

1. Analysis of a number of somewhat conflicting ITRE and JURI amendments

This is an analysis of a number of ITRE amendments and JURI-amendments based on said ITRE-amendments. Because of the common origin, those amendments conflict in some cases. In this analysis, we try to show which amendments are best and include some extra amendments which are crucial to prevent this directive from introducing patentability of pure software and business methods.

Additionally, some other useful amendments (from ITRE, CULT and other places) are discussed as well.

Article 2, point (b) (ITRE-6)

(b) “technical contribution” means a contribution *to the state of the art in* a technical field which *is not obvious* to a person skilled in the art.

(b) “technical contribution” means a contribution, *involving an inventive step to* a technical field which *solves an existing technical problem or extends the state of the art in a significant way* to a person skilled in the art.

Justification

The conditions of inventive activity and advancement of the art are fundamental in order to avoid the patenting of trivial "inventions".

Analysis

Although we appreciate the intentions behind this amendment, unfortunately it is influenced quite heavily by the confusion spread by the CEC and JURI. Please see the enclosed “*Patents on computer-implemented inventions and pure software patents: what's in a name?*” document. The problems with this amendment are:

1. “Technical contribution” is a synonym for “invention” in patent law: it’s the knowledge contribution to society of the inventor, in exchange for a limited monopoly on the described applications of said contribution.
2. For an innovation to be patentable, the 4 conditions that must be fulfilled according to patent law are:
 - a. The innovation must be an invention (also called “technical invention”, “technical contribution” or “patentable subject matter”). “Invention” is only negatively defined in patent law (because one cannot know what all inventions in the future will be). This means that the law only gives examples of things which cannot constitute an invention (or a technical contribution). Examples are discoveries, scientific theories, mathematical methods, **programs for computers**, ... See <http://www.european-patent-office.org/legal/epc/e/ar52.html> for the full list (as described in article 52 of the European Patent Convention);
 - b. The invention must be new (so it may not yet belong to the state of the art);
 - c. The invention must contain an inventive step (it must not be an combination of known things which is obvious to a person skilled in the arts);
 - d. The invention must be industrially applicable (there is currently no legal definition of what “industry” means, and this condition is interpreted by the EPO as “the invention can be used in a way to make money”).

The above amendment still mixes the tests like the CEC version: it says that to be an invention (= technical contribution), the innovation must involve an inventive step. This means that the definition in point (a) above is voided, and pure computer programs can be patented (as a computer program can contain innovations which are not an obvious combination of known techniques).

3. “technical problem”: an invention is not required to solve a “technical problem”, but the invention itself must be technical. For example, a computer chip can only compute (i.e., perform very simple calculations very fast). Performing calculations fast is not a technical problem, but nevertheless it most certainly should be possible to obtain a patent on the design of a computer chip.

Proposed solution

We would propose the following amendment (not yet tabled by anyone):

*(2b) "technical contribution", also called "invention", means a contribution to the state of the art in a technical field. **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.***

Justification

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

This way, the conditions for patentability of EPC article 52 are properly restated in the directive, avoiding the introduction of patentability of pure computer programs using this paragraph..

Article 2, point (ba) (new) (JURI-45)

	<p><i>(ba) "technical field" means an industrial application domain requiring the use of controllable forces of nature to achieve predictable results. "Technical" means "belonging to a technical field". The use of forces of nature to control physical effects beyond the digital representation of information belongs to a technical domain. The production, handling, processing, distribution and presentation of information do not belong to a technical field, even when technical devices are employed for such purposes.</i></p>
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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 synthesises Am. 16 Cult, Am. 19 Cult, Am. 23 Ire, Am. 24 Ire. and Am. 25 Ire

Analysis

A directive which makes patentability hinge on the word "technical contribution" must explain this term clearly. Apart from "technical contribution", this amendment also defines the word "technical" as such, so that other expressions like "technical effect" etc become clearly defined as well. It is found in various national case laws and in some patent laws (e.g. Nordic Patent Treaty and patent laws of Poland, Japan, Taiwan et al).

This definition is based on valid concepts of science and epistemology and has been proven to have a clear meaning in practice. It assures that broad, expensive and insecurity-fraught broad exclusion rights such as patents are used only in areas where there is an economic rationale for them, and that abstract-logical innovation is the domain of copyright and copyright-like sui generis rights only.

This amendment has already garnered fairly wide support from people in several political groups.

Article 4, paragraph 1 (JURI-48)

1. Member States shall ensure that *a computer-implemented invention is patentable on the condition that it is susceptible of industrial application, is new and involves an inventive step.*

1. Member States shall ensure that *patents are granted only for technical inventions which are new, non-obvious and susceptible of industrial application*

Justification

Article 4(1) should be coherent with the amended version of Article 2. There must not be distinctions between patentable and non-patentable inventions. This amendment synthesises Am. 11 Cult, Am. 20 Cult, Am. 28 Ire, and Am. 29 Ire

Analysis

This amendment also removes the mixing of the patentability tests introduced by CEC and JURI. It simply restates article 52 of the European Patent Convention.

This amendment has already garnered fairly wide support from people in several political groups.

Article 4, paragraph 1 (ITRE-8)

1. Member States shall ensure that a computer-implemented invention is patentable on the condition that it *is susceptible of industrial application, is new, and involves an inventive step.*

1. Member States shall ensure that a computer-implemented invention is patentable *only* on the condition that it *makes a technical contribution as defined in Article 2(b).*

Justification

This wording makes the article consistent with the previous amendments.

Analysis

Again an amendment with good intentions, but which copies the mistake from the CEC version of distinguishing between the invention and the technical contribution, although they are the same thing. See the “*What’s in a name*” document as to why this is dangerous and can open the door to pure software patents. Additionally, whether or not this amendment has a useful effect depends on the passing of the proposed amendment 2(b), which is dangerous to rely on.

Proposed solution

Support the previous amendment (preferable⁷, because it has already garnered relatively wide support in different political groups, and it is also based on several ITRE amendments), or change “inventions” to “innovations” and repeat a proper definition of “technical contribution” (which is more or less what is numerated in the previous amendment) to avoid the situation of this amendment passing and yet having no effect whatsoever in case article 2(b) was not amended.

Article 4, paragraph 3 (JURI-52)

3. The technical contribution shall be assessed by consideration of the difference between *the scope of the patent claim considered as a whole, elements of which may comprise both technical and non-technical features*, and the state of the art.

3. The technical contribution shall be assessed by consideration of the difference between *all of the technical features of the patent claim* and the state of the art.

Justification

The wording of this article is self-contradictory, as it seems to state that a technical contribution may consist of non-technical features. One should ensure that the conditions of novelty and inventive step regard the technical contribution, otherwise any novel software running on a non-novel technical device could be patentable

This amendment synthesises Am. 32 Itr and Am. 33 Itr.

Analysis

This amendment once more reaffirms the conditions for patentability from art 52 of the EPC and excludes non-technical (i.e., non-patentable) features (such as computer programs) from making an innovation patentable. This amendment agrees on that count with the next amendment.

This amendment has already garnered fairly wide support from people in several political groups.

Article 4, paragraph 3 (ITRE-10)

<p>3. The technical contribution shall be assessed by consideration of the difference between the scope of the patent claim considered as a whole, <i>elements of which may comprise both technical and non-technical features</i>, and the state of the art.</p>	<p>3. <i>The significant extent of</i> the technical contribution shall be assessed by consideration of the difference between <i>the technical elements included in</i> the scope of the patent claim considered as a whole and the state of the art. <i>Elements disclosed by the applicant for a patent over a period of six months before the date of the application shall not be considered to be part of the state of the art when assessing that particular claim.</i></p>
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Justification

In a rapidly moving field such as that of the software and software-related industries, where most inventions come from SMEs, sometimes very small and young which rely more on cross-fertilisation than on law firms' advice, a so-called "grace period" is necessary to avoid that an inventor is deprived of his/her invention when s/he has made it public a few weeks before applying for a patent, usually so as to test the invention's attractiveness to the market. The reference to a grace period overlaps with an on-going debate in general patenting law, as a similar concept exists in some legal systems (in particular the US), but not in the European Union legislation nor in the rules of the European Patent Office. Introducing patentability of software inventions in Europe, while depriving the inventors of the flexibility of early communication would create an unnecessary bottleneck at the expense of innovative SMEs and of university-enterprise co-operation.

Analysis

The first part of this amendment mostly agrees with the previous one. The second part describes the introduction of a grace period for patents on “computer-implemented inventions”. Unfortunately, it is not very clear whether this would indeed improve the situation. The UK Patent Office recently performed a consultation on this topic (results are available at <http://www.patent.gov.uk/about/consultations/responses/grace/grace.pdf>) and the results are quite divided.

One voiced concern was that the current 18 month interval between the filing and the publication of a patent already makes it uncertain for innovators to see which parts of their competitors’ products will be covered by patents (and if so, to what extent). A grace period would extend this uncertainty period.

Additionally, a grace period which is only valid for “computer-implemented invention” may be incompatible with article 27 TRIPs, because it demands that all patentable subject matter is treated in the same way.

Proposed solution

Because of the above reasons, we prefer the previous amendment to article 4 paragraph 3, which does not include the grace period.

Article 5 (JURI-59)

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.

Member States shall ensure that a computer-implemented invention may be claimed ***only*** as a product, that is a ***set of equipment comprising both programmable apparatus and devices which use forces of nature in an inventive way***, or as a ***technical production*** process ***operated*** by such a computer, computer network or apparatus through the execution of software

Justification

The original wording of this article is confusing, since allowing to patent programmed generic computers would be equivalent to allowing to patent their software as such. Also, one must make sure that the production of information cannot be considered as an industrial production process.

This amendment synthesises Am. 24 Cult, Am. 25 Cult, Am. 37 Itr and Am. 38 Itr.

Analysis

This amendment ensures that inventions in mobile phones, consumer electronic devices and washing machines do not cease to be patentable simply because these devices use software, and at the same time that merely adding software to something unpatentable does not render it patentable, as advised by many (e.g. Prof. Bercovitz in the JURI hearing).

This amendment has already garnered fairly wide support from people in several political groups.

Article 5 point (a) (ITRE-12)

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**.

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

Justification

The effect of patents is to ensure an economic monopoly. It should not deter development and pursuit of innovation by competitors.

Analysis

As the previous amendment already includes this amendment (since it is based on the same ITRE amendment), we would propose the previous amendment instead of this one, as it more clearly states that simply a programmed computer (a computer could be seen as a “programmed device”) cannot be patented.

Granting patents on a “programmed computer” is the same as granting pure software patents, as the only way to actually use software, is by executing it on a computer. See the “*What’s in a name?*” document (the paragraph about *computer-implemented inventions*) for an explanation of how this does not exclude patents on inventions that also contain a programmed computer.

Proposed solution

For the reasons outlined above, we prefer the previous amendment.

2. Additional important points

Although the previously mentioned amendments are very good and go already a long way to fixing the directive so that it does not result in the introduction of patents on pure software, there are still a few more amendments which are required. The reason is that the directive was constructed from the ground up to allow pure software patents.

First of all, we propose to **reject all JURI-approved amendments to the recitals, except for am2JURI to recital 5 and am3JURI to recital 7 (a) (new)**. Especially harmful are Am4 to recital 11, Am5 to recital 12, Am8 to recital 13c, Am11 to recital 16 and Am13 to recital 18.

Crucial amendments to the CEC versions of the recitals (which are not yet mentioned above) can be found below, as well as some amendments to articles which have not yet been mentioned. The main goal is to codify the correct interpretation of article 52 of the EPC, in order to avoid allowing pure software patents.

Recital 7 (first tabling in plenary)

(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, *however*, applies *and is justified only to the extent that a patent application or patent relates to such 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

A clarification in accordance with article 52 of the EPC. The fact that computer programs as such are excluded from patentability, means that adding a computer program to an otherwise patentable invention does not render said invention unpatentable. It does not mean that adding a computer program to anything else (technical or not) makes the computer program patentable, as this recital seems to suggest.

Recital 11 (first tabling in plenary)

(11) Although computer-implemented inventions are considered to belong to a field of technology, in order to involve an inventive step, in common with inventions in general, they should make a technical contribution to the state of the art

(11) While computer programs are abstract and do not belong to any particular field, they are used to describe and control processes in all fields of applied natural and social science.

Justification

The Commission 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.

Note

The inconsistency and undesirable practical consequences are outlined in the analysis of the amendment to article 2(b) in the first part of this document.

Recital 12 (first tabling in plenary)

Accordingly, *where* an *invention* 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, the invention 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 in the sense of patent law.*

Justification

The European Commission text merges the "technical invention" test into the "inventive step" test, thereby weakening both tests and opening an infinite space of interpretation. This deviates from Art 52 EPC. It is theoretically inconsistent, and leads to undesirable practical consequences, such as making examination at some national patent offices infeasible.

Note

See also the "What's in a name" document and the analysis of the amendment to article 2(b) in the first part of this document.

Recital 13 (first tabling in plenary)

(13) A defined procedure or sequence of actions when performed in the context of an apparatus such as a computer may make a technical contribution to the state of the art and thereby constitute a patentable invention. However, an algorithm which is defined without reference to a physical environment is inherently non-technical and cannot therefore constitute a patentable invention.

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Justification

It is contrary to the goal of clarification to try to make an artificial distinction between mathematical algorithms and nonmathematical algorithms. To a computer scientist, this makes no sense, because every algorithm is as mathematical as anything could be. An algorithm is an abstract concept unrelated to physical laws of the universe.

Article 1 (first tabling in plenary)

This Directive lays down rules <i>for the patentability of computer-implemented inventions.</i>	This directive lays down the rules <i>concerning the limits of patentability and patent enforceability with respect to computer programs.</i>
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Justification

The term "computer-implemented invention" is not widely used. It was introduced by the EPO in a document from May 2000, where it served to legitimate patents on "computer-implemented business methods", so as to bring EPO practise in line with the USA and Japan. Much of the European Commission's directive proposal is based on wordings from this document (Appendix 6). The term "computer-implemented invention" is a hidden programmatic statement. It implies that algorithms, business methods and in fact all ideas are patentable inventions, provided that they are claimed in terms of general-purpose data processing equipment. 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 programs for computers to be patentable inventions. Rather the aim is to clarify the limits of patentability with regard to computer programs, and this must be expressed clearly and unambiguously.

Article 2, point (a) (first tabling in plenary)

<p>(a) “computer-implemented invention” means any invention the performance of which involves the use of a computer, computer network or other programmable apparatus and having <i>one or more prima facie novel</i> features which are realised wholly or partly by <i>means of</i> a computer program or computer programs;</p>	<p>(a) "computer-implemented invention" means any invention <i>in the sense of the European Patent Convention</i> the performance of which involves the use of a computer, computer network or other programmable apparatus and having <i>in its implementations one or more non-technical</i> features which are realised wholly or partly by a computer program or computer programs, <i>besides the technical features that any invention must contribute;</i></p>
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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.

Note

See “Can you give an example of how the proposed directive allows software patents?” in the “What’s in a name?” document as to why this amendment is so important.

Article 2, point (b) (first tabling in plenary)

(b) “technical contribution” means a contribution *to the state of the art in* a technical field which *is not obvious* to a person skilled in the art.

(b) "technical contribution", *also called "invention"*, means a contribution to the state of the art in technical field. *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.*

Justification

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

Article 2, point (bb) (new) (first tabling in plenary)

	<i>(bb) "industry" in the sense of patent law means "automated production of material goods";</i>
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Justification

The word "industry" is nowadays often used in extended meanings which are not appropriate in the context of patent law.

Note

This amendment removes the possibility for the EPO to interpret “industrial application” as “any way to make money” and instead restricts it to branches of the industry which require large investments to innovate. This way, interpretations such as the “lawyer industry” and the “accounting industry” are avoided.

Article 3 (a) (new) (first tabling in plenary)

Member States shall ensure that an innovation is not considered to belong to a field of technology merely because its implementation involves the use of a computer.

Justification

The European Commission text says that all ideas, including "computer-implemented business methods" etc, are patentable inventions. This is a too broad definition.

Article 4, paragraph 2 (ITRE-9)

2. Member States shall ensure that it is a condition of involving an incentive step that a computer-implemented invention must make a technical contribution.	<i>Deleted.</i>
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Justification

The Commission becomes redundant with the previous amendments.

Analysis

We completely agree with this assertion.

Article 4, paragraph 2 (a) (new) (first tabling in plenary)

	<i>Member States shall ensure that patents on computerised innovations are upheld and enforced only if they were granted according to the rules of Art 52 of the European Patent Convention of 1973, as explained in the European Patent Office's Examination Guidelines of 1978.</i>
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Justification

This amendment avoids deviation from the European Patent Convention and therefore provides increased coherence and clarity.

Analysis

Restatement of the EPC. Just like the CEC has spread its confusing unlimited patentability throughout the whole directive, we may as well do the same with our clarifying language.