



Drone wars: The definition dogfight

Foreign Correspondent By Mark Corcoran

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What exactly is a drone? It is a deceptively simple question with a highly contentious answer.

The "drone" of the 24-hour news cycle invokes images of menacingly-named Predators and Reapers prowling the skies of Afghanistan and Pakistan, launching missile strikes, inflicting indiscriminate civilian casualties, triggering a surge of international anger over the ethics and legality of this new form of warfare.

But the same label also describes a small, flying, camera equipped toy; the Parrot AR Drone. Yours for just \$350 from the local hobby shop. The Parrot company refuses to divulge sales figures, but the specialist aviation press reports that 500,000 AR Drones have been sold worldwide since this wheelie-bin lid sized craft first took to suburban skies in 2010.

A curious 'definition dogfight' has now developed over the terminology used to describe this technology.

This name game underscores a battle for public opinion that will ultimately influence where, when and how these "eyes in the sky" may be used in a myriad of potential civil applications: from the upbeat, such as scientific research, agriculture, mine surveys, and beach patrols, to the far more contentious, like newsgathering, police work and broad area surveillance.

So what's in a name?

Decades ago a drone was originally defined as a pilotless, radio-controlled military target-towing aircraft. Today "drone" is the popular description for anything that flies without a pilot at the controls, whether it is controlled directly by an operator on the ground or is capable of autonomous flight with no direct human intervention.

For most journalists, the technological marvel now flying into the realm of newsgathering possibilities is simply a "drone". However, aviation professionals and government regulators have an almost visceral opposition to the "drone" word, preferring a complex array of more technically precise terminology:

- There is the UAV (Unmanned Aerial Vehicle), also the UAS (Unmanned Aerial System), which is a UAV, plus the ground-based controls.
- Many military forces, including those of the UK, US and Australia, insist on using the terms RPA (Remotely Piloted Aircraft) and RPAS (Remotely Piloted Aircraft System).
- Military pilots hate the drone word because they feel it diminishes their expertise and direct involvement in controlling the craft in the air. As a Royal Australian Air Force RPA unit commander freshly returned from Afghanistan said last year: "People like to see the word 'pilot' in there."
- International and national civil aviation regulators also can't quite settle on a label. What started as a UAV, became a UAS, and now RPA/RPAS have been added to the civilian lexicon.

Confused? There's more.

Other experts call the technology UA (Unmanned Aircraft), RPV (Remotely Piloted Vehicle), ROA (Remotely Operated Aircraft).

Then there are the sub-categories of FPV (First Person View), where the controller is guided by a live video feed from the craft, MAV (Micro Air Vehicle) for the growing swarm of insect-sized flying bots now being perfected in the science labs, and even MA (Model Aircraft) for the rapidly proliferating band of hobbyists.

For the uninitiated, it's a bewildering alphabet soup of terminology, yet there is one issue that unites regulators, military and industry; a strident opposition to the 'D' (drone) word.

Use the 'D word' in a broadcast or article, and the offending journalist risks a volley of indignant emails and calls from the experts.

Writing a recent Time magazine cover story entitled "Drone Home", on the introduction of the technology in US civilian skies, journalist Lev Grossman observed that he had "... been corrected, even upbraided for failing to use terms like unmanned aerial vehicle or unmanned aircraft system (UAS) or remotely piloted vehicle. While literally accurate, those terms have a clumsy, euphemistic feel."

But this debate is about more than just a 'train-spotting' fixation with arcane terminology.

It underscores a deep-seated fear by governments and the aerospace industry, both in Australia and the US, over the emotionally-charged connotations of the "drone" label.

The pro-lobby wants a smooth, politically trouble-free transition of the technology to civilian skies. And that's not happening.

Aerospace manufacturers are banking on the civilian market eclipsing military demand. Global UAV/drone expenditure is forecast to exceed \$US89 billion in the next decade.

This lucrative future is threatened by an image problem. The "drone" is now embedded in the zeitgeist and the connotations are overwhelmingly negative.

Last year a senior official with Australia's Civil Aviation Safety Authority, charged with integrating the technology into the civil realm, told an aviation conference why he insisted on using the new official term, RPA, and avoided the 'D word' at all costs.

"We need to explain this project as being of benefit to society, not just 'drones kill' ... these aircraft are not unmanned, they are remotely piloted, they are not drones, drones kill people," he said.

A problem with this argument is that a military officer briefing the media on the latest *Predator* strike on a Pakistani village will never utter the 'D' word, but use exactly the same, often incomprehensible terminology, as those now championing the cause of civilian applications.

To counter the negative PR, the US aerospace lobby has launched a re-branding campaign on a site called "Increasing Human Potential" to promote "the good news about unmanned systems".

But in 2013, industry and regulators are rapidly losing the definition dogfight.

The 'D word' now dominates public discourse, from political debate, US Congressional reporting, and academic research, through to cover stories in influential media such as Time and specialist publications including the Smithsonian Institution's Air and Space Magazine.

Earlier this week the industry's most powerful lobby group, the Washington-based Association for Unmanned Vehicle Systems International (AUVSI), ran up the white flag.

Speaking at the Avalon International Air Show, AUVSI's chairman, Australian Peter Bale, said: "I'm going to roll over on this one, and call them drones from now on. There are just some fights you are not going to win."

His decision has been extremely unpopular with sections of the aviation industry, but Mr Bale argues there are far more important battles to fight.

AUVSI is currently locked in an epic struggle with the American Civil Liberties Union, which leads the growing US opposition to the domestic rollout of civilian drones, based on privacy concerns and the surveillance capabilities of the technology.

Last year the US Congress, after intensive lobbying from AUVSI, ordered the Federal Aviation Administration to integrate drones by 2015. The FAA estimated 15,000 civil and commercial drones could be flying by 2020 and as many as 30,000 by 2030.

Now, that ambitious timetable is stalling. US state and regional governments have also begun banning civilian drone operations in their locales before the concept has even taken off.

If this technology is to be successfully demilitarised and de-mystified, this process will only occur by addressing valid privacy concerns and demonstrating positive and safe applications.

Only then will public acceptance follow, regardless of what label is used.

For better or worse, the 'drone' is here to stay.

- Mark Corcoran has been a reporter/producer with Foreign Correspondent for 15 years. He is currently a Visiting Fellow and research student at the University of Technology, Sydney, examining potential news-gathering applications of drone technology.

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