

Cost of not cleaning beach:**Health risk to human :**

illness

“The most common is an upset stomach, but swimmers can also suffer neurological disorders, respiratory ailments, pinkeye, earaches, meningitis, and hepatitis.”(1)

Economic impacts:

Beach would be closed if the condition does not meet requirements.

“Closed beaches directly impact the economies of coastal destinations: Americans take more than 900 million trips to coastal areas and spend around \$44 billion on those trips every year.”(1)

Impact on animal:

Beach is connected to the ocean.

“It is estimated that beach pollution affects more than 800 species of wildlife around the world. More than 100,000 seabirds, sea turtles, seals, and other marine mammals die each year after ingesting plastic or getting entangled in it.” (1)

Cost of cleaning beach via human:

High cost

“The “number of workers” refers to the people employed for the cleaning. Manual beach cleaning is carried out by 4 workers, supervised by a foreman (teams of 5 members).”

“Each employee works 7.5 h per day, for 22 days a month. For the MoE, each team costs about 20,000 € per month (including salaries, the pick-up van, the driver and transport).”

(2)

Limitation for human:

Humans normally clean during the day.

Trash Type and Feasibility

“Across the nine beaches over the 6 year period 111 different litter types were recorded. Of these, three types dominated the litter collected at all nine locations. Plastic pieces >1–50 cm, cord (small elongated plastic fibres, either single or bundles) and plastic pieces <1 cm and made up 49% of total litter items”

(3)

Robot is designed to handle large size trash

Works Cited

1. <https://www.nrdc.org/stories/beach-pollution-101>
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2. <https://www.sciencedirect.com/science/article/pii/S0269749117303123>
Categories of Trash
3. <https://www.sciencedirect.com/science/article/pii/S0964569120300284>
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