

## **PRESS RELEASE**

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### **Swarm Systems wins 'Most Innovative Idea' Award at MOD Grand Challenge**

One year ago, the Swarm Systems team was one of six teams awarded funding from the UK Ministry of Defence (MOD) to prepare an entry for its 2008 Grand Challenge. Today, Swarm Systems won the 'Most Innovative Idea' award. Swarm Systems was particularly recognised for having used high levels of autonomy and innovation in all aspects of its entry.

Rather than trying to shoehorn existing technology, Swarm Systems examined the Challenge's real needs and created technology accordingly. The team identified four main elements to this solution: good visibility, hence airborne devices; flexibility in movement, hence devices which can both hover and perch; robust portability, hence the use of quadrotor air vehicles; and, finally, the need for providing consistent information in the face of enemy interference, which this team seeks to achieve through grouping these micro air vehicles into a swarm.

As Professor Owen Holland at the University of Essex explains: "Swarming has many proven advantages. Most importantly, it can survive unexpected events. If one vehicle is suddenly lost, then the swarm reconfigures itself to complete the task."

The team's concept is simple. It uses a swarm of eight quadrotors called 'Owls'. Their operator uses 3D planning software to swiftly plan and rehearse routes for the Owls over Copehill Down village. The Owls then fly those routes, taking around one thousand high-resolution images. On return, these images are processed by a cluster of ten powerful multi-processor PCs, which analyse each image using the University of Surrey's threat recognition software. Within minutes, the operator can produce a map of Copehill Down showing the location and type of all recognised threats.