



MEDIA RELEASE

RDM SWARMS forward with new driverless vehicle technology

Technology inspired by 'Mother Nature' is being developed to help manage fleets of driverless Pods.

RDM Group has joined forces with WMG at the University of Warwick and Milton Keynes Council to secure a £2m collaboration project from Innovate UK's latest funding round to create Swarm Intelligence (SWARM).

The concept is based on fusing together existing information from other vehicles in the fleet to allow each Pod to locally decide the most appropriate action for the group as a whole – similar to how insects and birds currently behave.

This means that pods can highlight any unexpected behaviour to a supervisor, as well as giving local authorities the chance to take advantage of 'platooning', where vehicles follow each other when possible to minimise the number of individual vehicle movements.

The technology also makes the system automatically adapt its behaviour to meet demand so that Pods can be optimally distributed within a city to the areas where they are most likely requested.

"Significant time and investment has been channeled into developing on-vehicle driverless technology," explained Simon Brewerton, Chief Technology Officer at RDM Group.

"However, for the economic, social and environmental benefits to be truly realised, traditional swarming approaches developed in the fields of Artificial Intelligence and Computer Science need to be applied to fleets of autonomous vehicles so that they can function collectively and with maximum efficiency."

He continued: "SWARM will be developed over the next two years with a view to starting the three-month trial in April 2019. It will also utilise WMG's '3xD simulator for Intelligent Vehicles' that will allow multiple virtual pods to be simulated alongside pods operating in real time at two different test sites.

"The type of behaviour we are trying to replicate is the same as that seen in ant colonies and bees, where information is shared between insects to achieve a coordinated end goal. If we get this right, we'll improve efficiency of the fleet, reduce human involvement and costs, not to mention maximise the performance of the fleet."

RDM Group, which has recently launched offices in Australia and the United States, is helping the UK lead the world in the emergence of driverless vehicle technologies.

In addition to its involvement in LUTZ Pathfinder and UK Autodrive, the company is also manufacturing its own 'Pod Zero' range that it can sell to potential clients all over the world for use in 'first and last mile' transport solutions.

Simon added: "SWARM promises to take the application of Artificial Intelligence to the next level and Innovate UK has shown its commitment to this emerging technology by the recent backing of our consortium.

"We are in the process of recruiting four new engineers, in addition to three new researchers and engineers at WMG, to help with development. The plan is to build an additional 10 next generation pods by 2019 for use in the simulators before we roll it out into the urban trials in Milton Keynes."

Brian Matthews, Milton Keynes Council's Head of Transport Innovation, welcomed the project stating that 'SWARM' will demonstrate this technology can be applied in a real urban environment.

"We will be demonstrating the service within Milton Keynes, on open footways shared with other users. Our aim is to show how a viable last mile transport service can support a transformation in how we move around cities, opening affordable sustainable mobility for all."

Dr Stewart Birrell, Assistant Professor at WMG, concluded: "Research and development is moving away from the technical challenges of making these autonomous pods self-driving towards how a fleet of pods will be deployed in the 'real-world'.

"Here at WMG we are developing the SWARM algorithm and evaluating that the decisions made are robust and reliable, but equally as importantly accepted and trusted by passengers and other road users in this increasingly complex socio-technical, low speed, shared space, pedestrianised road network that we have today."

For further information, please visit www.rdmgroup.co.uk or follow @rdm_group_ on twitter