

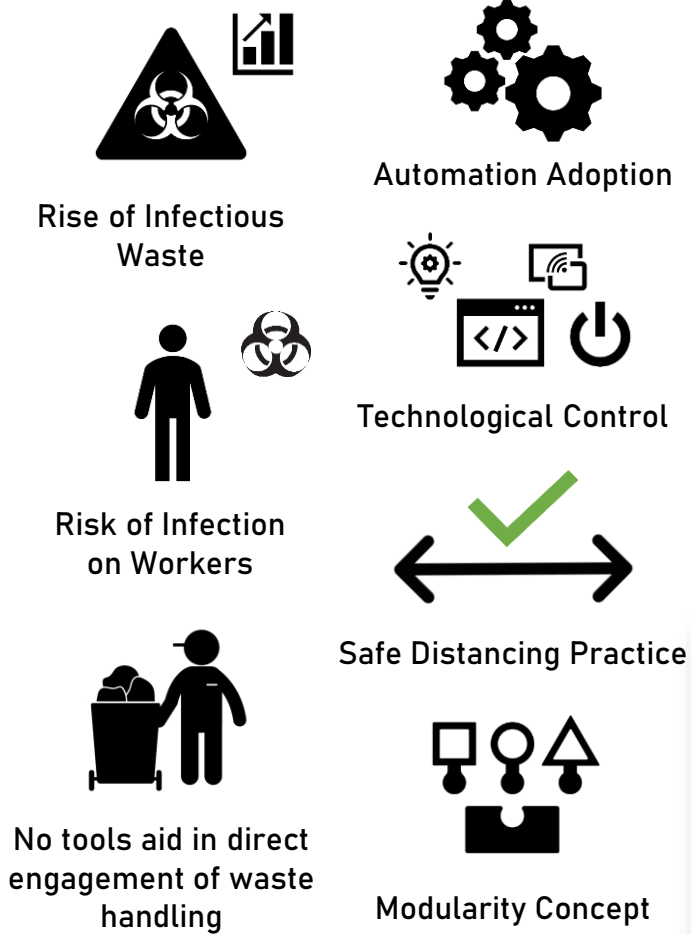
AUTONOMOUS ARM APPLICATION IN CLINICAL WASTE MANAGEMENT



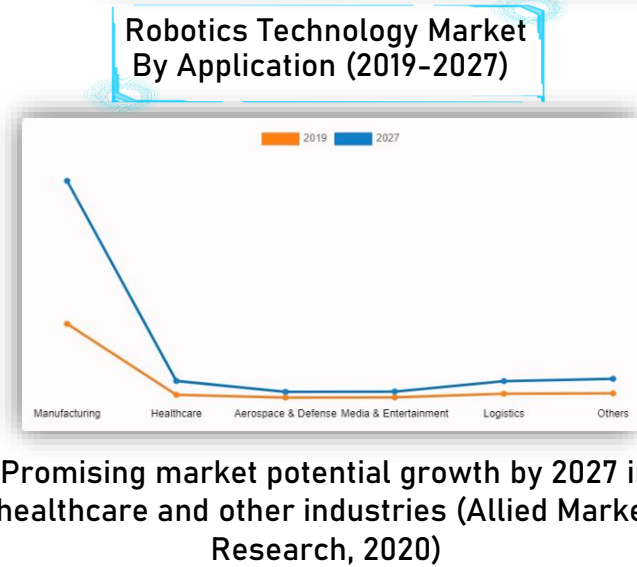
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PRODUCT BACKGROUND

ARISING PROBLEM PROPOSED SOLUTION



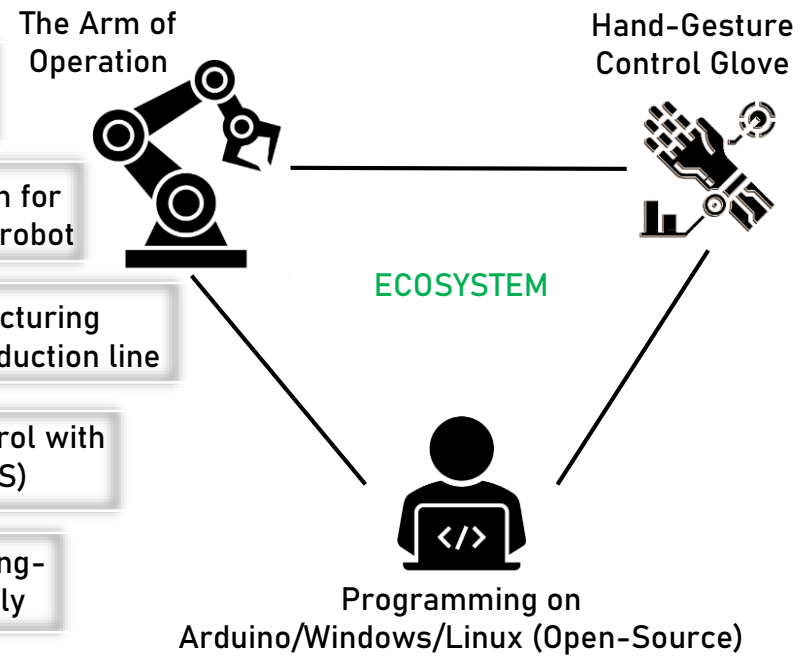
MARKETABILITY & COMMERCIALISATION



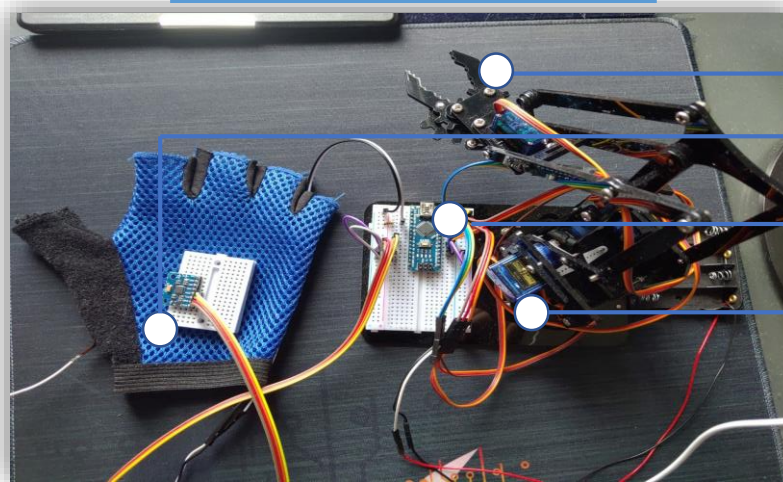
INVENTION

- Autonomous Arm is operated with a gesture-control glove through human movements
- High portability with < 5kg and modular design for different use case and attachment to different robot
- Is a robotic concept inspired from manufacturing industries used for heavy task-load in the production line
- Customizable with different functions of control with different preferred operating system (OS)
- Designed to accompany human or through long-distance control in managing waste indirectly

STATE OF THE ART / METHOD



STATUS OF INNOVATION



- Arm = Grabbing Functionality
- Glove Gyro Sensor = Detecting Orientation
- Arduino = Heart of Operation (Software & Program)
- Motors = Operating Arm Movement

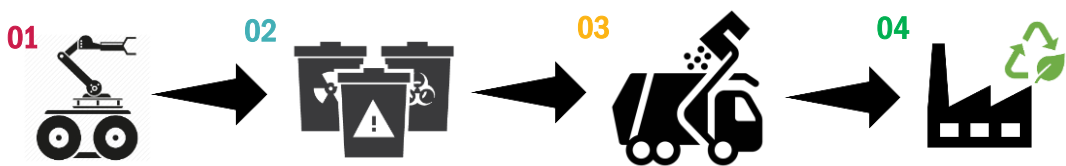


Prototype invented & tested in relevant simulation



- Risk of infection declined and ensured safety & health
- Higher efficiency & effectiveness in waste handling resulted in cleaner environment
- Cost per unit at RM3,703.23 @ USD 909.78 with few fabrication work and the rest is procured.

APPLICATION OF INNOVATION



- Setting up arm with another robot (modularity concept) with mobility for longer reach efficiency or even drone application for distance work.
- Robot picks up trash with the ease of hand-gesture control, provides flexibility in movement of the robot, different movement needs.
- Robots usage in organizing and placement of the waste for logistics easiness in seamless pick-up operation with minimal time needed.
- Gathered waste in facility were managed by robots for different category assortments for disposal. Limiting human direct intervention.

NOVELTY/ ORIGINALITY/ INVENTIVENESS

