

Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

ScienceDirect

[www.compseconline.com/publications/prodclaw.htm](http://www.compseconline.com/publications/prodclaw.htm)Computer Law  
&  
Security Review

## Robotics and law: Key legal and regulatory implications of the robotics age (part II of II)

Chris Holder <sup>\*</sup>, Vikram Khurana, Joanna Hook, Gregory Bacon,  
Rachel Day

Bristows LLP, London, UK

### A B S T R A C T

#### Keywords:

Robots and law  
Intellectual property issues in robotics  
Employment issues in robotics  
Medical devices  
Nanorobotics  
Cyber security issues in robotics

In the previous edition of this special series on robotics and law, we explored some of the legal, regulatory and ethical implications of robotic systems and applications. We continue on that theme in this edition, focusing on specific types of robotic systems (medical device robots and nanorobotics) and core legal and regulatory issues, including intellectual property, employment and cyber security. In exploring these areas, our objective remains to start a dialogue about how our existing legal frameworks might need to adapt and change to meet the demands of the robotics age. We then conclude this special series with our views on the future of robotics law and the development of legal practice in this area.

© 2016 Bristows LLP. Published by Elsevier Ltd. All rights reserved.

## 7. Intellectual property

### 7.1. Introduction

The legislation governing intellectual property (IP) rights generally preceded by many years the advent of robotics as currently developed and can be expected to develop in the near future. Although case law can fill in legislative gaps and the courts have always applied the law to unanticipated and emerging issues and technologies, the question remains: are IP rights, as currently formulated, fit for robotic purpose or has IP legislation reached its robotic best before date? This chapter explores that question by considering the main IP rights that affect the operation of robots, as well as whether the rules on creation and ownership of IP adequately cover robot-generated material.

Robots are functional objects that physically interact with the material world. As a result the main IP rights that concern robots are patents and copyright, the latter as a result of the software that controls the operation of robots. This chapter

therefore focuses on those rights, although the reader should not forget that other rights, in particular rights in registered trademarks and passing off as well as those in designs, apply equally to robots as they do to other goods.

### 7.2. Patents

Patents protect inventions, as long as those inventions:

- (i) are novel;
- (ii) involve an inventive step;
- (iii) are capable of industrial application; and
- (iv) do not fall within certain excluded subject matter.<sup>1</sup>

The requirements of novelty and inventive step are considered on a case-by-case basis in relation to the pre-existing art at the relevant date, but do not raise any particular issues in relation to robotic patents.

As to the third requirement, an invention is considered to be capable of industrial application if it can be made or used

<sup>\*</sup> Corresponding author. Bristows LLP, 100 Victoria Embankment, London EC4Y 0DH, UK.

E-mail address: [chris.holder@bristows.com](mailto:chris.holder@bristows.com) (C. Holder).

<sup>1</sup> Section 1(1) Patents Act 1977.

<http://dx.doi.org/10.1016/j.clsr.2016.05.011>

0267-3649/© 2016 Bristows LLP. Published by Elsevier Ltd. All rights reserved.

in any kind of industry.<sup>2</sup> Industry in this context has been construed broadly, as including any physical activity of ‘technical character’, i.e. one belonging to the useful or practical arts as distinct from the aesthetic arts.<sup>3</sup> Robots are certainly capable of industrial application, to the extent that they serve a functional purpose. However, it should be noted that for public policy reasons certain subject matter relating to methods of treatment or diagnosis is excluded from patentability on the basis that it is defined as not being capable of industrial applicability (as discussed below under excluded subject matter).

Therefore, the only aspect of patentability requiring consideration here is whether certain robotic inventions would fall into one or more classes of excluded subject matter. The categories for consideration in this context are the following (although other categories exist):

- programs for computers, where the patent relates to a program as such<sup>4</sup>;
- inventions, the commercial exploitation of which would be contrary to public policy or morality<sup>5</sup>; and
- inventions for a method of treatment of the human or animal body by surgery or therapy, or a method of diagnosis practised on the human or animal body.<sup>6</sup>

Each of these is considered in turn. However, it should be borne in mind that recent analysis conducted by the UK Intellectual Property Office (IPO) Informatics Team identified that more than 35,000 patent families were applied for worldwide between 2003 and 2013 for patents concerning robotics and autonomous systems.<sup>7</sup> By way of comparison, of the 9 other fields of technology that have been identified by the UK Government as important for future growth, more applications were made for robotics and autonomous systems during this period than for quantum technologies, big data, regenerative medicine, the Internet of things and satellites so this is a significant number, even if fewer than for fields such as life sciences and energy storage. Whilst this does not give the figure for how many of these applications matured into granted patents, and the report did not provide a breakdown for applications to the UK IPO or the EPO (which grants European patents that may cover the UK), it is clear that the categories of excluded subject matter are not a major obstacle to the patenting of robotic inventions.

### 7.2.1. Computer programs

Robots will inevitably be controlled by one or more computer programs in light of the artificial intelligence (in its widest sense) required to allow the automated behaviour of that robot. This chapter does not seek to provide a detailed analysis of the IP rights that may subsist in the software that controls the functions of a robot, whether internally or remotely. Furthermore, the nature of robots, whether now or in the foreseeable future,

does not require a tailored analysis of the subsistence of IP rights in such computer programs. This chapter therefore provides only a brief treatment of the subject.

Although computer programs “as such” are declared not to be inventions for the purposes of the Patents Act 1977, and thus to be unpatentable, that does not exclude the possibility of patenting computer-implemented inventions. Hardware controlled by software can be patentable, and potentially so is software itself where the contribution of the claimed invention does not fall solely within the category of a computer program, and is actually technical in nature.<sup>8</sup> For example, if the claimed contribution (in this case the technical effect of a robot) exists independently of whether it is implemented by a computer even if the only practicable way of implementing the contribution is by means of a computer, patentability is not denied.<sup>9</sup> Although questions of patentability regarding computer software remain difficult to answer, the current and anticipated forms of robots are not expected to raise difficulties in this area. Therefore, although the law is far from settled, not least in light of divergence between the approach taken between the English courts and that of the Boards of Appeal of the EPO, there does not appear to be a need to consider reform specifically in the field of robotics.

### 7.2.2. Contrary to public policy or morality

The courts and patent offices generally apply this exclusion narrowly, and invoke it only in rare or extreme cases. Nevertheless, the need to define a morality, with the ability of that concept to change over time, may in the future result in the rejection of applications to patent robots for use in certain settings.

In one of the few cases in this area, the Technical Board of Appeal of the EPO sought to provide a definition of what would be contrary to public policy or morality. In T 356/93,<sup>10</sup> the Board held that the concept of *public policy* covered the protection of public security and the physical integrity of individuals as part of society, as well as the protection of the environment. Therefore inventions the exploitation of which were likely to breach public peace or social order (for example due to acts of terrorism), or to seriously prejudice the environment, were to be excluded from patentability. As to *morality*, the Board held that the concept was related to the belief that some behaviour is right and acceptable whereas other behaviour is wrong, with this belief being founded on the totality of the accepted norms which are deeply rooted in a particular culture. For the purposes of patents to be granted under the European Patent Convention, the culture in question was the culture inherent in European society and civilization. Therefore inventions for which exploitation would not be in conformity with the conventionally-accepted standards of conduct pertaining to this culture are to be excluded from patentability.

As robots become more lifelike, one can immediately conceive of certain specific areas of behaviour in which the exploitation of any granted robot patents would be considered to be contrary to morality, if not public policy. Witness,

<sup>2</sup> Section 4(1) Patents Act 1977.

<sup>3</sup> See *Guidelines for Examination in the EPO*, November 2015 Edition, G-III, 1.

<sup>4</sup> Section 1(2)(c) Patents Act 1977.

<sup>5</sup> Section 1(3) Patents Act 1977.

<sup>6</sup> Section 4A(1) Patents Act 1977.

<sup>7</sup> *Eight Great Technologies. Robotics and Autonomous Systems. A patent overview*; UK IPO Informatics Team, June 2014.

<sup>8</sup> Following the four-step test elucidated in *Aerotel v Telco; Macrossan’s Application* [2007] RPC 7.

<sup>9</sup> See for example, *Raytheon Co’s Application* [2008] RPC 3.

<sup>10</sup> T 356/93; *Plant cells/PLANT GENETIC SYSTEMS*.

Download English Version:

<https://daneshyari.com/en/article/467425>

Download Persian Version:

<https://daneshyari.com/article/467425>

[Daneshyari.com](https://daneshyari.com)