Version 2005/04/23
- Added reference to UK and German case law regarding **article 4(b) new**

Version 2005/04/22
- Fixed small numbering error: **recital 8** should be **9**, and **recital 9** should be **10**.

Version 2005/04/19
- Some small changes to the justifications of **article 2(b)** and **article 5(c)**
- Added amendment to restore **article 7.1** (5.1 in de Council version) of the EP's first reading
- Amendments to the recitals included

Version 2005/04/14
- Removed "***even when a technical apparatus is used for that purpose***" from **article 5 (c) (new)**. That article is not about what constitutes a patentable invention, but about what constitutes infringement. Running a program on a computer connected to technical device in order to perform a technical invention can constitute patent infringement.

Version 2005/03/31

- Cleaned up **article 4**: changed "invention" to "innovation" to stress that everything performed on a computer does not automatically become statutory subject matter)
- Removed "***production, handling, processing,***" from the list of things which should never be able to constitute direct or indirect infringement (**article 5 (c) (new)**). This simplifies the article and prevents misinterpretations that people could circumvent patents on technical inventions by performing them under control of a computer.

Version 2005/03/28 – 6:06 a.m.
- Initial version

Articles

Article 1

This Directive lays down rules *for the patentability of computer-implemented inventions.*

This directive lays down the rules *concerning the limits of patentability and patent enforceability with respect to computer programs.*

Justification

The term "computer-implemented invention" is not used by computer professionals. It is in fact not in wide use at all. It was introduced by EPO in May 2000 to legitimate business method patents, so as to bring EPO practice in line with the USA and Japan. The term "computer-implemented invention" implies that calculation rules framed in the terms of a general-purpose computer are patentable inventions.

This implication is in contradiction with Art 52 EPC, according to which algorithms, business methods and programs for computers are not inventions in the sense of patent law. It can not be the aim of the current directive to declare all kinds of "computer-implemented" ideas to be patentable inventions. Rather the aim is to clarify the limits of patentability with regard to automatic data processing and its various (technical and non-technical) fields of application, and this must be expressed in plain and unambiguous wording.

This amendment failed in first reading with 256 votes against and 255 votes in favour.

Article 2, point (a)

(a) "computer-*implemented* invention" means any invention the performance of which involves the use of a computer, computer network or other programmable apparatus, the invention having one or more features which are realised wholly or partly by means of a computer program or computer programs;

(a) "computer-*assisted* invention" means any invention *in the sense of the European Patent Convention* the performance of which involves the use of a computer, computer network or other programmable apparatus and having *in its implementation one or more non-technical* features which are realised wholly or partly by a computer program or computer programs, *besides the technical features that any invention must contribute;*

Justification

Art 52 of the EPC clearly states that a stand-alone computer program (or a "computer program as such") cannot constitute a patentable invention. This amendment clarifies that an innovation is only patentable if conforms to Art 52 of the EPC, regardless of whether or not a computer program is part of its implementation.

*This amendment was adopted in a slightly different form in the first reading of the EP. It said "computer-**implemented** invention" instead of "computer-**assisted** invention. The rationale for this change of terminology can be found in the justification for Article 1.*

Article 2, point (b)

(b) "technical contribution" means a contribution *to the state of the art* in a field of technology *which is new and not obvious to a person skilled in the art*. The technical contribution shall be assessed by consideration of the difference between the state of the art and the scope of the patent claim considered as a whole, which must comprise technical features, irrespective of whether or not these are accompanied by non-technical features.

(b) 'technical contribution', *also called 'invention'*, means a contribution in a field of technology. *The technical character of the contribution is one of the four requirements for patentability. Additionally, to deserve a patent, the technical contribution has to be new, non-obvious, and susceptible of industrial application. The use of natural forces to control physical effects beyond the digital representation of information belongs to a field of technology. The processing, handling, and presentation of information do not belong to a field of technology, even where technical devices are employed for such purposes;*

Justification

The Council text merges the invention (technical contribution) test with the non-obviousness (inventive step) and novelty tests, thereby weakening all tests, deviating from Art 52 EPC, and creating practical problems.

The "four forces of nature" are an acknowledged concept of epistemology (theory of science). While mathematics and data processing are abstract and unrelated related to forces of nature, it could nevertheless be argued that some business methods depend on the "chemistry of the customer's brain cells". These are however not controllable forces, i.e. subject to free will.

Thus the term "controllable forces of nature" clearly excludes what needs to be excluded and yet provides enough flexibility for inclusion of possible future fields of applied natural science beyond the currently acknowledged "4 forces of nature".

This concept has been formulated in most jurisdictions and even written into the law in some countries such as Japan and Poland. The classical justification for the "technical character" of "computer-implemented inventions" is not that the meaning of "technical" has changed, but that the computer indeed consumes energy in a controlled way, and that the "invention" must be "considered as a whole".

Critics of this view, e.g. the German Federal Patent Court, argue "the solution is completed by abstract calculation before, and only during the non-inventive implementation on a conventional data processing system, forces of nature come into play".

4

This amendment was adopted in first reading by the EP, except that the first sentence also contained "the state of the art"(because it might suggest a mingling of the subject matter and novelty tests).

Article 2, point (c) (new)

(c) 'field of technology' means an industrial application domain requiring the use of controllable forces of nature to achieve predictable results. 'Technical' means 'belonging to a field of technology';

Justification

The fact that a programmable apparatus, such as a generic computer, makes use of physical effects in order to process information should not be used to allow patent protection to the program running on such an apparatus.

This amendment also clarifies the undefined TRIPS term "field of technology"
.
This amendment corresponds to article 2(c) in the consolidated text of the EP's first reading.

Article 2, point (d) (new)

(d) 'industry' in the sense of patent law means automated production of material goods;

Justification

We do not want innovations in the "music industry" or "legal services industry" to meet the TRIPS requirement of "industrial applicability". The word "industry" is nowadays often used in extended meanings which are not appropriate in the context of patent law.

This amendment corresponds to article 2(d) in the consolidated text of the EP's first reading.

Article 3

In order to be patentable, a computer-implemented invention must be susceptible of industrial application and new and must involve an inventive step. In order to involve an inventive step, a computer-implemented invention must make a technical contribution.	*[deleted]*

Justification

The first sentence is already incorporated in the EP's Art 2(b). The second sentence mixes the "invention" or "statutory subject matter" condition (technical contribution) with the inventive step condition.

The Council borrows this "technical contribution in the inventive step" examination formalism from the European Patent Office, where it is used to allow generic computers running software to become patentable inventions.

With the Parliament's definitions, no extra conditions for patentability are needed besides those mentioned in Article 52 of the EPC (as referred to in Art 2(b))

Council proposal	Amendments by Parliament

Article 4

1. ***A computer program as such cannot constitute a patentable invention.***

2. A computer-***implemented*** invention shall not be regarded as making a technical contribution merely because it involves the use of a computer, network or other programmable apparatus. ***Accordingly, inventions involving computer programs, whether expressed as source code, as object code or in any other form, which implement business, mathematical or other methods and do not produce any technical effects beyond the normal physical interactions between a program and the computer, network or other programmable apparatus in which it is run shall not be patentable.***

1. ***[deleted]***

2. A computer-***assisted innovation*** shall not be regarded as making a technical contribution merely because it involves the use of a computer, network or other programmable apparatus.

Justification

The Commission's last minute amendments inserted at the Council 18 May 2004 meeting redefine a "computer program as such" to referring to "the source code or machine code of an individual computer program".

No-one is interested in patents on such individual computer programs. These insertions serve no regulatory purpose but rather impose an interpretation on Art 52 EPC which makes the law meaningless and are rejected by the German Federal Court and even by the EPO.

The "technical effects beyond the normal physical interaction ..."-doctrine is an EPO examination formalism introduced with the sole intention of making computer-implemented business methods patentable, as explained in Appendix 6 of a report sent by the EPO to the US and Japanese patent offices:http://www.european-patent-office.org/tws/appendix6.pdf (note 1 p. 5).

Changing "invention" to "innovation" is needed because "invention" is a synonym for "statutory subject matter" in the EPC. The original wording suggests that anything you do on a computer is per definition an invention (and thus becomes patentable if it is also new, non-obvious and industrially applicable).

Article 4, point (a) (new)

Member States shall ensure that data processing is not considered to be a field of technology within the meaning of patent law, and that innovations in the field of data processing are not considered to be inventions within the meaning of patent law.

Justification

Ensures TRIPS compliance by making sure software does not belong to a field of technology. Note that this does not exclude devices used for data processing from patentability. A computer can only perform data processing, but constructing a new kind of computer is an advance in electronic engineering and not in data processing.

This amendment corresponds to article 3 in the consolidated text of the EP's first reading.

Article 4 (b) (new)

Member States shall ensure that computer-implemented solutions to technical problems are not considered patentable inventions when they only improve efficiency in the use of resources within data processing systems.

Justification

Makes sure that making a program run faster or use less memory cannot be used as a justification to grant a patent. This codifies both UK case law (Gale's application) and Germany's case law (BpatG's ruling in the Error Search case). Without this amendment, pretty much all software can be considered patentable (one never writes software with the aim of making less efficient use of resources).

This amendment corresponds to article 6 in the consolidated text of the EP's first reading.

Article 5.1

1. Member States shall ensure that a *computer-implemented* invention may be claimed as a product, that is as a *programmed computer, a programmed computer network or other programmed apparatus, or as a process carried out by such a computer, computer network or apparatus through the execution of software.*

1. Member States shall ensure that a *computer-assisted* invention may be claimed *only* as a product, that is as a programmed device, or as a technical production process.

Justification

A process carried out by a computer per definition corresponds to software which is executed by said computer. We must make sure that only technical inventions, possibly executed under computer-control, can be claimed, and not just the software which is used to control them (nor that same software when run on an ordinary desktop computer when it is not used to control said technical invention).

This amendment corresponds to article 7.1 in the consolidated text of the EP's first reading

Article 5.2

2. A claim to a computer program, either on its own or on a carrier, shall not be allowed **unless that program would, when loaded and executed in a programmable computer, programmable computer network or other programmable apparatus, put into force a product or process claimed in the same patent application in accordance with paragraph 1.**

2. A patent claim to a computer program, either on its own or on a carrier, shall not be allowed**.**

Justification

It is contradictory to say that computer programs at the same time cannot be inventions, and saying that they nevertheless can be claimed in a patent. Additionally, the condition after the "unless" can always be fulfilled.

The Commission purposefully did not include these so-called "program claims" in its original proposal, as allowing patent monopolies on programs on their own is hard to defend if you at the same time want to maintain that "program as such" are not patentable.

Getting rid of this Council amendment is one of the most basic requirements. In first reading, the EP rejected a similar amendment, and the replacement is part of an amendment which was adopted (article 7 paragraph 2 of the consolidated version).

Article 5 (b) (new)

> **(b) Member States shall ensure that the distribution and publication of information, in whatever form, can never constitute direct or indirect infringement of a patent.**

Justification

The terms distribution and publication' take more account of cases of patent claims for commercial methods (in fact the processing of information) that exist in the United States and should not exist in the European Union.

This amendment corresponds to a less broad version of article 7 paragraph 3 in the consolidated text of the EP's first reading, in the interest of reaching a compromise with the Council.

Article 5 point (c) (new)

(c) Member States shall ensure that whenever a patent claim names features that imply the use of a computer program, a well-functioning and well documented reference implementation of such a program shall be published as a part of description without any restricting licensing terms.

Justification

These amendments do, unlike some may think, not serve to promote protect free/opensource software, but rather to ensure that the obligation of disclosure which is inherent in the patent system is taken seriously and that software is, like any other information object, on the disclosure side of the patent rather than on its exclusion/monopolisation side.

This makes it a little more difficult to block people from doing things you even haven't done yourself, but which are obviously possible since the computing model is perfectly defined and you always know what you can do with a computer. When you publish working source code you at least offer some real knowledge on how to solve the problem, unlike when you say in the claims language that a "processor means coupled to input output means so that they compute a function such that the result of said function when output through said output means solves the problem the user wanted to solve".

Note that this amendment does not require that the source code for all programs of the patent owner which use these features be disclosed. He only has to provide a single, simple implementation of the functionality he is monopolising.

This amendment corresponds to article 7 paragraph 5 in the consolidated text of the EP's first reading.

Article 6 (a) (new)

> **Member States shall ensure that, wherever the use of a patented technique is needed for <u>the sole purpose of</u> ensuring conversion of the conventions used in two different <u>data processing systems</u> so as to allow communication and exchange of data content between them, such use is not considered to be a patent infringement.**

Justification

Interoperability of data processing systems (e.g. computers) lies at the foundation of the information economy and allows for fair competition by all players large and small.

Article 6 of the Council only refers to the exemption provided for by the Copyright directive. This means that a software developer is allowed to find out how to make his data processing system interoperable with that of a competitor, but afterwards he cannot necessarily use his gained knowledge, since that could be covered by patents.

This amendment makes sure that patents also cannot be used to prevent interoperability. It was passed in an almost identical form by ITRE and JURI prior to the first reading (the second underlined part read "computer systems or networks"). In first reading, a more liberal version of this amendment was passed, which appeared as Article 9 in the consolidated version.

The first underlined part reverts to the spirit of the original ITRE/JURI version of this amendment (which is more conservative), which was also supported by Luxembourg and several others in the Council (but didn't make it).

Recitals

Recital 6

The Community and its Member States are bound by the Agreement on trade-related aspects of intellectual property rights (TRIPS), approved by Council Decision 94/800/EC of 22 December 1994 concerning the conclusion on behalf of the European Community, as regards matters within its competence, of the agreements reached in the Uruguay Round multilateral negotiations (1986-1994) 1. Article 27(1) of TRIPS provides that patents shall be available for any inventions, whether products or processes, in all fields of technology, provided that they are new, involve an inventive step and are capable of industrial application. Moreover, according to that Article, patent rights should be available and patent rights enjoyable without discrimination as to the field of technology. ***These principles should accordingly apply to computer-implemented inventions.***

The Community and its Member States are bound by the Agreement on trade-related aspects of intellectual property rights (TRIPS), approved by Council Decision 94/800/EC of 22 December 1994 concerning the conclusion on behalf of the European Community, as regards matters within its competence, of the agreements reached in the Uruguay Round multilateral negotiations (1986-1994) 1. Article 27(1) of TRIPS provides that patents shall be available for any inventions, whether products or processes, in all fields of technology, provided that they are new, involve an inventive step and are capable of industrial application. Moreover, according to that Article, patent rights should be available and patent rights enjoyable without discrimination as to the field of technology. ***This means that patentability must be effectively limited in terms of general concepts such as "invention", "technology" and "industry", so as to avoid both unsystematic exceptions and uncontrollable extensions, both of which would act as barriers to free trade. Thus inventions in all fields of applied natural science are patentable, whereas innovations in fields such as mathematics, data processing and organisational logic, are not patentable, regardless of whether a computer is used for their implementation or not***.

Justification

It must be made clear that there are limits as to what can be subsumed under "fields of technology" according to Art 27 TRIPS and that this article is not designed to mandate unlimited patentability but rather to avoid frictions in free trade, which can be caused by undue exceptions as well as by undue extensions to patentability. This interpretation of TRIPS is indirectly confirmed by lobbying of the US government last year against Art 27

TRIPS, on the account that it excludes business method patents, which the US government wants to mandate by the new Substantive Patent Law Treaty draft.

In its first reading, Parliament deleted this recital, and therefore the amendment that proposed the above change was not voted upon. Deletion is better than keeping the original, but clarification regarding the applicability and interpretation of the TRIPs agreement is even better.

Recital 7

(7) Under the Convention on the Grant of European Patents signed in Munich on 5 October 1973 (European Patent Convention) and the patent laws of the Member States, programs for computers together with discoveries, scientific theories, mathematical methods, aesthetic creations, schemes, rules and methods for performing mental acts, playing games or doing business, and presentations of information are expressly not regarded as inventions and are therefore excluded from patentability. This exception*, however,* applies *and is justified only to the extent that a patent application or patent relates to the above subject-matter or activities as such,* because the said subject-matter and activities *as such* do not belong to a field of technology.

(7) Under the Convention on the Grant of European Patents signed in Munich on 5 October 1973 and the patent laws of the Member States, programs for computers together with discoveries, scientific theories, mathematical methods, aesthetic creations, schemes, rules and methods for performing mental acts, playing games or doing business, and presentations of information are expressly not regarded as inventions and are therefore excluded from patentability. This exception applies because the said subject-matter and activities do not belong to a field of technology.

Justification

Art 52 EPC says that programs for computers etc are not inventions in the sense of patent law, i.e. that a system consisting of generic computing hardware and some combination of calculation rules operating on it can not form the object of a patent. It does not say that such systems can be patented by declaring them to be "not as such" or "technical". Amendment 5 fixes this bug by reconfirming Art 52 EPC (as suggested in Amendment 88 to Recital 5 (a) (new) above). Note that the exclusion of programs for computers is not an exception, it is part of the rule for defining what an "invention" is.

This amendment corresponds to recital 7 in the consolidated text of the EP's first readin.

Recital 9

Patent protection allows innovators to benefit from their creativity. Whereas patent rights protect innovation in the interests of society as a whole; they should not be used in a manner which is anti-competitive.

Patents are temporary exclusion rights granted by the state to inventors in order to stimulate technical progress. In order to ensure that the system works as intended, the conditions for granting patents and the modalities for enforcing them must be carefully designed. In particular, inevitable corollaries of the patent system such as restriction of creative freedom, legal insecurity and anti-competitive effects must be kept within reasonable limits.

Justification

Innovators can benefit from their creativity without patents. Whether patent rights "protect" or stifle innovation and whether they act in the interests of society as a whole is a question that can only be answered by empirical study, not by dogmatic statements in legislation.

This amendment was not approved in first reading.

Recital 10

In accordance with 43Council Directive 91/250/EEC of 14 May 1991 on the legal protection of computer programs, the expression in any form of an original computer program is protected by copyright as a literary work. However, ideas and principles which underlie any element of a computer program are not protected by copyright.

In accordance with Council Directive 91/250/EEC of 14 May 1991 on the legal protection of computer programs, *property in computer programs is acquired by copyright. General ideas and principles which underlie a computer program must stay freely usable, so that many different creators may simultaneously obtain property in individual creations based thereon.*

Justification

Copyright does not only apply to literary works, but also to textbooks, operation manuals, computer programs and all kinds of information structures. Copyright is the system of "intellectual property" for computer programs, not only a system for a "literary" side aspect of computer programs. If copyright does not cover the "underlying idea" of a book or a program then that is not an indication of an insufficiency of copyright but rather an indication of the need to keep "underlying ideas" (general concepts) free, so that many different creators have a chance to obtain property in individual works based on these general concepts.

This amendment was not approved in first reading.

Recital 11

In order for any invention to be considered as patentable it should have a technical character, and thus belong to a field of technology.	In order for any *innovation* to be considered a *patentable invention* it should have a technical character, and thus belong to a field of technology.

Justification

The Council text is not in line with Art 52 EPC. Art 52(2) EPC lists examples of non-inventions. It is not permissible to subsume these under "inventions" and then test their technical character. Moreover, while it can not be inferred from Art 52 EPC that all technical innovations are inventions, it can, based on a unanimous tradition of patent law, be assumed that all inventions have technical character.

This amendment was not approved in first reading

Recital 12

It is a condition for inventions in general that, in order to involve an inventive step, they should make a technical contribution to the state of the art.	***Deleted***

Justification

This amendments was newly inserted by the Council. It attempts to further codify the EPO's "technical contribution in the inventive step" doctrine. See the justification of the amendment to article 4 for more information about this.

This was a new recital from the Council.

Recital 13

(13) Accordingly, *although a computer-implemented invention belongs to a field of technology, where it* does not make a technical contribution to the state of the art*, as would be the case, for example, where its specific contribution lacks a technical character, it will lack an inventive step and thus will not be patentable.*

Accordingly, *an innovation that* does not make a technical contribution to the state of the art *is not an invention within the meaning of patent law.*

Justification

The Council text declares computer programs to be technical inventions. It removes the independent requirement of invention ("technical contribution") and merges it into the requirement of non-obviousness ("inventive step"). This leads to theoretical inconsistency and undesirable practical consequences, as explained in detail in the justification of our amendment to article 4.

This amendment corresponds to recital 14 in the consolidated text of the EP's first reading

Recital 16

(16) Furthermore, an algorithm is inherently non-technical and therefore cannot constitute a technical invention. Nonetheless, a method involving the use of an algorithm might be patentable provided that the method is used to solve a technical problem. However, any patent granted for such a method should not monopolise the algorithm itself or its use in contexts not foreseen in the patent.

Deleted

Justification

The nature of the problem solved should be irrelevant to patentability. It's the nature of the solution that counts. Problems are not invented, but solutions are, and it's the invention that must be technical (or have technical character).

This was a new recital from the Council.

Recital 19

(19) This Directive should be limited to laying down certain principles as they apply to the patentability of such inventions, such principles being intended in particular to ensure that inventions which belong to a field of technology and make a technical contribution are susceptible of protection, and conversely to ensure that those inventions which do not make a technical contribution are not susceptible of protection.

                                    deleted

Justification

Similarly to recital 13, this amendment claims that there are non-technical inventions. See the justification under the amendment to recital 13 for more information.

This was a new recital from the Council.