

1784
1.0

- Mechanization
- Water power
- Steam power

1870
2.0

- Mass production
- Assembly line
- Electricity

1969
3.0

- Computer
- Automation
- Robotics

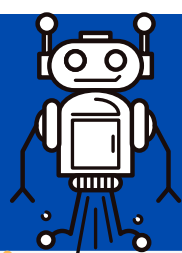
2011
4.0

- Cyber-physical systems
- IoT
- Cloud computing
- Cognitive computing

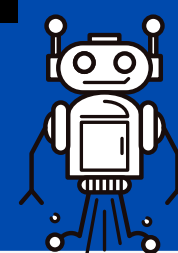
INDUSTRIAL REVOLUTION



Joseph F. Engelberger is known as 'The Father of Robotics' who created the world's first industrial robot



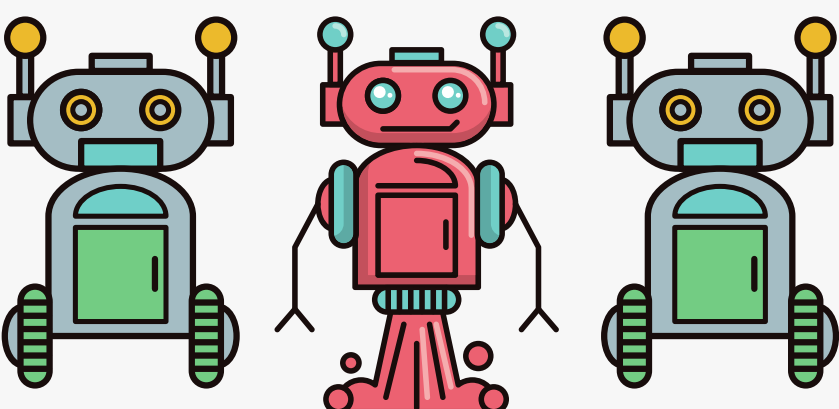
Autonomous robots



INTRODUCTION



- Autonomous robots are intelligent devices which is capable of doing many activities without the participation of a human.
- Can perceive and learn from their environment or surroundings, as well as they can make decisions on their own.



- Able to operate without human involvement over a long length of time.
- Over the next five years, a strong growth is predicted due to its implementation of high technologies

Top countries with leading robotics implementation in 2021.

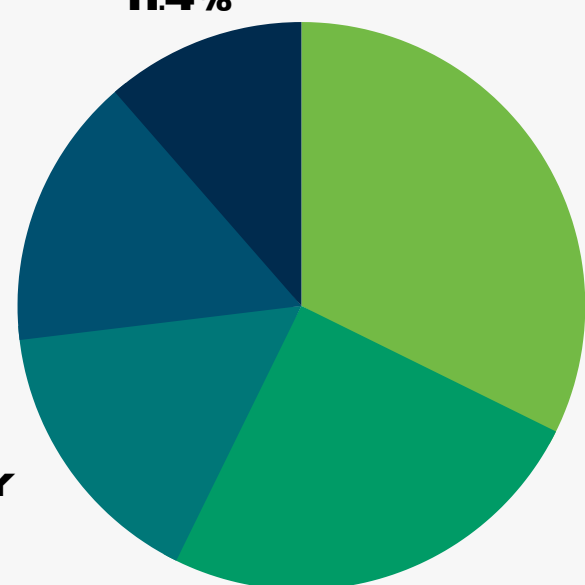
SWEDEN
11.4%

JAPAN
15.5%

KOREA
32.3%

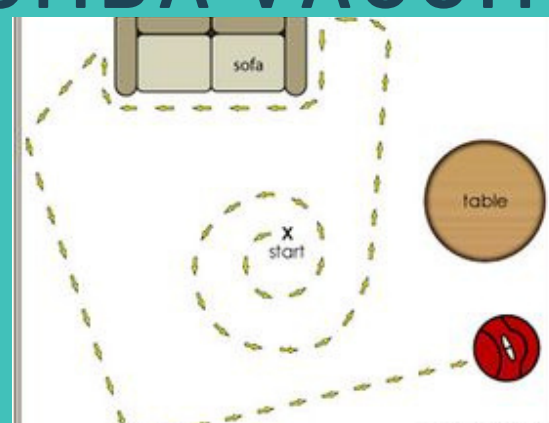
SINGAPORE
25%

GERMANY
15.8%



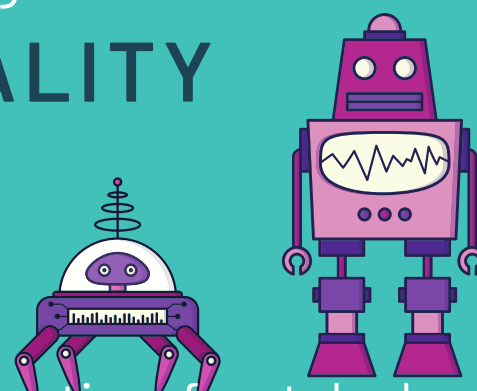
ADAPTATION / EXAMPLES

01 THE ROOMBA VACUUM CLEANER



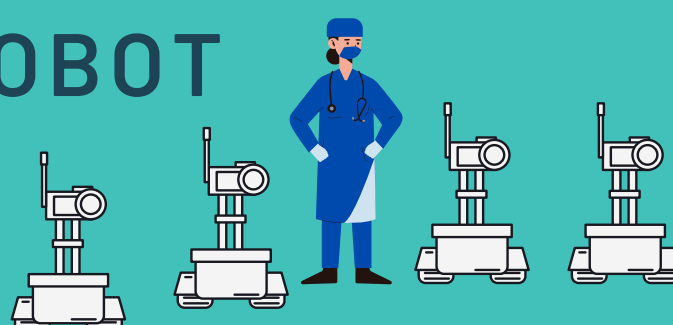
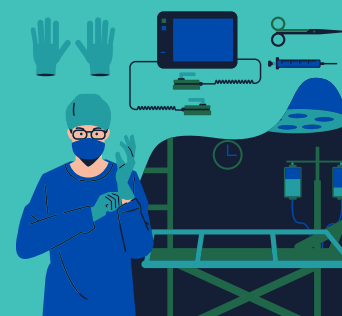
- Detects and removes dirt.
- Dirt Detect Sensors warn about dirtier areas of the house and it cleans them more effectively as a reaction such as high-traffic areas
- Safety and Hygiene Guaranteed

02 HOSPITALITY ROBOTS



- Providing information, front desk services, storage services, and check in and check out services are handled
- Use audio and facial recognition technologies.
- it saves time

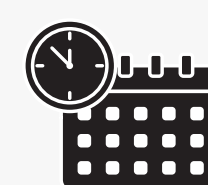
03 MEDICAL ASSISTANT ROBOT



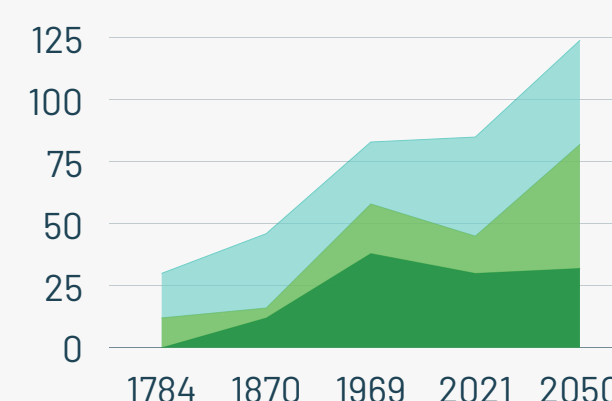
- Implemented to position a computerised microscope
- Surgeons able to gain a better sight of the procedure and boost their performance.

REFLECTIONS

- This industrial talk has changed our thinking perspective on the evolution of the technology across the time. Its provide a great exposure to new technologies on human development especially for the students
- We learnt that Autonomous robots are aiding to identify the distribution network of the future by reducing long-term expenses, supplying workers and utilisation stability, raising worker productivity, limiting error rates, reducing inventory check frequency, maximising picking, sorting, and storing times, and providing access to dangerous and difficult locations that helps human life in these particular aspects.



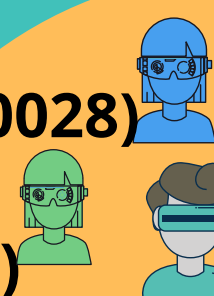
- In conclusion, we cherish all technology convenience as well as admire the people who have invented these technologies for a better living. Lastly, as students, we think that developing new skills in technologies and autonomous robots contributes to the digital development of IR 4.0 in Malaysia for a better future.



Rising trend of autonomous robots

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CREDITS

1. Autonomous Robots and the Future of Supply Chain | Deloitte US
2. Roomba Navigation | HowStuffWorks
3. <https://www.behance.net/gallery/61690915/Industry-40-Infographics>

