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MOSQUITO PROJECT USES MACHINE LEARNING AND AUTOMATION TO REDUCE DISEASE

 SUSTAINABILITY

A new project has developed an automated algorithm to separate and identify male mosquitos, which will be used to control the spread of diseases carried by female mosquitos.

Mosquito species spread infectious diseases that affect hundreds of humans across the globe. They breed rapidly in shallow water patches, making them hard to control. However, businesses are now responding to their threat. At Springwise we have seen [drones](#) as just one example of mosquito control.

The [Debug Project](#) by Verily is using another method. It involves releasing sterile male mosquitos into the wild. Some mosquitos are naturally infected by a bacteria called Wolbachia, which makes them infertile. The males still want to mate, however, and will seek out females. Female mosquitos can't detect infertile males and will still mate with them. The females then lay eggs that won't hatch, thereby reducing mosquito populations.

Successfully identifying males is a crucial part of the process. This is usually done manually by technicians, but even with years of training it is a time intensive process and prone to error. To tackle this, Verily has developed an automated method for separating sexes. The process will involve a machine learning, image recognition algorithm. The machinery will be entrained to successfully identify males at a more accurate and faster rate than humans. A device will then separate out the males.

Verily has already conducted Debug field studies in Fresno and Innisfail. It's next field work will take place in built up urban environments in Singapore, funded by the National Environment Agency. Verily has developed an automated male-releasing cart that can be pushed around the corridors of high-rise apartments. These urban spaces can be rife with mosquito breeding sites, such as planters.

5th October 2018

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Takeaway:

The Debug Project is utilising a technology we've seen used in many other industries. The developers of machine learning, AI algorithms probably never envisioned the process being used in the fight against mosquito-borne diseases. This technology rapidly learns to perform tasks more accurately than humans, saving time and removing human mistakes. Could other kinds of hardware and software be used to aid scientific or medical projects?