

Title: Unified Patent Court implementation: Infringement changes IA No: BISIPO003 Lead department or agency: BIS - Intellectual Property Office Other departments or agencies: Ministry of Justice	Impact Assessment (IA)		
	Date: 21 September 2015		
	Stage: Final		
	Source of intervention: International		
	Type of measure: Secondary legislation		
Contact for enquiries: Katherine Evans Katherine.Evans@ipo.gov.uk			
Summary: Intervention and Options		RPC Opinion: Green	

Cost of Preferred (or more likely) Option			
Total Net Present Value	Business Net Present Value	Net cost to business per year (EANCB on 2009 prices)	In scope of One-In, Two-Out? Measure qualifies as Zero Net Cost
0	0	0	Yes

What is the problem under consideration? Why is government intervention necessary?

The UK government signed the Unified Patent Court (UPC) Agreement along with 25 other EU Member States on 19 February 2013, this is an international agreement to implement a single court for patent disputes with jurisdiction across participating member states. Currently the exceptions to patent infringement in UK patent law do not completely agree with those in the UPC Agreement. UK exceptions are more limited than those outlined in the Agreement. To leave the exceptions as they are in UK law would risk doubt as to whether the exceptions found in the UPC Agreement would apply. Amending the law will provide clarity to patent owners and litigants.

What are the policy objectives and the intended effects?

The overall objective is to amend the Patents Act so that the UK is compliant with the UPC Agreement, so that UK businesses may enjoy the benefits of the UPC and Unitary Patent. The Agreement includes two additional infringement exceptions affecting plant breeding and software decompilation to those that currently exist in UK law. The new infringement exceptions will benefit some of those involved in the development of plant varieties and computer programming that may currently experience uncertainty over whether they risk infringing a patent. The objective is to introduce these exceptions in a way that will offer UK businesses these positive impacts, whilst reducing the costs that may be associated with them.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

Option 1 – Do nothing. Only patents subject to the jurisdiction of the UPC would be subject to the two new exceptions to infringement.
 Option 2 – Amend UK law so that the two new exceptions apply to GB national patents (those granted by the IPO) as well as European patents (those granted by the European Patent Office).
 Option 3 – Amend UK law to introduce two new exceptions for European patents only.
 Option 4 – Introduce the software exception only for European patents, with the option to review this policy, and plant breeders exception for GB national patents and European patents.
 Our preferred option is Option 4 as this best achieves the policy objective in both sectors affected.

Will the policy be reviewed? It will be reviewed. If applicable, set review date: 5 years from entry into force of the Unified Patent Court Agreement.

Does implementation go beyond minimum EU requirements?			No		
Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.	Micro Yes	< 20 Yes	Small Yes	Medium Yes	Large Yes
What is the CO ₂ equivalent change in greenhouse gas emissions? (Million tonnes CO ₂ equivalent)			Traded: N/A		Non-traded: N/A

I have read the Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) that the benefits justify the costs.

Signed by the responsible Minister: Neville-Rolfe Date: 18 January 2016

Summary: Analysis & Evidence

Policy Option 1

Description: Option 1 – Do nothing. Only patents subject to the jurisdiction of the UPC would be subject to the two new exceptions to infringement.

FULL ECONOMIC ASSESSMENT

Price Base Year 2015	PV Base Year 2015	Time Period Years	Net Benefit (Present Value (PV)) (£m)		
			Low: 0	High: 0	Best Estimate: 0

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	0	0	0
High	0	0	0
Best Estimate	0	0	0

Description and scale of key monetised costs by 'main affected groups'

We have been unable to fully monetise the costs of the introduction of these exceptions.

Other key non-monetised costs by 'main affected groups'

The main costs to businesses of this option is legal uncertainty because this option creates two parallel systems, as there would be two different sets of infringement exceptions within the territory of the UK. This legal uncertainty extends to third parties, as it may not be immediately clear whether particular types of actions with a patented product would be permissible.

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	0	0	0
High	0	0	0
Best Estimate	0	0	0

Description and scale of key monetised benefits by 'main affected groups'

We have been unable to fully monetise the benefits of the introduction of these exceptions.

Other key non-monetised benefits by 'main affected groups'

There will be some benefit to those interested in performing R&D in relation to patents under jurisdiction of the UPC for plant breeding or software as this group will have reduced licensing fees and reduced legal and administrative costs. In the long term, all European patents will fall under the UPC jurisdiction, however in the first 7 years patent owners may opt out their patents out of the UPC for the lifetime of the patent (up to 20 years), reducing the benefit for those performing R&D. The level of take up of the opt out is not known.

Key assumptions/sensitivities/risks

Discount rate (%) 3.5

We are assuming that the costs will roughly balance benefits within existing affected groups. We are also assuming that the lower costs to research and development will encourage additional innovation. There is a risk that the exceptions reduce incentives to innovate for those that would patent an invention as they stand to gain less through licensing. At Consultation Stage we acknowledged a risk that we will not receive sufficient evidence. We have received anecdotal evidence and opinion, but no quantifiable evidence.

BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £m:			In scope of OITO?	Measure qualifies as
Costs: 0	Benefits: 0	Net: 0	No	NA

Summary: Analysis & Evidence

Policy Option 2

Description: Option 2 – Amend UK law so that the two new exceptions apply to GB national patents (those granted by the IPO) as well as European patents (those granted by the European Patent Office).

FULL ECONOMIC ASSESSMENT

Price Base Year 2015	PV Base Year 2015	Time Period Years	Net Benefit (Present Value (PV)) (£m)		
			Low: 0	High: 0	Best Estimate: 0

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	0	0	0
High	0	0	0
Best Estimate	0	0	0

Description and scale of key monetised costs by ‘main affected groups’

We have been unable to fully monetise the costs of the introduction of these exceptions.

Other key non-monetised costs by ‘main affected groups’

The new rules will affect around 500 GB plant breeders patents (less than 0.5% of GB national patents and approximately 0.05% of all patents in the UK) and around 2,200 EP(UK)s. We have been unable to quantify patents affected by the software exception. Some patent holders may find a loss of income as previously licensable activity can be done freely; this may reduce incentives to innovate. The legal sector may find reduced demand for licensing work. These losses of income are intermediate costs for other firms.

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	0	0	0
High	0	0	0
Best Estimate	0	0	0

Description and scale of key monetised benefits by ‘main affected groups’

We have been unable to fully monetise the benefits of the introduction of these exceptions.

Other key non-monetised benefits by ‘main affected groups’

The ability to undertake R&D activities will be of benefit to UK businesses and may attract foreign research activity. Those performing R&D will have reduced licensing fees and reduced legal and administrative costs, increasing incentives to innovate for firms who are taking advantage of others’ patents. For the plant breeders exception, there is the additional benefit of having an exception which already applies in some other European countries.

Key assumptions/sensitivities/risks	Discount rate (%)	3.5
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We are assuming that the costs will roughly balance benefits within existing affected groups. We are also assuming that the lower costs to research and development and greater certainty will encourage additional innovation. There is a risk that the exceptions reduce incentives to innovate for some as they stand to gain less through licensing. At Consultation Stage we acknowledged a risk that we will not receive sufficient evidence. We have received anecdotal evidence and opinion, but no quantifiable evidence.

BUSINESS ASSESSMENT (Option 2)

Direct impact on business (Equivalent Annual) £m:	In scope of OITO?	Measure qualifies as
Costs: 0	Yes	Zero net cost
Benefits: 0		
Net: 0		

Summary: Analysis & Evidence

Policy Option 3

Description: Amend UK law to introduce the two new exceptions for European Patents only.

FULL ECONOMIC ASSESSMENT

Price Base Year 2015	PV Base Year 2015	Time Period Years	Net Benefit (Present Value (PV)) (£m)		
			Low: 0	High: 0	Best Estimate: 0

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	0	0	0
High	0	0	0
Best Estimate	0	0	0

Description and scale of key monetised costs by ‘main affected groups’
 We have been unable to fully monetise the costs of the introduction of these exceptions.

Other key non-monetised costs by ‘main affected groups’
 Some patent holders in the plant breeding sector (there may be up to 2,200 EP(UK)s in plant breeding) and those whose technology uses software may find a loss of income from licensing; this may reduce incentives to innovate. The legal sector may find reduced demand for licensing services. There are costs to businesses due to legal uncertainty because this creates two parallel systems, with different infringement exceptions applying to different types of patent in the UK; although there is less uncertainty than Option 1.

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	0	0	0
High	0	0	0
Best Estimate	0	0	0

Description and scale of key monetised benefits by ‘main affected groups’
 We have been unable to fully monetise the benefits of the introduction of these exceptions.

Other key non-monetised benefits by ‘main affected groups’
 The ability to undertake R&D activities using inventions protected by European patents will be of benefit to UK businesses and may attract foreign research activity. Those performing R&D will have reduced licensing fees and reduced legal and administrative costs, so may find increased incentives to innovate. As the pool of patents affected by this option is smaller than those affected by option 2, the level of benefit is smaller.

Key assumptions/sensitivities/risks	Discount rate (%)	3.5
At present, we are assuming that the costs will roughly balance benefits within existing affected groups. We are also assuming that the lower costs to research and development for those making use of European patents will encourage additional innovation. At Consultation Stage we acknowledged a risk that we will not receive sufficient evidence. We have received anecdotal evidence and opinion, but no quantifiable evidence.		

BUSINESS ASSESSMENT (Option 3)

Direct impact on business (Equivalent Annual) £m:	In scope of OITO?	Measure qualifies as
Costs: 0	Yes	Zero net cost
Benefits: 0		
Net: 0		

Summary: Analysis & Evidence

Policy Option 4

Description: Introduce the software exception (Art.27 (k)) only for European patents with the option to review and extend to national patents, and introduce the plant breeders exception (Art 27(c)) for GB national patents and European patents.

FULL ECONOMIC ASSESSMENT

Price Base Year 2015	PV Base Year 2015	Time Period Years	Net Benefit (Present Value (PV)) (£m)		
			Low: 0	High: 0	Best Estimate: 0

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	0	0	0
High	0	0	0
Best Estimate	0	0	0

Description and scale of key monetised costs by ‘main affected groups’
 We have been unable to fully monetise the costs of the introduction of these exceptions.

Other key non-monetised costs by ‘main affected groups’
 Some European patent holders (whose technology uses software) and plant breeders holding both GB national and European patents may find a loss of income from licensing; this may be a disincentive to innovation. The legal sector may face reduced demand for licensing services. These losses of income are intermediate costs for other firms. There are also costs to businesses due to legal uncertainty due to creating two parallel systems (software exception applies to European patents but not GB national patents).

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	0	0	0
High	0	0	0
Best Estimate	0	0	0

Description and scale of key monetised benefits by ‘main affected groups’
 We have been unable to fully monetise the benefits of the introduction of these exceptions.

Other key non-monetised benefits by ‘main affected groups’
 The ability to undertake R&D activities will be of benefit to UK businesses and may attract foreign research activity. Those performing R&D will have reduced licensing fees and reduced legal and administrative costs, encouraging innovation. For plant breeders, there is the benefit of having an exception which exists in some other European countries. For the software exception, there is the benefit of not extending to national patents before it is clear how the software exception will be used.

Key assumptions/sensitivities/risks	Discount rate (%)	3.5
At present, we are assuming that the costs will roughly balance benefits within existing affected groups. We are also assuming that the lower costs to research and development and greater certainty will encourage additional innovation. At Consultation Stage we acknowledged a risk that we will not receive sufficient evidence. We have received anecdotal evidence and opinion, but no quantifiable evidence.		

BUSINESS ASSESSMENT (Option 4)

Direct impact on business (Equivalent Annual) £m:	In scope of OITO?	Measure qualifies as
Costs: £0	Benefits: £0	Net: £0
	Yes	Zero net cost

Evidence Base (for summary sheets)

Problem under consideration

Changes are needed to the infringement exceptions in the Patents Act 1977 in order that UK law complies with the Unified Patent Court Agreement¹. There is a degree of choice over how these changes are implemented.

The UPC Agreement describes the scope of the right of a patent and the limitations (commonly referred to as exceptions to infringement) which apply to patents subject to the jurisdiction of the UPC. The exceptions to infringement are found in Article 27 of the UPC Agreement. All except two are already found in UK law². The two additional exceptions are described as:

- (c) the use of biological material for the purpose of breeding, or discovering and developing other plant varieties;
- (k) the acts and the use of the obtained information as allowed under Articles 5 and 6 of Directive 2009/24/EC, in particular, by its provisions on decompilation and interoperability;

UK law must be amended so that these exceptions apply to Unitary Patents, and European Patents designated UK (from now on referred to as EP(UK))³ that are not opted out of the jurisdiction of the UPC⁴. The Agreement makes no provision for GB national patents or EP(UK)s which have opted out of the UPC and are subject to the jurisdiction of national courts. It would be possible to extend the exceptions to EP(UK)s that are opted out of the UPC, and also to extend the exceptions to GB national patents.

The problem under consideration is therefore whether to apply the new exceptions not just to Unitary Patents, and patents under the jurisdiction of the UPC, but to extend the two exceptions to all EP(UK)s and also to all GB national patents.

Rationale for intervention

The UPC Agreement was signed by the UK in February 2013. The Agreement will come into force once 13 Signatory States, including the UK, France and Germany, have ratified it. Once the Agreement comes into force, Regulation 1257/2012 will also come into effect; enabling people to own European Patents with Unitary Effect (referred to as Unitary Patents throughout this document) The Agreement cannot be ratified until changes to UK law have been made.

In order to be in compliance with the Agreement, there must be some changes to patent law. Changes that take into account the jurisdiction of the UPC, and the recognition of the Unitary Patent as a new form of patent right valid in the UK are covered in separate Impact Assessments (BISIPO005, and BISIPO0006). It is also necessary for there to be some intervention in order to give clarity over which patents are affected by the two new infringement exceptions from the UPC Agreement.

¹ The Agreement is available online, <http://www.unified-patent-court.org/images/documents/upc-agreement.pdf>

² These infringement exceptions represent no change to what is considered patentable, and there is no change to the meaning of infringement as detailed in section 60(1) – (3) of the Patents Act 1977 as this area of the law is already considered to be consistent with the equivalent provisions of the UPC Agreement.

³ The patents valid in the UK once the UPC Agreement is ratified will be GB national patents (granted by the IPO), a European bundle patent validated in the UK (an EP(UK); granted by the EPO and valid in a 'bundle' of countries including the UK or a Unitary Patent (granted by the EPO and valid across up to 26 states where the Unitary Patent Regulation applies).

⁴ As part of the transition arrangements, owners of European patents may opt out a patent from the UPC meaning that the patent is not subject in the UPC jurisdiction and litigation would be heard in a national court. The patent is opted out for the lifetime of the patent, although the patent owner may choose to withdraw the opt out request. The transition period lasts for 7 years from entry into force, and may be extended by a further 7 years if the UPC Administrative Committee finds it appropriate.

The UPC and Unitary Patent will provide businesses with a more streamlined and cost effective option for obtaining and enforcing patent protection across much of Europe. By being part of this system, UK businesses will enjoy its benefits.

Policy objective

The objective is for UK patent law to be in compliance with the UPC Agreement, allowing UK patent holders and business to enjoy the benefits of the UPC. The introduction of the UPC will create a system which will enable the enforcement of the Unitary Patent and also European bundle patents across the Contracting Member States which have ratified the Agreement, reducing the complexity and uncertainty of enforcing a bundle patent in multiple jurisdictions.

The objective for the introduction of the new UPC exceptions is also to allow for the enforcement of Unitary Patents and European bundle patents consistently across member states that have ratified the UPC Agreement by applying the infringement exceptions in UK law. We aim to do so in a way that minimises negative impacts on UK business.

At Consultation Stage, the preferred option was to align UK law so that the infringement provisions in the UPC Agreement applied to all patents valid in the UK. Responses to the consultation from those in the software sector were not supportive of the software exception with many of those doing business within the software field stated that they could be impacted negatively by the introduction of the new exception for software. Some respondents proposed not applying the exception to GB national patents (even if it applied to all European patents) in order to create a 'safe haven' where the exception did not apply. We have now explored this by including more options in this Impact Assessment.

Description of new exceptions

An exception to patent infringement allows third parties (people other than the patent owner) to use a patented invention for specific purposes without seeking a license or other permissions. By enabling some limited use of a patented invention, exceptions promote the creation of new knowledge building on existing patented knowledge.

The UPC Agreement introduces two new exceptions, not currently present in UK law. The first new exception relates to the ability of plant breeders to use patented biological material to create a new plant variety without infringing a patent for that material – for example, by cross-breeding with a plant which has beneficial characteristics but also includes patented characteristics that are not intended to be included in the final variety. The exception does not permit plant breeders to commercialise the new variety if the patented characteristics are retained – they will need to negotiate licensing terms with the patent holder.

The second new exception allows someone to use a lawfully-acquired computer program for certain purposes. Amongst other things, the uses allowed include the ability to convert the program from one format to another ("decompilation"). Computer programs are protected under copyright law, which contains exceptions to copyright infringement for these purposes. The new exception is intended to ensure that the existence of a patent does not prevent the lawful use of the program under these existing copyright exceptions. This is a narrow exception, intended to assist in the development of independently created programs so they can work correctly with other programs. Although it allows certain things to be done during the course of the development process, the exception will not permit the creation and marketing of a commercial product that would infringe the patent – if the finished product were to use any patented processes, including those relating to the decompiled program, a license would still be needed.

Description of options considered (including do nothing)

All options require some minor changes to reflect the wider territory of the Unitary Patent in the sections of the Patents Act that deal with infringement⁵. The Unitary Patent Regulation requires that the Unitary Patent must have the same scope and limitations in all participating states⁶ so we are obliged to make certain changes in order to meet the Regulation. The territory of the Unitary Patent is larger than the territory of the other patents valid in the UK, which are just valid in the UK⁷. The two new infringement exceptions must be applied for the Unitary Patent in all cases. As such it is considered necessary to make these changes in all options considered including Option 1 (do nothing). The exceptions will also have to apply to EP(UK)s that are not opted out of the UPC, so this is also included in the 'do nothing' option, although it would require some small changes to the Patents Act to give this effect.

Option 1 – Do nothing. This would mean that only patents subject to the jurisdiction of the UPC would be subject to the two new exceptions to infringement.

This would mean making very limited changes to the infringement provisions in the Patents Act 1977 so that Unitary Patents and EP(UK)s which are not opted out of the UPC are subject to the two new infringement exceptions in the UPC Agreement. Under this option, there would be two different sets of infringement exceptions within the territory of the UK, depending on whether the patent is under the jurisdiction of the UPC or UK courts. Only patents subject to the jurisdiction of the UPC would be subject to the two new exceptions to infringement. Litigation involving Unitary Patents would go to the UPC and be considered according to the provisions of the UPC Agreement.

Litigation concerning an EP(UK) may go to the UPC or to a UK court during the transitional period. A patent holder may decide to opt their patent out of the UPC as is permitted during the transitional period, ensuring that another party cannot litigate against them in the UPC. This opt-out lasts for the lifetime of the patent, but may be withdrawn at any time during the transitional period if the patent owner wishes. If an owner of an EP(UK) has opted out their patent, a case concerning their patent would be heard at a UK court, and therefore the two new exceptions would not apply. If they have not, or have withdrawn their opt out, the UPC would hear any case, and the provisions of the UPC Agreement would apply including the new exceptions. The ability to opt out an EP(UK) and then to withdraw the opt out creates legal uncertainty for third parties in relation to the application of the new exceptions. GB national patents would continue to be litigated in UK courts without the new exceptions.

Option 2 – Amend UK law so that the two new exceptions apply to GB national patents (those granted by the IPO) as well as European patents.

This option proposes the introduction of the two new exceptions to patent infringement so that they apply to all patents valid in the UK whether they are GB national patents, EP(UK)s or Unitary Patents. This proposal aligns the infringement provisions for national patents with those of the UPC Agreement ensuring that the same exceptions apply to all patents valid in the UK irrespective of which authority (IPO or EPO) had granted the patent or which court (UPC or UK Courts) has jurisdiction.

By offering a single regime for all patents in the UK, this option provides users with the most consistent system. However, this would mean that until the courts consider a case concerning the new exceptions, it may not be clear how they will be interpreted.

⁵ An example of one of the small changes required is one to ensure that the exceptions for the use of inventions on ships, aircraft, hovercraft and vehicles temporarily taken into the UK take account of the wider territory of the Unitary Patent.

⁶ Article 5(2) of Regulation (EU) No 1257/2012 of the European Parliament and of the Council says: "The scope of that right and its limitations shall be uniform in all participating Member States in which the patent has unitary effect."

⁷ The territory of a Unitary Patent will cover the countries that have ratified the UPC Agreement at the time the patent is granted. This means that the territory could cover up to 26 European countries. At a minimum, it will cover 13 European countries.

Option 3 – Amend the law for EP(UK)s and Unitary Patents only

This option proposes introducing the new exceptions to infringement for European patents only, leaving the law unchanged for GB national patents. This will mean that there will be two separate systems operating in the UK; one of which will include exceptions to infringement for plant breeding and software, whilst the other would not.

This option would mean that cases involving GB national patents would be taken to a UK national court and would be subject to the list of infringement exceptions as written in the Patents Act at present. However a case involving an EP(UK) – no matter whether opted out of the UPC or not – would be subject to the infringement exceptions as given in the UPC Agreement (albeit an opted out EP(UK) would be dealt with in a UK national court).

Option 4 – Introduce the software exception only for European patents (with the option to review the policy and extend to GB national patents), and introduce the plant breeders exception for both GB national patents and European patents.

This option treats the two exceptions in distinct ways, reflecting the fact that we have been told that the industries operate differently and have separate priorities. In effect, it would mean that Option 2 would apply for the plant breeders exception and Option 3 would apply for the software exception in the first instance, with the possibility of extension to national patents following review.

Based on further consultation with representatives from the software industry, we have gained a better understanding of their concerns. Primarily, those in the industry are worried that the exception for software is new and untested. The exception does not currently exist in any other European country, so the introduction by the UPC Agreement will be the first time that it appears in patent law. Until the exception is tested in court, there is doubt over the extent of use that it may permit. Respondents to the Technical Review commented that a broad interpretation of the exception could reduce the value of their patents as licensing opportunities may be reduced.

Those in the plant breeding sector responded favourably to introducing the plant breeding exception for national patents and EP(UK)s, and have commented on the benefits that it will bring, especially given that competitors (and also different branches of companies) work in other European countries where the exception already exists for national and European bundle patents. To not provide the exception here in the UK for national patents, would negatively impact UK plant breeding businesses which have expressed the need to work on a par with competitors in countries with strong plant breeding industries.

The preferred option is option 4:

Following the responses to the Technical Review it is clear that there are those in the IT and telecommunications sector that have concerns about introducing an untested exception into UK law. Some responses suggested we do not apply the exception to GB national patents, as this would give holders of those patents the time to observe how the exception is interpreted by the courts. This would allow the UK the opportunity to implement the exception for GB national patents at a later date.

Discussions with these stakeholders have also shown that they may consider changing the route they take when applying for patent protection in the UK, (i.e. applying for GB national patents) if it meant they were excluded from the software exception. This demonstrates the strong sentiments of those in the industry.

We have chosen to adopt a wait and see approach, with a view to extending the exception once the system is bedded in. Given that the software exception is new to patent law in Europe, we cannot predict exactly how the industry will react to such an exception. The information in this IA is informed by the way that exceptions to infringement of patents work in general and from information gathered from stakeholders. The exception is unusual in that it makes reference to copyright law and an exception to copyright infringement found in Articles 5 and 6 of Directive 2009/24/EC. Stakeholders have told us that this is a concern to them as copyright is a different intellectual property right to a patent and they worry that this makes its scope unclear.

The plant breeding sector is different to that of the software field. Information from those in the plant breeding industry shows that it is preferable for them that the exception extends to GB national patents, allowing breeders to use biological material to develop new plant varieties without the need to check if and how the biological material is patent protected. The exception does not extend to the commercialisation of new plant varieties that incorporate patented biological material. Most significantly for those who responded to our consultation, the exception already exists in the law of other European countries where the plant breeding sector has a strong base. We have been told that it is an advantage to carry out research involving the same biological material in different countries due to the differing climatic conditions. By introducing the exception, businesses would be able to carry out their research free of the risk of patent infringement in the same way as they do in Germany, France and the Netherlands where the exception already exists in law.

There will be a review covering the introduction of the exceptions, and if it is appropriate at that point, the software exception may be extended to GB national patents after public consultation.

Costs and benefits

We are unable to monetise all costs and benefits despite many attempts to gather the required evidence. We ran a 12-week consultation during 2014 which asked questions about the potential impacts on business of the new exceptions. Furthermore, we ran a live webinar which included a question and answer session. The event included speakers who were able to offer views from industry and views from those in the patent attorney profession. The webinar received over 200 online hits – the majority from within the UK, but also receiving interest from the US and Asia. Finally, we have regularly met with stakeholders to discuss the proposed changes.

Evidence obtained during consultation did not provide specific information regarding the costs and benefits to businesses. However, we received qualitative evidence regarding general impressions of what impact the proposed changes may have on businesses. Many respondents commented that the introduction of any new exception to infringement brings uncertainty for those within the field. We acknowledge that as the new exceptions in the UPC Agreement have not yet been tested in court there will be uncertainty over exactly what forms of use of a patented invention they will permit. However, we anticipate this only being for the short term. In future, it is possible that the scope of the exceptions will have been tested in court, offering third parties and patent owners certainty over what uses can be made of a patent without first seeking permission. This suggests that there are likely to be interim costs to users of introducing the exceptions.

Each of the options considered would permit some activities to be carried out with patented products without seeking permission to a greater extent than at present, as by ratifying the UPC Agreement the UK will bring certain patents under jurisdiction of the UPC. The options do however affect different patent owners, and third parties, to varying extents. The options also present differing degrees of legal certainty to the UK patent system.

The proposed inclusion of the additional exceptions will apply to two specialist technical fields and would therefore not affect all patent owners in the UK. Identifying the number of patents in a particular field can be done based on the International Patent Classification (IPC) reference. However, it is difficult to

quantify the number of patents that would be impacted by the different options in relation to the exception for computer programs. This is because patents which include a component for software cannot be counted due to the difficulty in identifying the diverse range of patents that may have claims involving software. Responses to our consultation also stated that there are many patents in different technology sectors which may be affected by the software exception.

We have a better understanding of number of plant breeder patents that the new exceptions might affect because these inventions are found under a limited number of specific IPC references. Between 1994 and 2014 there were 500 successful applications for plant breeders patents from the IPO and 2,200 at the EPO. This means that GB plant breeders' patents account for less than 0.5% of GB national patents and approximately 0.05% of all patents valid in the UK⁸. In a response to our consultation it was noted that although the number of plant patents in Europe was low, some of these patents were commercially important.

The UK has the fourth largest plant-breeding industry in Europe (the other major plant-breeding nations are Germany, France and the Netherlands); the majority of companies in the sector being multinational or European owned. Plant breeding businesses active in the UK are breeding for crops including cereals and grains, potatoes, oilseed rape and sugar beet.

It is also worth commenting that at present those involved in the software industry and those involved in plant breeding currently operate in a multi-layered system where different patent law, including exceptions to infringement applies in different territories. As yet, we cannot be certain if all other signatories of the Agreement will choose to adopt these new exceptions for their national patents (it is our view that they must adopt them for Unitary Patents and European bundle patents subject to UPC jurisdiction). At the moment, no European country has an exception relating to software that is similar to the one included in the UPC Agreement⁹. There are however, a small number of other European countries where there currently exists an exception relating to plant breeding (Germany, France and Netherlands).

Option 1

Costs

Legal uncertainty

The main implication of Option 1 is that we would in effect be creating two parallel systems, due to the fact that there would be two different sets of infringement exceptions within the territory of the UK. One would apply to EP(UK)s which have been opted out of the UPC and to GB national patents. The other would apply to Unitary Patents and EP(UK)s which have not been opted out. It would be unclear whether the infringement provisions used by the UPC or the UK courts would apply to an EP(UK) which has not opted out until the alleged infringer faced court proceedings. During transition, there is also the possibility of choosing whether to go to a national court or the UPC; if the patent is not opted out. This creates legal uncertainty to businesses in the relevant sectors.

This legal uncertainty extends to third parties, as it may not be immediately clear whether particular types of actions with a patented product would be permissible. This is due to the fact that the patent owner may choose to opt out of the UPC in order to extend the scope of protection (someone may only opt out once). They may also choose to withdraw their opt-out at a later date. This ability to move between the two exceptions frameworks would counteract potential benefits of the existing system

⁸ GB and UK patent totals above compared to UK IPO Facts and Figures and EPO estimates.

⁹ based on WIPO SCP compilation as of Sept 2013 , http://www.wipo.int/export/sites/www/scp/en/national_laws/exceptions.pdf

applying to a proportion of UK patents. However, it is worth noting that the transition period during which EP(UK) may be opted out lasts for seven years (and may be extended to fourteen years), which is a limited period of time when considering the long period of time the UPC will run for.

Administration costs

If people holding EP(UK)s for the relevant biological material or software covered by the UPC Agreement's exceptions wished to prevent the use of their patented products in the ways described in the Agreement, they would need to opt out their patent from the UPC. This may bring a cost to their business. It is not clear whether there will be a fee charged to cover the cost of administration for opting out of the UPC as yet – if there were to be a fee this would be a direct cost to business. Those wishing to opt out may also find that they incur some administrative cost themselves in doing so.

Benefits

Greater freedom of choice

This option would allow those that hold EP(UK)s to benefit from being able to take a decision over the extent to which they would permit the use of their products in the UK.

Wider benefits to innovation

This option will permit those involved in research and development in the plant breeding and software fields a greater degree of freedom to innovate than at present as any new Unitary Patents and EP(UK)s which have not been opted out of the UPC would be subject to the new exceptions. Following the transition period, opted out patents will continue to lapse, and the number of new EP(UK)s granted after the transition period will increase, meaning that in the long term there would be more certainty over whether the exceptions will apply.

Option 2

Costs

Costs to those who receive income from licensing patented products

Currently, patent owners are able to charge a licence fee for researchers to use a patented product for the purposes of some types of research which is not covered by the research exception. Therefore, those who license patents in plant products and computer programs could lose licensing revenue if the exceptions proposed come into force. However, this is an intermediate cost as it represents a benefit for third parties who would not need to pay for the license. There may be an economic cost if the losses of potential revenue from licensing mean that those involved in the software or plant breeding sectors are deterred from innovation.

We do not know the level at which these licensing activities take place. During consultation we received evidence, especially from those in the ICT sector, that there is potential for the loss of licensing income if we fully align these exceptions. It was noted by respondents that the extent of the loss of licensing revenue would depend on the interpretation of the exception by the courts.

However, given that these exceptions apply only to research & development, and not to the commercialisation of the product, we expect any licensing impacts to be small. Furthermore, there is a

chance that licence fees could increase. This would occur through an increase in demand for new products/services that result from the increased research and development which these new exceptions will allow.

Costs to the legal services

If there is an impact on licensing, as described above, then there will likely be a knock-on effect on those providing legal services to facilitate existing licenses. They would likely lose some income as they face decreased demand for their services in the long run. There would be decreased demand for licensing services and potentially decreased demand for litigation of infringement disputes. However, these are intermediate costs and do not affect UK GDP.

Administrative Costs

Existing license agreements may have to be renegotiated or redrafted to reflect the new exceptions. This may result in transitional costs as these agreements are updated. This cost will be borne by both patent owners and licensees.

Other Costs

We do not anticipate any significant administrative, policy or enforcement costs. There may be some initial familiarisation costs as those using patented products and patent owners adapt to the new exceptions. However, these exceptions are standalone exceptions which do not have an impact on others.

Benefits

Savings for licensees

The loss of licensing income for patent holders would represent a saving for those who would not be required to pay a license fee to commence research. This means that there is simply a transfer of costs from one party to another resulting in no net cost or benefit. However, the lower costs faced by researchers could result in increased investment in research & development. We do not know the value of license fees paid, and did not receive any information during consultation.

Administrative savings

The introduction of these two exceptions would mean that both patent holders and those considering research may find savings because of a reduction in administrative costs. This is because the exceptions remove the need to seek a license/permission to use the patented product. We assume that each time someone seeks permission to use a patented invention there must first be negotiations. The addition of these new exceptions removes the need to do this, so reducing the level of administration required resulting in a net saving for businesses. As this represents a reduction in costs to business we would expect that in the long run those resources would be used elsewhere by business.

Wider benefits to innovation

British companies may currently be inhibited from doing research using patented plant material or software products because of the limited exceptions to infringement in UK law and so may be disadvantaged. Introducing these exceptions will hopefully remedy this situation and improve innovation through increased ability to research and develop. Our consultation asked specific questions of those in the plant breeding and software industries to gauge this. Responses from those in the plant breeding industry were of the view that aligning with other major northern European countries which do have the exception would remove the competitive disadvantage currently experienced.

Legal certainty

If Option 1 were chosen, this would produce a two-tier system, where some EP(UK)s would be covered by the two additional exceptions to infringement in the UPC Agreement, whilst for others, the exceptions would not apply. This would create greater uncertainty amongst the research community as it would not be clear whether a product intended for research would be covered by the exceptions in the UPC Agreement, or not. This uncertainty could inhibit research & development of new products in the two technology sectors affected.

By fully aligning the law, third parties navigating the field would find it easier than at present as they would not have to determine which infringement laws applied in order to know if current or planned research would carry a risk of infringing a patent.

We are unable to monetise this benefit; however, during consultation, respondents from the plant breeding sector felt that the introduction of the exception provide them with greater clarity and certainty than they did before.

Option 3

Option 3 would create two parallel systems, however unlike Option 1, the split would be between European patents (including unitary patents and EP(UK)s whether opted out of the UPC or not) and GB national patents.

Costs

Legal uncertainty

The legal uncertainty faced by third parties would be that it would not be immediately clear whether particular uses of a patented product would be permissible, given that a patented product in the UK may be protected by either a GB national patent or an EP(UK) or Unitary Patent.

Loss of income from licensing products protected by EP(UK)s

For holders of EP(UK)s there may be some loss of licensing revenue as people may be able to use the patented product for research & development free of charge, in cases which at present they have to pay a license fee to do as there is no exception. If research & development leads to a product containing elements of the original patented product, then at the point of commercialisation a license would still be required. Under this option a patent owner would have no choice over this impact, unlike option 1 because all EP(UK)s are affected instead of just EP(UK)s litigated at the UPC.

As explained above, we are unable to quantify the number of patents which may be affected by the software exception. Nor have we received evidence of the levels of licensing income from research that patented products in the fields of software or plant breeding might generate.

Administrative costs

A third party would incur some administrative costs in finding out whether the product they are carrying out research on is protected by a GB national patent, preventing them from utilising the exception, or a European patent, which would enable them to do so.

These costs would be lower than the costs incurred if the researcher had to also find out if the EP(UK) was opted out of the UPC as in Option 1.

Benefits

Savings for licensees

There is a potential for licensees to make savings as there may be instances where a license is required to carry out the specific types of research that these exceptions permit. However, this is balanced by the loss of licensing income for those holding EP(UK)s, meaning that there is a transfer of costs from one party to another resulting in no net cost or benefit. We did not receive information from our consultation about the value of licenses, or how common it is to require a license for research & development. The lower costs faced by researchers could result in increased investment in research & development. If the new product contains elements covered by the patent in the original at the point of commercialisation, this would still require a license – limiting the amount of saving.

Administrative savings

Once a third party has determined whether the product is protected by a GB national patent or an EP(UK) or Unitary Patent, if they are able to proceed with their research due the exceptions they will be able to do so without the administrative costs of negotiating a license. If the exception does apply, they would still need to incur some administrative costs by ensuring they had a license to carry out the research. This option offers greater simplicity to third parties than Option 1, where patent owners may shift between opting out their patent from the UPC, and then choosing to use the UPC system.

As neither third parties nor holders of EP(UK)s would need to agree licenses for research & development permitted by the exceptions, there will be some administrative savings for both parties.

Greater freedom of choice

Whilst those with existing patents would not be able to jump between the two systems, this option would permit those considering applying for patents the choice over which regime they wish their patent to be in. This may mean that some organisations adjust their patenting practice to shift to taking out GB national patents should they wish to remain exempt from the exception for longer. If this behaviour were seen, this would be considered at review stage.

Wider benefits to innovation

As with Option 2 this will give those involved in R&D in the fields of software and plant breeding greater freedom to innovate where items are protected by EP(UK)s or Unitary Patents. This may lead to the development of new technologies or products. IPO figures show that in 2013 there were approximately 339,200 EP(UK) patents in force in the UK¹⁰ and that EP(UK) patents represent just under 85% of patents in force in the UK in 2013. We are unable to provide a breakdown of the proportion of European patents to GB national patents for the software industry due to patents relating to software being found under multiple classification headings (which are not limited to patents including a software element).

Legal Certainty

This option provides a more stable system than Option 1. If a third party knows whether a product is protected by a GB national patent they know that they cannot make use of the exception; and if the patent is an EP(UK) or Unitary Patent they will be able to use the exception irrespective of whether the patent is opted out of the UPC.

There may be some uncertainty about how the courts (both UK courts and the UPC) would interpret the exceptions, however this would be resolved as case law develops. If, following a review, the new exceptions were considered to work well – and if there were viewed to be advantages in doing so – they could be extended to GB national patents also.

¹⁰ Facts and Figures, 2012 and 2013 calendar years,

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/318346/Facts_and_Figures.pdf

Option 4

Option 4 combines the costs and benefits associated with Option 3 for those involved in work on interoperability and decompilation of software and for those involved in plant breeding the costs and benefits are as outlined in Option 2.

Costs of software exception

Legal uncertainty

As with Option 3, there will be some uncertainty for third parties over whether they can utilise the exception because not all patents in the UK would be subject to the exception. If a third party wanted to use the exception for decompiling and investigating interoperability of something protected by a GB national patent, they would risk infringing the patent.

Administrative costs

In order not to run the risk of infringing a patent, or of working outside the scope of a license, a third party would have to first check whether the product was protected by a patent, and then check whether this was a European patent or a GB national patent.

Loss of licensing income

The introduction of this exception for European patents would still mean that businesses operating in the UK with these patents may see a reduction in licensing income. Unfortunately, as already stated we have no estimates of the cost of this.

Benefits of software exception

Savings for licensees

For third parties that would like to make use of the exception in order to develop their own new products, there will be savings as they will be able to do so without seeking additional licenses for products protected by European patents.

Administrative savings

As with the other options, there will be some savings in costs of administration because the process of acquiring a license to carry out the activity permitted in the exception will not be incurred. The administrative savings benefit both third parties and patent owners as the administration of licensing affects both.

Freedom of choice

As with Option 3, this option would allow owners of software patents some choice over whether they would like future patents to be subject to this exception or not as they would be able to choose to follow the national route to obtain a patent.

Wider benefits to innovation

This option permits those interested in developing new products using software to do so license-free if they are building on products protected by European patents. This may mean that more innovation can take place in various sectors where software technology plays a role.

Costs of plant breeding exception

Costs to those who receive income from licensing patented products

By introducing this exception for both GB national and European (including Unitary) patents, this will mean that those currently receiving licensing income for the use of the patented product in the ways covered by the exception will lose out on this income stream. As with other options, we are unable to quantify the impacts of this.

In contrast to the software field where incentives to innovate may be lower if return from licensing is reduced, the impact for the plant breeding sector of introducing the exception in the UK may be less pronounced. Any loss of licensing revenues from the plant breeders exception will already be taken into account in research investment decisions as the exception already exists in the major plant breeding countries of France, Germany and the Netherlands

Costs to legal services

As with Option 2, there may be impacts on the legal services sector as less use of legal services may be required if the level of licensing for purposes of research is reduced.

Administrative costs

There may be transitional costs as existing licensing arrangements may need to be renegotiated due to the introduction of the exception. Both patent owners and licensees would incur this cost.

Benefits of plant breeding exception

Savings for licensees

Those that currently pay for a license to undertake research may make savings if their current actions would be covered by the exception. As already stated we did not receive information about the amount of licensing in the field, or about the value of licenses from consultation.

Administrative savings

There will be a reduction in the administrative burden on all parties due to the reduced need for licenses to carry out research.

Wider benefits to innovation

The introduction of this exception for plant breeding will open up opportunities to innovate in the sector, which may currently be inhibited by patents in the field.

Legal certainty

Knowing that the exception applies whether or not something is protected by a European patent or GB national patent gives both patent owners and third parties certainty that the actions permitted by the exception can be carried out without further investigation.

Risks and assumptions

The positive impact of the introduction of these exceptions is that it may result in increased research & development leading to innovation in the UK. As the proposed exceptions will increase the availability of research materials, no negative impact on the research environment is anticipated.

Many of the costs savings or income losses by various groups detailed earlier are intermediate costs and the net effect will be neutral. The analysis here also assumes that the exceptions result in a reduction in licensing and litigation. For all options considered, there is a small risk of an increase in patent litigation as parties seek to clarify the interpretation of the new exceptions through test cases. However, we are unable to estimate the scale of any change on the level of litigation at this time.

Wider impacts

The proposed changes will affect incentives to innovate differently for patent owners and for third parties. Those that may be looking to patent an invention may see reduced incentives to do so as they would face less revenue from licensing. For those involved in research, the exceptions will create positive incentives to innovate so impacts are mostly financial and economic. The proposed exception for plant breeding could lead to increased innovation in the use of patented biological material that could create positive impacts such as generating pest-resistant crops and have positive environmental and food supply impacts. For the software sector, the exception may stimulate innovation in interoperable products which may have been inhibited previously.

However, these are indirect impacts and the case laid out here relies on the economic impacts.

Distributional impacts

The three main directly affected groups are patent owners, legal services and researchers. Patent owners engaged in research & development activities may find that a reduction in license fee collection is offset by reduced license fee payments for research and development activities. The legal sector may find decreased demand for their services.

Impact on Micro Enterprises

Micro enterprises and SMEs are those which are most adversely affected by legal complexity and cost, and the need to take external legal advice. The innovative firms among them are also most directly affected by limits to their ability to develop new products and methods, and by differences in national regimes. An exceptions regime which is consistent with the UPC, is likely to benefit micro enterprises, so there is no reason to exclude them from this change.

As part of the implementation of the UPC and the Unitary Patent, the IPO will be providing guidance for SMEs.

Summary

Option 4 is the preferred option as it ensures that the legal framework for infringement exceptions in UK patent law meets the needs of the UPC Agreement, providing clarity for those holding European Patents in the UK and those potentially using them for research & development, whilst minimising negative impacts on business. This option also allows time for the system to be used and reviewed before extending the software exception fully to GB national patents.

The introduction of the exceptions for EP(UK)s and Unitary Patents should have positive impacts on innovation as there will be reduced costs to research and development relating to these patents. For the plant breeders exception, the extension to GB national patents will offer reduced administrative and licensing costs, so promoting innovation in the UK in this field. It also put the UK plant breeding sector on a level playing field with other major European plant breeding markets.

Option 4 meets the objective of implementing the Agreement in such a way as to ensure that the UK is in compliance with it, meaning that the enforcement of European patents is consistent across participating states. Option 4 also limits potential negative impacts of the introduction of these exceptions on two very different technology sectors.

In implementing the UPC Agreement the aim is for it to be as cost effective as possible, Option 4 offers lower administrative costs than Option 1, and differentiates between the industries affected by the two different exceptions. This gives the plant breeding industry the benefits of full alignment, which we have been told are desirable. Meanwhile, it gives those in the software industry time to acclimatise to the exception, which is new to patent law, and offers the chance for a review of the use of the exception in future, thus limiting the uncertainty of implementing a new, untested exception.

Whilst Option 2 offers potentially greater administrative savings, through applying a single set of infringement exceptions to all patents in the UK, it is not necessary to implement the exceptions for GB national patents. Option 2 does not provide a 'safe haven' for those wishing to wait and see how the software exception is used in practice. Option 4 should provide those in the software industry that are critical of the software exception with additional time to study the way that the exception is used.

Direct Costs and Benefits to Business Calculations (following OITO methodology)

The main direct cost to business is a loss of licensing income for owners of patent in either the software field or in plant breeding. However this is balanced out by the benefit of the introduction of the exceptions which will offer savings to those involved in R&D that currently incur licensing costs for use of patented items in the way that the exceptions will permit. This means that the introduction of the new exceptions to infringement will be of Zero Net Cost to business.

We anticipate that there will be additional benefit to business through the reduction of transaction fees (such as drawing up licensing contracts, invoicing and payment of licenses) which would potentially class this measure as an OUT. However, we are unable to quantify these as we do not have accurate data on licensing activity in these industries. Therefore, we consider this policy to be Zero Net Cost as the most cautious assessment we can make with the data available to us.

The other aspects of the UPC Agreement that have to be introduced in UK law are considered in IAs BISIPO005 and BISIPO006 which are Out Of Scope of OITO as they make minimal changes to UK law to ensure compliance with the Agreement (opinions for these IAs were received from RPC on 3 December 2014). The changes that will be made to the legislation will implement the UPC Agreement that was signed by the UK in February 2013. The changes we are proposing will only come into effect at the same time as the Agreement and associated Regulations come into force. The terms of the Regulations (Regulation (EU) No 1257/2012 and No 1260/2012) mean that they will only come into effect when 13 Signatory States have ratified the Agreement. The UK is one of three Signatory States which must ratify the Agreement in order for it to come into effect.

Evaluation

There will be a review of how the two new exceptions operate for EP(UK)s and Unitary Patents, and an assessment of the costs and benefits of extending the software exception to GB national patents also. This will take place five years after the UPC Agreement comes into force (likely to be in 2017).

The review will consider patenting behaviour by those in the software sector to see if there is a shift to national GB patents to avoid the exception. The review will also consider cases involving patents in the software field that are taken to the UPC or national courts to assess the way that the exception is treated by the courts. Information from businesses and business representatives will be sought to find out views of the costs and benefits of the exception after its use in practice.

The UPC Agreement will be reviewed after 7 years, or 2000 cases (whichever is first). As set out in Article 87 of the Agreement there will be a broad consultation with users about the functioning of the UPC. Depending on the outcomes of this review, the details of the Agreement may be reconsidered.