

# Drones and robots: liability for designers, manufacturers and insurers



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THE BEGINNING OF 2014 SAW THE LAUNCH of a plethora of smart technology. Amazon grabbed the headlines with the news that they were considering the use of drones for package deliveries. Our prediction (*IHL*211, June 2013) that driverless cars would be with us sooner than thought came true with an announcement that Milton Keynes is to introduce driverless cars which will be booked through a smartphone app. More recently, Sir James Dyson has invested £5m in a venture to develop household robots.

Automated technology is not a new phenomenon: many warehouses use automated technology to collect orders from shelving and place it onto delivery vans. Drones are already being used on remote farms. Automated vacuum cleaners and lawnmowers have been carrying out household chores for several years.

As the use of automated technology spreads into the automotive and logistics sectors, so do the legal ramifications for all those involved: designers, manufacturers, retailers, consumers, and insurers. Product liability lawyer, Alison Newstead of Shook, Hardy & Bacon International LLP, discusses the potential legal implications of these new advances for remote controlled vehicles.

## RAPID DISTRIBUTION, LAGGING REGULATION

As with many technological advances, legislators are going to take some time to understand the technology and its liability implications. In doing so, legislators need to be extremely careful not to hinder innovation by introducing measures which excessively load liability on manufacturers, when the users of the automated technology (or their insurers) may be better positioned to bear the risk.

As technologies converge, then it becomes more complicated to identify exactly where liability may lie in the event of an accident. Case law will have to fill the void until legislators understand how new technologies will function and what potential risks they could pose.

## CONVERGENCE AND TRANSFER OF TECHNOLOGIES

Technology transfer has long been recognised as a means of generating innovation. For example, many safety developments in motor racing have

transferred to all motor vehicles. A more recent trend has seen innovation crossing industry sectors often into sectors with a different regulatory framework.

## DRONES AND RISKS IN THE SUPPLY CHAIN

Drones are already being used successfully in agriculture, particularly in large rural regions to survey, map and spray crops. However, the limited nature of their use and, in particular, the limited number of people involved in the programming and use of agricultural drones, limits the potential product liability risks.

For drones to be used commercially on a wider and more urban scale, there would be large legislative hurdles to overcome. In particular, aviation authorities would need to grant permission for drones to use civilian airspace for commercial purposes. Furthermore, the privacy concerns of those on the ground would need to be addressed. In an interesting parallel development, other technology innovators are addressing the privacy issue with anti-drone radar technology.

However, leaving these issues aside, there are of course, potential product liabilities for many different parties in the supply chain where drones may be used.

## DESIGN CONSIDERATIONS

Careful thought will need to be given to design regarding:

- the maximum weights and shapes that can be accommodated;
- the weather conditions that could be withstood, including the ability to deal with extreme weather conditions;
- the ability to manoeuvre and land or park safely, avoiding damage to people, animals, or property; and
- the facility for the software to navigate safely to a particular destination and for the software to update as the environment changes.

Failings in any of these areas could lead to claims of defective design or negligence against the designer of both the drone itself or the computer technology within it.

**MANUFACTURING**

Manufacturers will need to ensure that they comply with the design specification and that sufficiently rigorous quality control checks are in place to ensure that the products manufactured meet the requisite design and safety standards.

Any shortcomings in materials used or manufacturing quality (of software or hardware) which lead to the drone failing to perform properly could have catastrophic effects.

**RETAIL**

Retailers would need to ensure that staff are aware of maximum capacities and weight limits, the types of products that cannot be transported safely, such as chemical or flammable substances.

In the case of retailers using drones for delivery of products, care would need to be taken that the correct delivery address is entered. Liability for a lost package or damage caused when the drone lands at an inappropriate address may fall with the retailer.

Claims could also come from individuals who do not receive their goods safely – perhaps because they have been damaged in transit due to hitting an object – or from individuals who may have suffered personal injury or damage to their property caused by the drone. The party against whom the claim could be brought would largely depend on the reason why the drone failed to deliver the goods in an appropriate way.

**REMOTE CONTROLLED HOUSEHOLD TECHNOLOGY**

A range of new technologies is coming onto the market for the smart home. Household goods such as ovens, security cameras, pet feeders and coffee makers can now be operated remotely from smartphones and tablet devices.

The product liability principles that apply to such technologies are standard: the

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product should be as safe as the end user is generally entitled to expect. To this end, one would expect that a court would consider it reasonable for a remotely controlled oven to perform in the way instructed by the smartphone – increasing and decreasing in temperature as directed and turning on and off when instructed.

However, consideration needs to be given to risks posed by operating such technology remotely. Many of these considerations mirror the issues which may affect drones. For example: if there is a software glitch and the consumer is unable to turn an oven off (perhaps in a situation where a cake has been left to bake) and a fire ensues causing damage to persons or property; or a pet feeder fails to operate and an animal dies. Questions will be asked about who should be held responsible. If it is a design or manufacturing glitch in the software, then one would expect the manufacturer to be liable. If it is a user error, then one would expect the end user would be liable.

What would happen, however, if there was no software error or user error, but that a mobile phone network failed, preventing the user from operating the product remotely? Product liability principles would not apply to the network operator (not being the manufacturer, importer or seller of the product) and one could foresee that a court would resist upholding a negligence claim on the basis that the loss was not foreseeable and the damage too remote.

**RISK ASSESSMENT**

When a potential software glitch is discovered, manufacturers would need to work through the standard risk assessment guidelines to determine whether a safety issue existed and then whether a recall is necessary. The EU risk assessment guidelines are very much geared towards assessing tangible risks in the physical use of consumer products. It is likely to be a challenge for manufacturers and enforcement authorities to interpret the guidelines in a meaningful way for remotely activated products.

**HACKING**

There is also the issue of hacking to consider. Recent press reports have suggested that much remote technology is easily hacked. If hacking risks are known to manufacturers, one would expect that they would need to take adequate steps to protect their products to ensure that they remained as safe as consumers could expect.

**CONCLUSION**

Manufacturers are constantly looking to technology to improve their products and make them stand out from the crowd. Developing such products and innovative ways to deliver them is likely to raise new questions as to how established legal principles and guidelines will respond. As technology advances, so must the law.

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