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Headline: Cat-and-mouse game with rats goes high-tech

Caught red-handed – screenshots from footage showing a rat cleverly avoiding a trap while stealing the bait. PHOTOS: COURTESY OF PESTECH

Cat-and-mouse game with rats goes high-tech

Firm using sensors to monitor rodent activity; SMU will analyse its data to better understand how to trap rats

Sue-Ann Tan

With rats getting smarter, pest control firms are having to get even smarter to outwit them.

Pestech Holding, a home-grown company, is turning to technology to outwit the furry pests by improving surveillance and entrapment techniques in areas such as shopping malls.

Earlier this month, Pestech signed an agreement with the Singapore Management University (SMU) research laboratory to manage rodent problems together.

Under the agreement, Pestech will provide anonymous rodent data for SMU to analyse, so that pest control firms can better understand rodent behaviour and trap rats more effectively.

Pestech founder Tong Kien Seng said: "Most malls have some levels of rat infestation as they provide food, water and shelter."

He added that in areas with construction, the rats' natural habitat might be disrupted, causing them to enter nearby buildings.

The disposal of leftover food caused by over-consumption adds to the problem, said Dr Tan Guan Hong, Pestech's technology partner.

In the past, the rat population was also controlled by natural predators such as snakes, birds and cats. In cities like Singapore, there are fewer of these predators, which allows the rat population to grow.

The rodents have caused problems in malls in recent years.

In 2016, a diner complained that a rat fell from the ceiling while she was waiting for her meal at Punggol's Waterway Point.

The year before, a dead rat was found in a vegetable dish at Chinese restaurant Hotpot Culture in Marina Square.

Dr Tan said: "The hot spots for rat activity are normally in the bin chutes, pipes for sewage and water, holes in the walls and false ceilings. The false ceiling usually has air-con ducts, water pipes and wiring ducts with gaps for rats to pass through."

Traditionally, rats are caught using snap traps or glue traps with bait. However, the rats are getting smarter and learning to avoid triggering the trap while still getting their food, Dr Tan added.

Pestech's solution is to put as many as 100 palm-size sensors on one level of a mall to detect rodent movement. Dr Tan said: "Usually, if the trap has no rat in it, people will assume the mall has no rats, but this is not true."

The sensors are connected to a central monitoring system.

Pestech then puts infrared cameras in areas where there are high triggers to monitor the rats. Data is sent to SMU for analysis.

Pestech has deployed sensors at around 50 sites, including malls and individual tenant units.

"We can find out how rats travel, if they have families there, the times they emerge, their size and species, and how they behave around the traps," Dr Tan said.

He added that such information is important because there are different rodent species, such as the roof rat, brown rat and house mouse, all of which have different kinds of behaviour.

On why the SMU is involved in the project, Mr Francis Lim, business relations manager for SMU LiveLabs Urban Lifestyle Innovation Platform, said: "It is an evolving problem and we want to study and better understand it."

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