Latest News

Defence Viewpoints has been eagerly tracking the latest developments in the field of unmanned robotics and hi-tech surveillance tools. Recently, most of the innovations we've covered have come from overseas including BigDog, the autonomous Army mule and ACM-R5, the amphibious robot snake.

However, starting today is the final of the MOD's Grand Challenge launched in 2006. With troops on the ground in Iraq and Afghanistan facing constant danger the Ministry of Defence is keen to find innovative, autonomous systems which can be used to identify the risks without putting lives on the line. The goal of this year's competition is to find autonomous, un-manned mini-vehicles - airborne and ground-based - capable of spotting hazards like enemy marksmen, weapon-mounted vehicles, roadside bombs and armed militia in order to give frontline British personnel the edge.

Eleven diverse teams from across the UK's universities, large and small firms, as well as private inventors and schools compete to win the RJ Mitchell Trophy, named after the designer of the Spitfire fighter aircraft. The MoD will then consider if technologies demonstrated in the final can be incorporated into future frontline kit for the Armed Forces. Prizes will also be awarded for the "most innovative idea" and "best use of national talent".

Among the competitors are moon buggies and flying saucers from the eleven teams, who have each created devices designed to identify threats to troops in combat. Competing individually, each team will have one hour to send their flying and ground vehicles into Copehill Down, a village on Salisbury Plain specially built by the military for urban warfare training.

The Thales team entry is centred on aerial and ground units working in tandem. The aerial unit will fly a set flight path, identifying potential threats and direct the ground vehicle to that location for a closer inspection. The aerial unit carries daylight and thermal imaging sensors and a laser range finder to record information on the conditions of the ground and the distance to potential threats. Thales also held its own initiative labelled the School Challenge where it engaged schools for solutions to their entry for the competition and to encourage youngsters into science and technology careers.

Team I-Spy, a group of students from Middlesex University is offering a light-weight "tricopter" capable of hovering and perching whilst surveying an area of interest. Another team, Mira, made up of a mixture of people including BAE Systems and pupils from Royal Grammar School in Guildford, is putting forward two "flying saucer-like" un-manned air vehicles fitted with infra-red cameras and laser scanners. A further group Silicon Valley is entering two versions of its Moon Buggy, one of which has a 360-degree camera on board, the other thermal imaging; a system designed to detect stationary targets with weapons.

Baroness Taylor, Minister for Defence Equipment and Support, said: "The UK has a world-class track record in scientific excellence, and we want to draw on all of the expertise out there, from box room inventors just starting out, to the largest defence firms. The competition has been designed to provide an accessible and fun event for participants, but there is a very serious point to it."

UPDATE

The Ministry of Defence has announced that Team Stellar has won the RJ Mitchell Trophy, the top prize in its Grand Challenge defence technology competition.
http://www.guardian.co.uk/science/2008/aug/19/grand.challenge.weapons