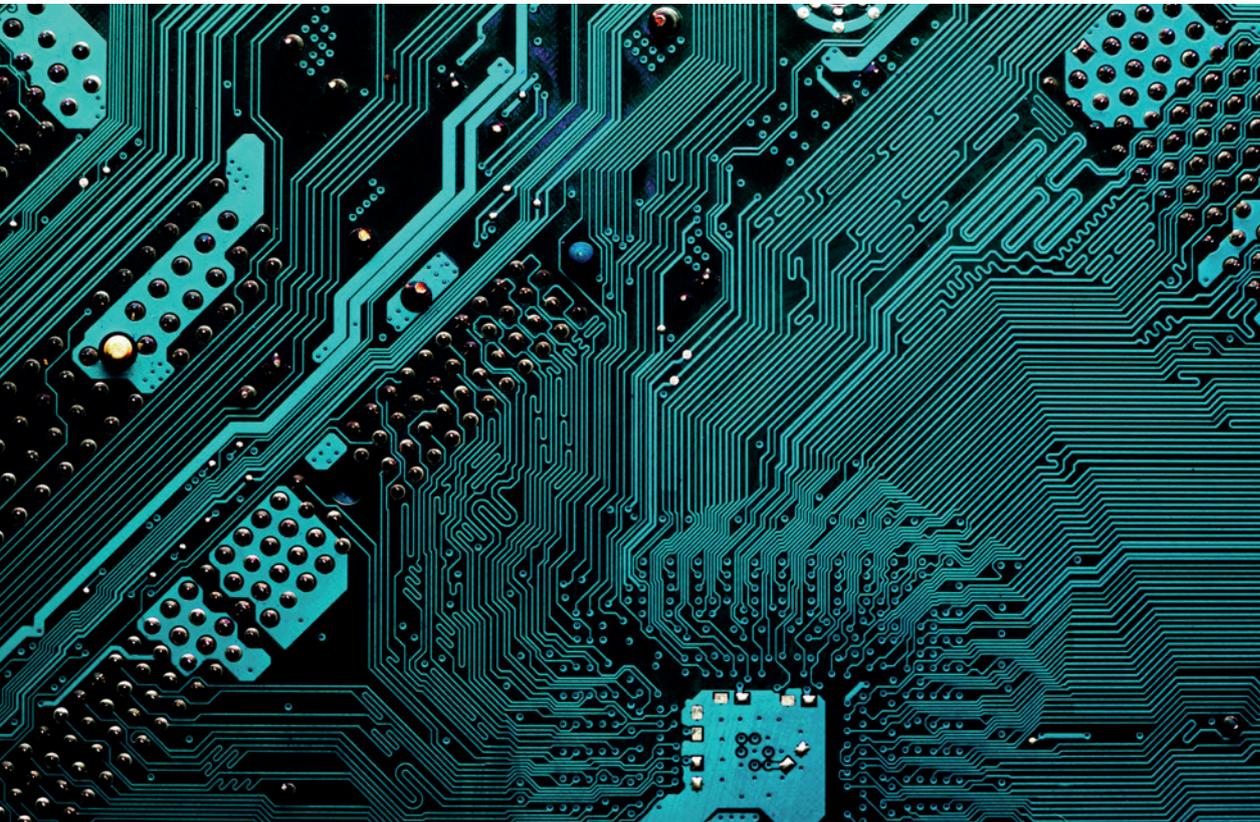


# Electronics Newsletter

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August 2020



## Patents and Computers

In this edition we take a look at the legality of AI inventors, give an update on G1/19 (for which a decision is currently awaited on the patentability of computer simulations) and discuss some recent guidance from the UKIPO on software patentability. In addition, we take a look at the effect of COVID-19 on the IP community and review the High Court's decision in IPCom GmbH & Co KG v Vodafone Group PLC.

# IP in Lockdown

Andrew Flaxman takes a look at some statistics and reports showing how the coronavirus pandemic has affected the IP world.

*Written by Andrew Flaxman*

The coronavirus disease, COVID-19, has delivered a powerful, unexpected blow to the entire world. While there is a flickering light at the end of the tunnel, it will be many months, possibly years, until we can understand the true economic cost of COVID-19. There have already been many economic casualties of the virus, with reports of many companies going into administration across the world. This is likely to continue in many sectors. However, while it is inevitably a dark time for many businesses all over the world, for some companies, the coronavirus pandemic has had a somewhat different effect.

While some businesses are inevitably reducing the amount of R&D they undertake and, consequently, the number of patent applications they file, others appear to be continuing relatively unscathed. [One recent report](#) notes a surprising increase in the number of patent applications being filed during lockdown, not only in the UK, but also in other countries, including China, which saw an increase in patent filings of nearly 8% in April 2020 compared with April 2019. [Another report](#) includes a forecast that

the number of US patent filing numbers in 2020 will be very similar to the number filed in 2019, suggesting many companies are continuing to generate and seek protection for their innovations despite the consequences of COVID-19.

The increased innovation may be a consequence of new working arrangements, with many businesses having moved to a remote working environment. One theory is that time that would typically be spent on non-innovation work is now being reallocated, or that time normally spent commuting to and from a workplace is now being spent on innovation. As people around the world are able to return to their workplaces, it is possible that ideas conceived during lockdown may be realised and developed, which could lead to a flood of new patent filings in coming months.

Research<sup>1</sup> suggests that many businesses have increased innovation in markets other than those in which they are normally active. For example, companies have reported an increase in R&D in computer-based technologies such as internet services and communications, as well as healthcare and pharmaceutical technologies including drug discovery, production and testing. So, it seems as though companies may have made rapid changes to their focus to enable them not only to survive, but to thrive during the pandemic.

And there has been no shortage of



<sup>1</sup>Clarivate Derwent – Chasing change: Innovation and patent activity during COVID-19, July 2020

teamwork and collaboration between companies in recent months. Within weeks of the pandemic outbreak, companies around the world committed resources to help fight the virus or to assist with the treatment of those affected by the virus. For example, some of the world's largest tech companies, including Hewlett Packard Enterprise, Intel, Amazon and IBM set up the 'Open COVID Pledge', through which over 250,000 patents have been made available for the purpose of ending and mitigating the effects of the COVID-19 pandemic. Some companies have even used their resources to develop and manufacture ventilators for use in intensive care units, or to manufacture personal protective equipment (PPE) for use in medical facilities.

To help companies to continue to innovate and protect their innovations despite

**“[I]deas conceived during lockdown may be realised and developed, which could lead to a flood of new patent filings in coming months”**

a reduced income, in response to the pandemic, patent offices around the world have provided assistance to patent applicants by implementing a range of legal changes enabling deadlines to be extended and to enable the patent application process to be handled more easily for those in a remote working environment.

For more details on the measures put in place by the European Patent Office, the UK Intellectual Property Office and the German Patent and Trademark Office, take a look at our [website](#).

## Can you Patent a Simulation at the EPO?

On 15 July 2020, the eagerly awaited referral to Enlarged Board of Appeal (EBA) regarding computer-implemented inventions was heard at the EPO. Monique Henson takes a look at some of the considerations highlighted in [amicus curiae briefs](#) submitted to the EBA.

*Written by Monique Henson*

The referral to the EBA (G1/19 –from T 0489/14) asks whether a simulation can, by itself, provide a technical effect and, if so, what the criteria for determining this are. Perhaps unsurprisingly, the consensus from the briefs seems to be that simulations should not be excluded from patentability per se, as they may be capable of producing a technical effect.

However, several authors take issue with the referral itself, stating that existing case law is sufficient to ensure uniform application of the law, and there is no point of law of fundamental importance raised by the referred questions. For example, the first question in the referral essentially asks whether a computer-implemented

simulation can provide a technical effect by itself. In its amicus curiae brief, the IP federation note that it is well established that computer-implemented methods can produce a technical effect beyond their implementation on a computer (e.g. in T 1173/97 IBM), and a computer-implemented simulation is merely an example of a computer-implemented method.

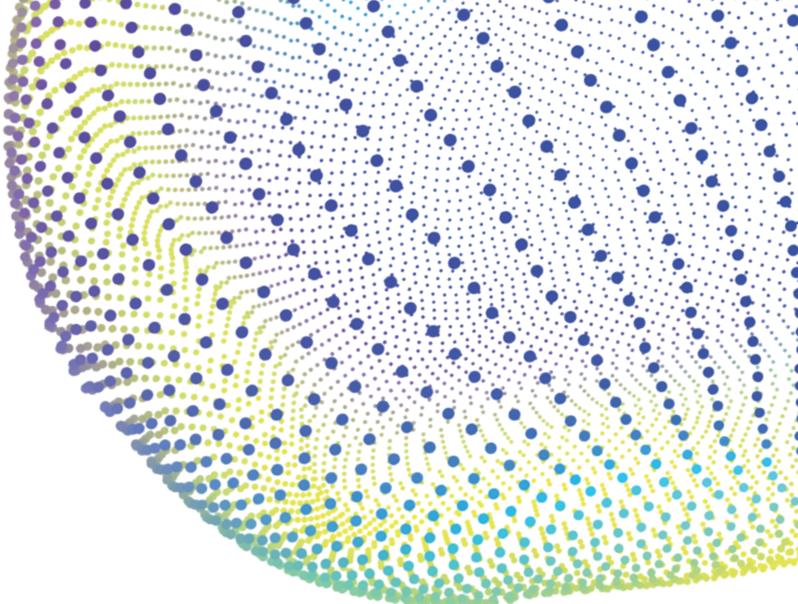
Similarly, several authors submit that the case law relating to computer-implemented methods has been uniform in its application, which means that the first question is inadmissible.

Indeed, a common theme running through the briefs is the question of whether computer-implemented simulations should

be treated any differently to any other computer-implemented method, with most authors finding no reason to diverge from the approach for assessing the patentability of computer-implemented inventions established in T 0641/00 (Comvik) and T0258/03 (Hitachi).

In particular, many authors take issue with the suggestion of requiring a “direct link with physical reality”, stating that this would contradict existing case law which has established that, for example, the processing of computer-generated images may be technical, even if those images do not represent any real-world object. In addition, there is a concern that this condition may effectively exclude many technologies from patentability, potentially contravening Article 52(1) EPC and the TRIPS agreement, which state that patents shall be granted for inventions in all fields of technology.

Other authors take a different approach and argue for a broader interpretation of a “direct link with physical reality”. For example, some argue that a simulation of a technical system necessarily has a link to a physical reality in that a model



forming a simulation reflects the laws of nature governing the system that is being simulated. Further, models are often calibrated using values that are derived from real-world measurements, which may imbue technical character even if the measurement steps are not claimed.

Regardless of their preferred solution for the “direct link” issue, the overwhelming consensus in the briefs is that the approach outlined in T 1227/05 (Infineon), which concerned simulations of a noise-affected circuit, should be followed. Watch this space for our follow-up article after the decision has issued.

## Can an Artificial Intelligence be an Inventor?

Stephan Schultes discusses whether AI machines that create patentable inventions have any legal rights of inventorship at the UKIPO.

*Written by Stephan Schultes*

There is a legal grey area surrounding inventions created by artificial intelligence (AI) machines, particularly as to whether AI machines should be recognised as inventors on patent applications and, if so, who owns the rights to those patent applications.

To test the legal position in various jurisdictions, a team at the University

of Surrey, UK, filed patent applications<sup>1</sup> naming an AI machine, “DABUS”, as the inventor. DABUS is a “creativity machine” that can generate inventions autonomously

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<sup>1</sup> European patent application nos. EP18275163.6 and EP18275174.3, UK patent application nos. GB1816909.4 and GB1818161.0; and United States Patent Application No. 16/524,350.

## “There is a legal grey area surrounding inventions created by artificial intelligence”

without being trained to solve any particular problem. A first application describes a beverage container having walls with a fractal profile that allow several such containers to be secured together. A second application describes a warning light that flashes in a fractal sequence to allow better recognition by a human eye.

The European Patent Office (EPO), the United Kingdom Intellectual Property Office (UKIPO), and the United States Patent and Trademark Office (USPTO) have all refused the applications.<sup>2</sup> All three Patent Offices reasoned that their respective patent statutes permit only

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<sup>2</sup> [www.ipo.gov.uk/p-challenge-decision-results/o74119.pdf](http://www.ipo.gov.uk/p-challenge-decision-results/o74119.pdf), [www.uspto.gov/sites/default/files/documents/16524350\\_22apr2020.pdf](http://www.uspto.gov/sites/default/files/documents/16524350_22apr2020.pdf)

“natural persons” to be named as inventors, and not machines. As such, naming DABUS as an inventor did not comply with the respective legal provisions. On a more fundamental level, the EPO and UK IPO questioned whether AI machines held any legal rights, including rights that would allow for the transfer of ownership of the applications from DABUS to the applicant, Dr. Stephen Thaler (the developer of DABUS). The EPO and UK IPO both considered that this was not the case, so that the applicant was not entitled to the European and UK patent applications.

The decisions of the EPO, UK IPO and USPTO are being appealed.

While there is a legitimate question as to how or whether patent systems should handle inventions created by AI machines, it seems that a change in law, either giving machines legal rights or dispensing with the requirement to name a natural person as the inventor, would be required to answer this question.

## UKIPO Issues New Guidance on Software Patentability

Grace Wood takes an in depth look at some recent changes to the UKIPO’s Manual of Patent Practice which offers updated guidance for determining when computer programs are eligible for patent protection.

*Written by Grace Wood*

### Excluded subject matter

Section 1(2) of the UK Patents Act excludes inventions relating to certain subject matter from patent protection. The subject matter defined in Section 1(2) includes “a mathematical method”, “a scheme, rule or method for performing a mental act, playing a game, or doing business, or a program for a computer”, or “the presentation of information”. However, the

exclusion applies only to the extent that the invention relates to that subject matter “as such”. The guidelines surrounding how it should be determined to what extent an invention relates to one of these exclusions have been evolving, particularly due to the increasing number of filings of patent applications for computer implemented inventions.

In the version of the Manual of Patent

Practice (MoPP) of April 2020, section 1 was updated to clarify the guidance relating to artificial intelligence (AI) inventions and what constitutes excluded matter. In general, section 1 discusses that claims to a computer program for generating a system or for producing a product may avoid exclusion if the computer program would cause an otherwise patentable process to be performed when run. Therefore, there should be a technical contribution that the invention makes to the known art, for example, a technical advance on the prior art in the form of a new result (e.g. a substantial increase in processing speed as in *Vicom Systems Inc T0208/84 [1987]*.)

A computer program that provides a technical contribution will not fall under the exclusion, as it is more than a computer program as such. (It is noted that, although an invention involving a computer is undoubtedly “technical”, the mere presence of conventional computing hardware does not of itself mean the invention makes a technical contribution as such, hardware will typically not form part of the contribution.)

If an invention provides a technical contribution, it may avoid exclusion even though the underlying idea may reside in a mathematical method; a claim to a method of enhancing digital images by software processing that implemented a

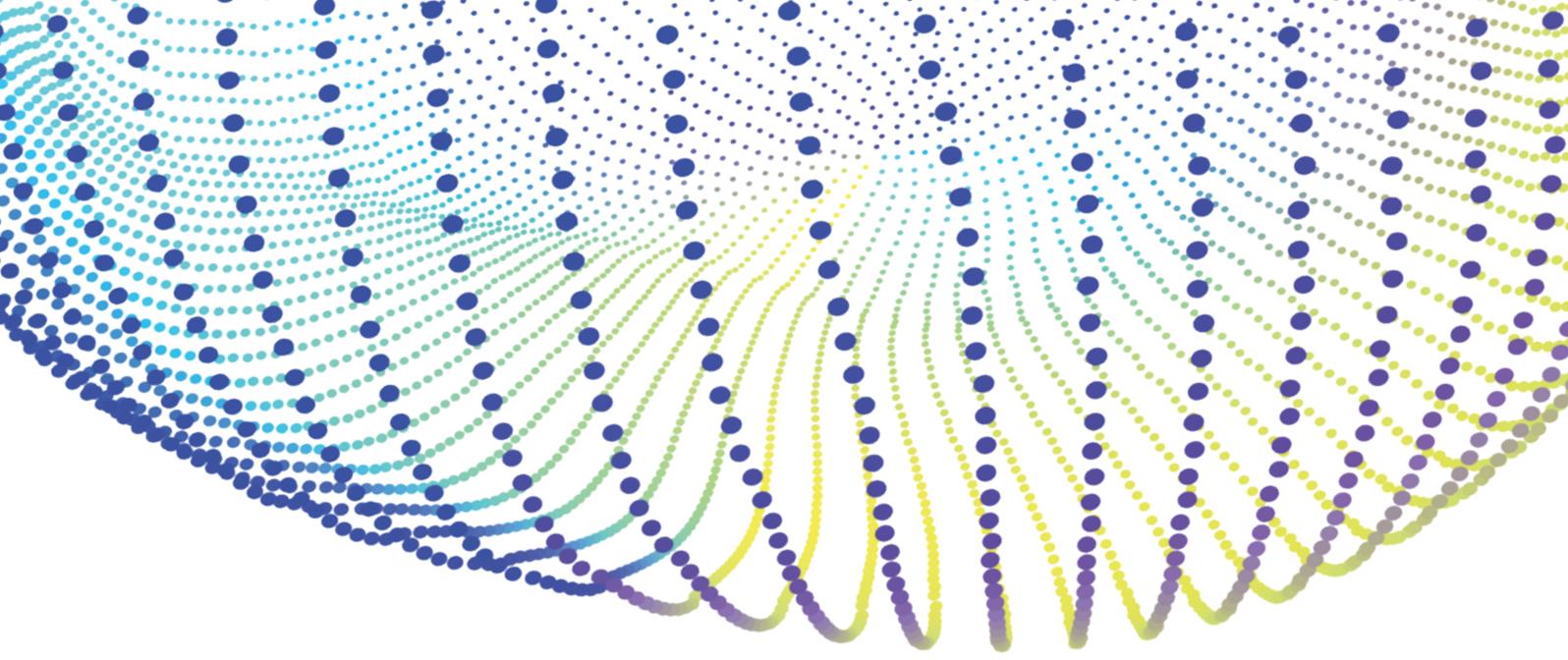
***“[T]he mere presence of conventional computing hardware does not of itself mean the invention makes a technical contribution”***

mathematical method was considered to provide such a contribution in *Vicom* and allowed. Where the contribution made by an invention relates to the practical application of the mathematical method to a technical process, it will not be considered a mathematical method as such.

To clarify the circumstances in which claims involving mathematical methods and programs may be patentable, new sections have been added to section 1 of the MoPP. New section 1.29.4 in particular states that carrying out a mathematical method by a program will not, in general, be enough to avoid exclusion. Similarly, an improvement in programming or an improved algorithm will not generally be enough to avoid exclusion unless there is something more to it in the form of a technical contribution. However, new section 1.29.5 states that many computer-implemented inventions and particularly inventions involving computer simulation and artificial intelligence (“AI”) relate in some way to a mathematical method, where if a computer-implemented mathematical method is applied to a technical process or if it solves a technical problem within a computer, it will likely not be excluded.

When considering whether methods that are considered to be business methods can contribute technically, at sections 1.34 and 1.34.1 of the MoPP, it is stated that the fact that an application may provide a better way of conducting business is not relevant to the technical contribution. It is explicitly stated in this section that the law has resolutely sought to hold the line at excluding such things from patents where no further technical contribution is made. Therefore, when assessing whether a particular invention involving a





business method relates to a new system or arrangement of hardware, it should be asked whether the system is new in itself or whether the system is only new due to the business method it performs.

As is stated in section 1.18 of the MoPP, in determining whether claimed subject matter is excluded from patent protection under one of the excluded areas in Section 1(2), Examiners follow the four step test set out in the *Aerotel v Telco and Macrossan* decision [2006] EWCA Civ 1371. Section 1.36 further states that, following the development of the *Aerotel* test, *Symbian Ltd's Application* [2009] RPC 1 more closely examined the question of “technical contribution” as it related to computer programs. In deciding whether the *Application* reveals a “technical” contribution, guidance can be found in the Board’s analysis in *Vicom* and the two *IBM Corp.* decisions [T 0006/83 and T 0115/85], and in what the court said in *Merrill Lynch and Gale*.

As is further described at section 1.37 of the MoPP, although the *Aerotel* test involves the examiner checking “whether the actual or alleged contribution is actually technical in nature” - and *Symbian* actively requires the question “does the invention make a technical contribution” to be asked when considering the computer program exclusion - the judgment in *Aerotel/Macrossan* does not provide detailed guidance on how this is to be carried out in practice. In paragraph

40 of *AT&T Knowledge Ventures/Cvon Innovations v Comptroller General of Patents* [2009] EWHC 343 (Pat) (*AT&T/CVON*), five signposts derived from *Symbian* (s1.36) were set out for considering whether a computer program makes a relevant technical contribution. In *HTC v Apple* [2013] EWCA Civ 451, the signposts were reconsidered and, in light of the decision in *Gemstar-TV Guide International Inc v Virgin Media Ltd* [2010] RPC 10 (see 1.37.1 and 1.40.4), felt that the fourth signpost had been expressed too restrictively.

The signposts for considering whether a computer program makes a relevant technical contribution have now been redefined in the MoPP in view of this case law. Adapted signposts which are a distillation of the reasoning and rationale of this previous case law are set out in section 1.37.1 of the MoPP, as follows:

- (i) whether the claimed technical effect has a technical effect on a process which is carried on outside the computer (from *Vicom*)
- (ii) whether the claimed technical effect operates at the level of the architecture of the computer; that is to say whether the effect is produced irrespective of the data being processed or the applications being run (from *IBM T 0006/83*, *IBM T 0115/85*, *Merrill Lynch*, *Symbian*)
- (iii) whether the claimed technical effect

results in the computer being made to operate in a new way (from Gale)

(iv) whether the program makes the computer a better computer in the sense of running more efficiently and effectively as a computer (from Vicom, Symbian; as reworded in HTC v Apple)

(v) whether the perceived problem is overcome by the claimed invention as opposed to merely being circumvented (from Hitachi T 0258/03)

Even though the signposts must be treated as guidelines, each case must be

**“[T]he signposts provide a good starting point”**

determined on its own facts bearing mind the case law forming the “most reliable guidance” identified in Symbian from which the signposts are distilled. However, the signposts provide a good starting point for considering whether a computer program or a computer implemented invention makes a relevant technical contribution, and therefore determining whether the subject matter of a claim is excluded from patentability.

## Government Powers to use Third Party IP Rights

Kathryn Leake reviews a recent telecoms case which addressed “Crown use” – the government’s ability to use or permit others to use a third party’s IP rights without prior consent from the rights owner.

*Written by Kathryn Leake*

### Crown use

Under sections 55 to 58 of the Patents Act 1977 (“PA 1977”), the government has powers to use or permit others to use a third party’s patent without first seeking permission from the patentee, provided such acts are authorised in writing by a government department. These powers are not all-encompassing – a patentee may sue for infringement if the use of their patent falls outside these provisions – but in certain circumstances they allow the government to use a third party’s patent quickly, without first obtaining consent.

### IPCom GmbH & Co KG v Vodafone Group Plc

The recent case of IPCom GmbH & Co KG v Vodafone Group Plc, [2020] EWHC 132 (Pat) addressed Crown use as a defence to patent infringement.



It was alleged that Vodafone had infringed IPCom’s patented 3G technology by using it to provide access to Vodafone’s network for emergency responders under the Mobile Telecommunications Privileged Access Scheme (MTPAS).

Vodafone relied on Crown use as a defence to infringement, and succeeded for the following reasons:

- Vodafone was authorised in writing by a government department to provide priority access to its network in an emergency situation. The authorisation did not explicitly permit Vodafone to use technologies covered by third party patents, or name IPCoM's patent, but it was still held to be sufficient to invoke Crown use. The court held that there was no need for the authorisation specifically to mention any patent rights that may be infringed, because this would place a heavy burden on the relevant government department, particularly when an authorised act may infringe several patents at once.
- Vodafone did not need to prove that it was necessary to practise IPCoM's patent specifically to do the authorised act, because otherwise this defence could not be relied upon if it is possible to implement two different patents to produce the desired effect.

The case also addressed the meaning of "for the services of the crown", a requirement under s.55 PA 1977 for Crown use to be made out. It was held that the

statutory list of "crown services" under s.56(2) PA 1977 is not exhaustive, so other acts could also fall into that category, including Vodafone's use in response to emergencies.

Finally, the case addressed whether Vodafone's use of IPCoM's technology to run tests on its response to MTPAS requests, and its keeping of equipment that infringed IPCoM's patent, could also constitute Crown use, i.e. whether these acts fell under the "use in an emergency" for which Vodafone was authorised to infringe. It was held that they were also Crown use, because Vodafone's testing was not excessive or in bad faith, and it should be allowed to keep the infringing equipment for so long as the MTPAS scheme was in operation.

### Comment

While not widely relied upon, the Crown use provisions for patents form an important part of the government's arsenal to respond quickly and effectively to situations that require use of a third party's proprietary IP.

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