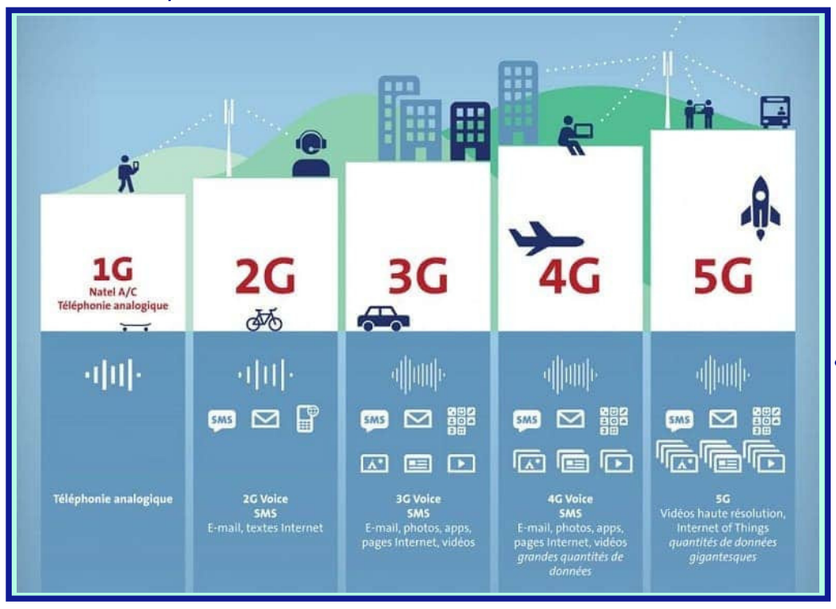

Photo from other resources:
https://bezopasnik.info/

5G

Different between 4G - 5G

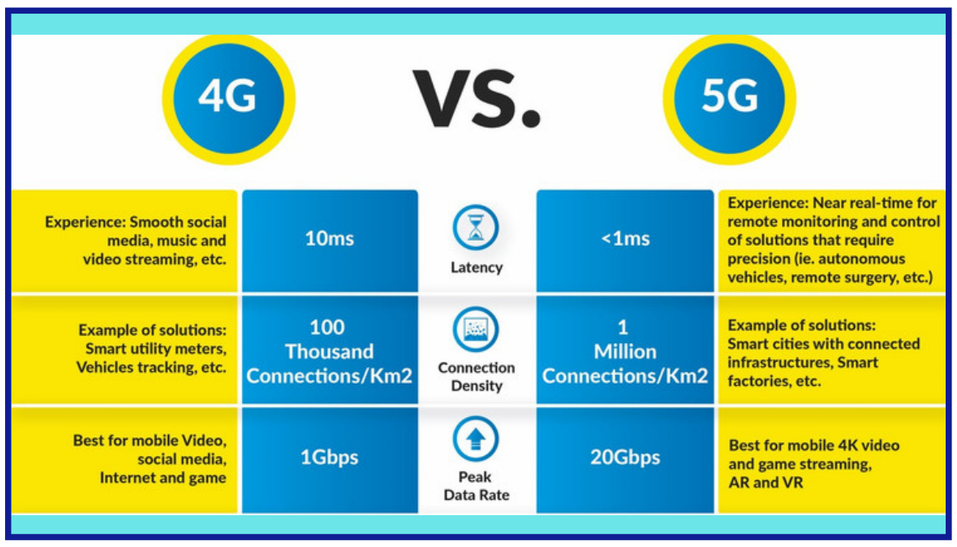

Photo from other resources:
https://www.malaysiainternet.my/2019/04/digi-comparison-between-4g-vs-5g/

EXECUTIVE SUMMARY

Technical information systems and the 4.0th Industrial Revolution are the current digital era, providing users with Digital Services to develop Smart Cities, and then introducing 5G.

In this era of industrial revolution, market forces promote the digital transformation of enterprises and form Cloud/Digitalization.

Furthermore, it has also developed into a Smart City to solve many problems such as integrated water resources management(SWIMS), logistics performance and efficiency management(Smart Fleet), manage overall manufacturing performance(Smart Manufacturing Solutions).

Progress has also been made in other areas such as 4G to 5G.

REFLECTION

After listening to this talk on Technology Information Systems and the 4.0 Industrial Revolution, I saw the changes in the world visible to the naked eye. I learned about IR4 and its benefits. The tremendous changes in Industry 4.0 are happening in our lives.

It makes life easier because many tasks can be done at home. This is because with the help of Cloud/Digital Services, we can save a lot of time. For example, we only need a mobile phone to get all the information without going out to investigate. IR4 improves our quality of life and solves problems, making our country becomes a Smart City.
The introduction of 5G allows us to enjoy fast networks without waiting for the Internet to load or poor connections.

Born in the digital age, I feel very happy and fortunate, because the advancement of my ancestors has allowed technology to have a better development and future. I also hope that our generation can carry forward technology better.
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POSTER CONTENT BASED ON INDUSTRY TALK 1 :

Mr. Nazri Edham
Head of Product Design, TM Commercial

UTM
UNIVERSITI TEKNOLOGI MALAYSIA

Video Recording Industrial Talk 2, 2 November 2021, Tuesday, 3.00 - 4.30 pm

MALAYSIA PERSPECTIVE BY CYBERSECURITY MALAYSIA

Industrial Talk 2

Introduction

· In the IR 4.0 era, Malaysia has faced many issues and challenges in order to be adapted and compete with others' developed countries. This talk will present us what are the issues and how Malaysia creates policy to address these issues and challenges.

· Industry 4.0 Transformation Drivers

- Global economic order
- Technology advancement
- Knowledge & skills
- Global supply chain
- Competitiveness
- Regulations
- Customer behaviour
- Others

CyberSecurity Malaysia – An agency under Ministry of Communications and Multimedia. It was established with the aim of securing the nation's cyber space.

Impacts for future of manufacturing in Malaysia

- Global value chains and geographies of production are continuing to shift
- Quality of labour and higher productivity, but not low labour cost
- New technologies are disrupting and fostering a technology-based model of production

· Malaysia Issues & Challenges

1. Demand
- Awareness
- · Innovation
- · Digital Readiness & Connectivity
- · Skill Enhancement
- · High Cost of Investment
- · Best Practices

2. Supply
- Governance
- · Funding & Incentive
- · Ecosystem Support
- · Training Providers
- · Standards & Digital Integration
- · Infrastructure

Framework

1. Vision

- Strategic partner for smart manufacturing & related services in Asia Pacific
- Primary destination for high-tech industry
- Total solutions provider for advanced technology

2. National Goals

- · Labour Productivity Growth
- · Manufacturing Contribution to Economy
- · Innovation Capacity
- · High-Skilled Jobs

3. Shift Factors

- · People
- · Process
- · Technology

4. Enablers

- · Funding
- · Infrastructure
- · Regulations
- · Skills & Talent
- · Technology

· Malaysia Moving Forward

- Upskilling and Reskilling
- Inclusive involvement of SMEs
- Significant evolution in innovation
- Focused funding support
- Good digital infrastructure

Reflection

· This talk can increase our awareness about Industry Revolution 4.0 that currently ongoing in Malaysia and global. Moreover, it gives us some hints about how we as a university students prepared ourselves to increase our own employed values in this era. We can also gain a lot of information about what initiatives or policy that Malaysia takes to be able on par with others developed countries.

Executive Summary

· With the current IR 4.0, Malaysia has faced many obstacles to become one of the countries that provide technology-based manufacturing and manpower.

· Thus, the government of Malaysia has established the policy A-C-T (Attract-Create-Transform) to solve the problems and challenges that uprise. The issues and challenges can be classified to two main problems which is demand and supply.

· Moreover, Malaysia has also set the framework to enable the policy move faster and stabler. In this process, Malaysia has been moved forward to upskill and reskill the existed manpower, inclusive involvement of SMEs, provide good digital infrastructure, and focused on funding support.

POSTER CONTENT BASED ON INDUSTRY TALK 2

UTM
UNIVERSITI TEKNOLOGI MALAYSIA

TIS ASSIGNMENT 1 GROUP 9

SANG YEN TING
A21EC0225

TAN LI SIN
A21EC0231

SUKANJA A/P SOMSAK
A21EC0228

EDIP USLU
A20EC3015