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UK researchers to develop chemical sensors for worm robots project

By **GC Staff Writer**

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Image: University of Manchester researchers are developing chemical sensors for worm robots. Photo: courtesy of The University of Manchester.

The University of Manchester said that its researchers are working on chemical sensors that will be used on 'worm robots' to be deployed in post-disaster scenarios to locate survivors.

The worm robots are being developed by partners across four European countries for improving detection of people trapped under debris following a disaster.

According to the university, when disaster strikes, urban search and rescue teams and other first responders have to fight against time while exposing themselves to unstable structures or hazardous environments to rescue trapped survivors.

To address the issue, a new pan-European project is devising new technologies using drones, miniaturised robotic equipment, and advanced sensors for post-disaster situations. The technologies are expected to speed up the detection of survivors in collapsed buildings, while improving working conditions for the first responders.

The project will create the CURSOR Search and Rescue Kit made up of robots equipped with chemical sensors. The worm robots will be able to detect a wide variety of chemical substances that will indicate human presence.

Transported by a drone from operational headquarters to a disaster location, the worm

robots will work independently on site in clusters looking out for survivors.

Apart from the robots, the Mothership UAV (unmanned aerial vehicle) will play the role of an aerial hub that will generate high-definition imaging for accurate visualisation of the disaster zone, while enabling communication with the control centre.

The small worm robots will be able to make their way through small crevices in debris, and with the help of their chemical sensors will be able to send a signal to people above ground if any survivors are detected.

The University of Manchester professor Krishna Persaud said: “One of the problems in coping with disaster situations is the people may be buried under debris or rubble, and it can be difficult to locate them.

“It is also urgent to prioritise the recovery of people who may be alive from those who have sadly passed away.

“The new technologies being developed will add an arsenal of highly valuable tools to the teams involved in search and rescue operations around the world.”