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Robot warfare: campaigners call for tighter controls of deadly drones

Conferences will raise concerns over unpiloted aircraft and ground machines that choose their own targets

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guardian.co.uk, Thursday 16 September 2010 17.21 BST



A Reaper UAV takes off from Creech Air Force base in Nevada. Base in Indian Springs, Nevada. RAF pilots operate armed drones from the base. Illustration: Ethan Miller/Getty Images

The rapid proliferation of military drone planes and armed robots should be subject to international legal controls, conferences in London and Berlin will argue this month.

Public awareness of attacks by unmanned aerial vehicles (UAVs), such as Reapers and Predators, in Afghanistan and Pakistan has grown but less is known of the evolution of unmanned ground vehicles (UGVs).

Two conferences – Drone Wars in London on 18 September and a three-day workshop organised by the International Committee for Robot Arms Control (ICRAC) in Berlin on 20-22 September – will hear calls for bans and for tighter regulation under international arms treaties.

British academics and policy experts, Red Cross representatives, peace activists, military advisers, human rights lawyers and those opposed to the arms trade are participating in the German meeting.

Prominent among them is Noel Sharkey, professor of robotics and artificial intelligence at Sheffield University and a judge on the BBC series Robot Wars, who is speaking at both gatherings.

The development of what is known as "autonomous targeting" – where unmanned planes and military ground vehicles are engineered to lock automatically on to what their onboard computers assume is the enemy – has heightened concern.

Research is under way at enabling UAVs and UGVs to work in collaborative swarms, ensuring each machine selects a different target. This has reinforced fears that UAV strikes along the Afghanistan-Pakistan border and in the Horn of Africa – or wherever future wars are fought – will increase death tolls.

RAF pilots already operate armed drones from Creech US air force base in the Nevada desert. Eight thousand miles away from the frontline they control the release of Hellfire missiles and Paveway bombs against Taliban targets.

Through a freedom of information request submitted to the Ministry of Defence, the Oxford-based [Fellowship of Reconciliation](#) – the group organising the Drone Wars conference – found that as of April this year RAF-controlled Reapers had opened fire on 84 occasions so far this year.

Defence equipment manufacturers insist that there is always "a man in the [control] loop" to authorise operations and that they are far less indiscriminate than the high level air force saturation bombing that occurred in the second world war. Since there is no onboard pilot at risk, so the argument goes, they do not always have to fire first.

Critics highlight the number of civilian casualties in supposedly "surgical strike" raids, allege that reliance on remote screens may induce a dehumanising electronic games mentality in operators, and fear that such clandestine missions could lower the threshold for war – for example in Yemen and Somalia where the US is not involved in any formal conflict.

Philip Alston, a UN human rights special rapporteur, warned last autumn that US use of drones to kill militants in Afghanistan and Pakistan may violate international law. He called on the US to explain the legal basis for killing individuals with its drones.

"More than 40 countries have robotic programmes now," said Sharkey. "Even Iran has launched a UAV bomber with a range of several hundred miles.

"These [robotic] systems are difficult to develop but easy to copy. In the states a large proportion of robot making is being moved to Michigan to compensate for the decline in the car industry.

"Increasingly [the manufacturers] are talking about the 'man on the loop', where one person can control a swarm of robots. Our biggest concern for the future is autonomous systems that [select] targets themselves."

For many scientists the future potential is most alarming. David Webb, a professor of engineering at Leeds Metropolitan University, vice-chair of CND and an expert on the militarisation of space, will address the Drone Wars conference in London. "We are only just starting to become aware of the wider issues," he said. "Robots are [being developed] to make some decisions for themselves. If they kill somebody by mistake do you put the robot on trial? The idea of having networked UAVs that work in swarms and could be armed has all sorts of implications."

Dr Steve Wright, a reader in applied global ethics also at Leeds Metropolitan University who will speak at an ICRAC workshop on the dangers of terrorists obtaining drones, said: "We need a new treaty to limit proliferation. All the arms fairs now are selling UAVs. It's naive to think they will remain in the hands of governments."

The Ministry of Defence has defended the use of RAF-controlled UAVs in Afghanistan. An MOD spokesperson said: "The rules of engagement used for Reaper weapon releases are the same as those used for manned combat aircraft: the weapons are all precision guided and every effort is made to ensure the risk of collateral damage and civilian casualties is minimised. This may include deciding not to release a weapon."

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