Software patent directive amendment analysis

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Contents

1 Reject the Directive

1.1 Rejection

number	submitter	recmnd	text
40 = 41	Stroz; Lichtenberger and Frassoni	+	Rejects the Common Position

The case for rejection is a case against adopting a bad directive. Legal uncertainty over whether or not software patents are enforceable is better than the certainty that they are, especially since there are still other open avenues to structurally attack their validity outside this directive project. A bad directive would be very harmful to such initiatives.

If the Parliament opts for rejection, it should clearly state it does not reject the directive because it is "against a directive on this topic" or because "it does not want to be involved in this topic", because Commissioner McCreevy earlier on said that he would "respect the Parliament's wishes" if they reject it. The message must clearly be that the Commission did not do its homework and that the EP cannot be expected to build a directive from the ground up. That is the Commission's job.

2 Title and Purpose of the Directive

2.1 Title

number	submitter	recmnd	text
1	Rocard	+	DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the patentability of computer-controlled inventions
42 = 43	Kudrycka and Zwiefka; Bertinotti	++	Proposal for a directive of the European Parliament and of the Council on the patentability of computer-aided inventions
44	Murko, Manders, Wallis	o	Directive 2004/../EC of the European Parliament of the Council on the patentability of computer operated inventions

All amendments try to get rid of the misleading term "computer-implemented invention", which is very good. The offered alternatives are "computer-controlled invention", "computer-aided invention" and "computer-operated invention". Additionally, amendment 42/43 includes a clause in the justification to perform this substitution everywhere in the text. We prefer the term "computer-aided invention" because of the common use of the term "CAD/CAM" ("computer-aided design/computer-aided manufacturing"), but the other alternatives are more or less good as well, except that "computer-operated" is still too close to "computer-implemented" to be worth the effort of changing.

2.2 Article 1

number	submitter	recmnd	text
23	Rocard	+	This Directive lays down rules for the patentability of computer-controlled inventions, sometimes also known as computer-implemented inventions.
45	Ortega	++	This Directive lays down rules on the limits of patentability and on the enforceability of computer program patents.
46 = 47	Kudrycka and Zwiefka; Bertinotti	++	This directive lays down limiting rules for the patentability of computer-aided inventions.
48	Lichtenberger, Frassoni	+	This Directive lays down rules concerning the patentability of computer-assisted inventions.

These amendments remove more occurrences of the term "computer-implemented invention", and some (45/46=47) also explicitly note the goal is to limit rather than to affirm patentability.

3 Defining "Computer Aided/Implemented Invention"

3.1 Article 2 a

number	submitter	recmnd	text

24	Rocard	+	a) "computer-controlled 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 nontechnical features realised wholly or partly by means of a computer program or computer programs, besides the technical features which any invention must possess;
50 = 51	Kudrycka and Zwiefka; Bertinotti	++	"Computer-aided invention", also called "computer-implemented invention", means an invention in the sense of patent law the performance of which involves the use of a programmable apparatus;
52	Kauppi	+	"computer-implemented invention" means an invention within the meaning of the European Patent Convention, the performance of which involves the use of a computer, computer network or programmable apparatus.
53	Szejna	o	"computer-implemented invention" means any invention within the sense of patent law the application of which involves the additional use of a computer, computer network or other programmable apparatus as a control apparatus, which changes one or more features of the state of the art in a given field;
54	Lichtenberger, Frassoni	+	"computer-assisted invention" means any invention the performance of which involves the use of a computer, a computer network or other programmable apparatus and having one or more non-technical features which are realised wholly or partly by means of a computer programme or computer programmes besides the technical features that any invention must contribute.
55	Ortega	-	(a) "computer-assisted invention" means any invention within the meaning of the European Patent Convention the performance of which involves the use of a computer, computer network or other programmable apparatus, the invention having one or more non-technical features in its application which are realised wholly or partly by means of a computer program or computer programs, besides the features which any invention should provide;
56	Harbour	o	(a) "computer implemented inventions" means any invention within the meaning of the European Patent Convention, 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;

54 is similar to the amendment adopted in first reading, except that "implemented" was replaced with "assisted" and the reference to the EPC has been dropped, so it compromises with Commission criticism that the EPC cannot be embedded in EU law like that. 24 is similar.

Amendment 53 is similar to 54, except that it changes that phrasing to "in the sense of patent law". It mixes statutory subject matter and novelty, however.

Amendment 50 = 51 simplifies the first reading amendment and also uses the "in the sense of patent

law" phrasing.

Amendment 52 is also a simplified version of the first reading, keeping the "in the sense of patent law".

Amendment 55 is a weakened version of the first reading, by removing the requirement that the invention provides technical features ("technical" is removed, and "must" has been replaced by "should". Additionally, it still contains the "within the meaning of the EPC" phrasing.

56 takes on board the Commission and Council-criticised "within the meaning of the European Patent Convention", and leaves the Council text alone for the rest.

4 Definitions of Technical Contribution

4.1 Article 2 b

number	submitter	recmnd	text
25	Rocard	+	b) "technical contribution", also called "invention", means a contribution to a field of technology.
49	Mayer	-	(ba) Software makes a technical contribution in the case of the digital administration, processing and representation of data in so far as it directly makes use of the application of controllable natural forces for the immediate production of the result.
57 = 62 = 63	Mastenbroek and Lichtenberger; Kudrycka and Zwiefka; Bertinotti	++	An "invention" in the sense of patent law is a contribution to the state of the art in a field of technology. The contribution is the set of features by which the scope of the patent claim as a whole is claimed to differ from the prior art. The contribution must be a technical one, i.e. it must comprise technical features and belong to a field of technology. Without a technical contribution, there is no patentable subject matter and no invention. The technical contribution must fulfill the conditions for patentability. In particular, the technical contribution must be novel and not obvious to a person skilled in the art.
58	Szejna	-	"technical contribution" means an activity which changes the state of the art, which is essentially new and not obvious. The technical contribution shall be assessed by consideration of the difference between the state of the art and the state after consideration of the scope of the patent claim, which must comprise technical features, that is, applied to material systems such as structures and materials and materials, substances and energy, as well as their manufacture and processing, irrespective of whether or not these are accompanied by non-technical features.
59	Lichtenberger and Frassoni	+	"technical contribution" means a new way and non obvious for a person skilled in the state of the art to use forces of nature to solve a problem in a technical field ;

60	Ortega	++	(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;
61	Kauppi	++	(b) "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. The use of natural forces to control physical effects beyond the digital representation of information belongs to a technical field. The processing, handling, and presentation of information do not belong to a technical field, even where technical devices are employed for such purposes. The method of data processing by using a computer, network or other programmable apparatus is not considered to belong to a field of technology.
64	McCarthy	+	(b) "technical contribution" means the application of a new process using physical forces in an inventive and non-obvious way, subject to the following provisos: The process may require a computation using a computer, but the normal physical processes of a computer cannot be part of the "technical contribution": a new process using physical forces separate from all computation is required. The process may perform communication with computers or people, but the physical processes of a pre-existing communication apparatus cannot be part of the "technical contribution": a new process using physical forces separate from any pre-existing communication apparatus is required.
65	Gauzès	-	b) "technical contribution" means a solution to a problem in a field of technology.

49 states that "software" can "make a technical contribution". That's not true. If one has a computer-controlled washing machine, the (automated) washing process could contain a technical contribution, but the software steering it can't.

59 has good intentions, but on the downside it mixes patentability requirements.

61 is a reprise of the first reading definition of technical contribution, and is very good, although it puts a lot of different things in one amendment (the second part with positive and negative definitions of "field of technology" is also tabled as separate amendments by other members).

60 is the same as 61, except that the former does not contain the last sentence of 61.

57 = 62 = 63 clarifies the relation between "invention", "patentable subject matter", "technical contribution" and "field of technology" (TRIPs). It is complementary to several of the other definitions in this article. It uses the phrase "field of technology".

58 is quite complex and suffers from the problem that "the patent claim as a whole must comprise technical features" (which can be fulfilled by mentioning a computer somewhere).

64 also takes a completely new approach to technical contribution and while it contains good ideas and is a definite improvement over the Council version, it is quite complex and not very clear. It also mixes patentability requirements to some extent (technical contribution and novelty).

65 takes it to the other extreme and is extremely simple. On the downside, it does not identify any relation between the invention and the contribution, and can be interpreted as meaning that only the problem must be in a field of technology. 25, while remaining very succinct, fixes those problems.

4.2 Article 10 a (new)

number	submitter	recmnd	text
205	Lehne	-	A technical contribution is present if technical considerations contribute to the solution of a technical problem. A technical contribution is not present if the subject matter claimed in the patent solely consists of discoveries, scientific theories, mathematical methods, aesthetic creations, schemes, rules and methods for performing mental acts, playing games or doing business, programs for computers, or presentations of information, without limitation to new, non-obvious and technical subject matter that can be made or used in any kind of industry.

This amendment does not really clarify or limit anything. The "technical considerations" are easily fulfilled, because the European Patent Office considers e.g. that if automating a known process provides surprising economy of scale benefits, it is based on considerations of how a computer works.

The second sentence can be circumvented by merely adding the word "computer" to the claims, as the claim then no longer solely consists of "discoveries, ... , programs for computers, ...". It is even dangerous to a certain extent in that it suggests that the exclusion of those subject matters as such in the EPC simply means they may not appear on their own in the claims. Such a limitation would merely require a rewording of the claims, and not constitute any practical limitation whatsoever.

5 Defining "Technical" and "Field of Technology"

5.1 Article 2 b a/b/... (new)

number	submitter	recmnd	text
26	Rocard	+	"Technical" means "belonging to a field of technology". A new teaching about the use of controllable forces of nature, under the control of a computer program and beyond the technical devices required to implement the program, is technical. The processing, handling, representation and presentation of information by computer program are not technical, even where technical devices are employed for such purposes;

27	Rocard	+	(bb) "Field of technology" means an industrial field of application requiring the use of controllable forces of nature to obtain predictable results in the physical world;
67	Lehne	-	"Technical" means the identification of a physical effect which goes beyond the digital representation of information and the normal physical interaction between software and hardware of a computer, network or other programmable apparatus.
68 = 74	Kauppi; Ortega	+	"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".
70 = 71	Kudrycka and Zwiefka; Bertinotti	++	A "field of technology" is a discipline of applied sciences in which new knowledge is gained by experimentation with controllable forces of nature. "Technical" means "belonging to a field of technology";
72	Lichtenberger, Frassoni	+	"Technical" means "belonging to a field of technology"
73	Gauzès	-	"field of technology" means any activity directly or indirectly employing controllable forces of nature to achieve predictable results in the physical world such as electrical, radio, or light signals. Information processing for the purpose of carrying out or assisting such an activity must be considered to belong to a field of technology, whereas information processing for calculation, financial data handling, or word-processing purposes must not be considered to belong to a field of technology.
76	Lichtenberger, Frassoni	+	"Field of technology" means an industrial application domain requiring the use of controllable forces of nature to achieve predictable results.

Amendment 67 is somewhat confusing, as it is not clear what "identification" means in this context. Additionally, it uses the "normal physical interaction" doctrine of the EPO, which was introduced only to make computer-implemented business methods patentable.

Amendment 26 and 27 reprise art 2b of the first reading and gives a proper combined positive and negative definition for the TRIPs term "field of technology". Amendments 68 = 74 are part of this same amendment from first reading, with only the positive definition. Amendments 72 and 76 together are the same as amendments 68 = 74.

Amendments 70 = 71 are an improved version of the same amendment of first reading. A discipline is normally characterised not by its domain of application but by the way in which it gains knowledge.

Amendment 73 is very harmful as it states that data processing with a certain purpose can be considered technical. The correct approach is that the technical activity supported with data processing does not become unpatentable (e.g. an ABS break is patentable, but not the data processing used in the implementation of the system). Data processing in itself should never be patentable, as you are patenting abstractions this way (and "computer programs as such").

6 Positive and negative definition of "Industry"

6.1 Article 2 (various new)

number	submitter	recmnd	text
75	Ortega	+	"Industry" in the sense of patent law means automated production of material goods
77 = 78 = 79	Kauppi; Kudrycka and Zwiefka; Bertinotti	++	The production and distribution of information goods is not an "industry" in the sense of patent law.
81 = 82	Kudrycka and Zwiefka; Bertinotti	+	"Industry" in the sense of patent law means commercially organised production of material goods;

75 is a reprise of the industry definition from first reading.

81 = 82 is a slightly more liberal version of that amendment, by replacing "automated" with "commercially organised".

77 = 78 = 79 provides a negative definition of industrial application, by stating that the production and distribution of information good (such as computer programs) is not an industry in the sense of patent law. Carriers on which information goods can be stored (such as CD's or DVD's) are obviously not affected by this provision (a plastic disc filled with some metal-oxide is not an "information good").

7 Various definitions

7.1 Article 2 (new paragraphs)

number	submitter	recmnd	text
28	Rocard	+	(bc) "Information processing method" means any processing method handling digitally represented information, whatever the nature or origin of what it represents. These methods include digital information processing as such, but also the handling, representation or presentation of such information.
83	Lichtenberger, Frassoni	o	"information processing method" means any processing method handling digitally represented information.

Better would have been to define "data processing" instead of "information processing". 28 is nice because it clearly notes that the EPO's "physical data" theory is not acceptable (at the EPO, whether or not dataprocessing is patentable can depend on where the data comes from, even though you may be using exactly the same algorithm for exactly the same reasons when processing "physical" and "non-physical" data).

7.2 Recital 14 a (new)

number	submitter	recmnd	text

228	Lehne	-	Data processing in the sense of the directive does not cover the identification of physical effects and their conversion into data.

Physical phenomena and data are not mutually convertible, and "identification" is a mental activity.

Data processing does indeed not cover the physical phenomena that are represented by data and, since data processing has become an important antonym to "technology", it would be appropriate to say in the directive what it covers and what not. However the approach chosen here is unclear and inadequate.

7.3 Recital 16 a (new)

number	submitter	recmnd	text
16 = 236	Rocard	-	Methods for processing data represented in digital form are by their very nature algorithms and are therefore inherently non-technical. However, if information from the physical world is not captured in order to be represented digitally, a physical process for processing such information in hardware could have a technical character.

Although we agree with the spirit of the justification of this amendment, the amendment itself and the examples given are quite confusing. The difference must lie between whether or not the solution is already completed before the physical implementation starts. I.e., in case of a computer program, the solution is completed using mathematics and logic, and only then physical processes (the computer running on electricity) are applied to make the solution usable in the real world. This is not the case with e.g. the hydraulic valve example given in the justification.

8 Untangling Technical Contribution and Inventive Step

8.1 Article 3 (replacements and additions)

number	submitter	recmnd	text
85	Ortega	+	[deleted]
86 (replacement for 3) = 29 (3.1 (new))	Lichtenberger and Frassoni; Rocard	+	Member States shall ensure that inventions are patentable irrespective of whether or not they use computerised means and that, vice versa, no one may patent algorithms, software or information processing methods, whether or not they are combined with technical mechanisms.
87	Kauppi	+	In order to be patentable, a computer-implemented invention must be susceptible of industrial application and make a technical contribution. The technical contribution must be new and involve an inventive step.

88 = 89	Kudrycka and Zwiefka; Bertinotti	++	In order to be patentable, a computer-aided invention must make a technical contribution. The technical contribution must be new and involve an inventive step. If there is no technical contribution, there is no patentable subject matter, and no invention.
90	Szejna	+	In order to be patentable, a computer-implemented invention must make a technical contribution and be suitable for practical, including industrial, application, it must be new and change the current state of the art.
91	Lichtenberger, Frassoni	++	In order to be patentable, a computer-controlled invention must be new, susceptible of industrial application and involve an inventive step. The inventive step shall be assessed by consideration of the difference between all of the technical features included in the scope of the patent claim considered as a whole and the state of the art, irrespective of whether or not such features are accompanied by non-technical features.
30	Rocard	++	In order to be patentable, a computer-controlled invention must, in addition to being technical in nature, be new, susceptible of industrial application and involve an inventive step. The inventive step shall be assessed by consideration of the difference between the overall technical features in the patent claim and the state of the art, irrespective of whether or not such features are accompanied by non-technical features.

85 deletes the "technical contribution in the inventive step" article by the Council, which contradicted its own article 2(b) that says the technical contribution must be new and non-obvious instead of the other way round.

86 = 29 clarifies that data processing is not patentable and that conversely the use of data processing does not make technical inventions unpatentable.

87 uses a compromise wording which marries the EPO practice and Council text to the principle of the EP's first reading, at the expense of some clarity (the amendment does not make it entirely clear that the invention and technical contribution are equivalent). This problem is solved by 88 = 89.

90 also links technical contribution and invention, and sums up the other requirements of patentability.

91 is a reprise of a first reading amendment and makes it very clear only technical features can be used to pass the other patentability requirements (such as novelty and inventive step), similarly to 90. 30 is also quite similar to this one.

8.2 Recital 12

number	submitter	recmnd	text
212	Ortega	+	[deleted]

213	Szejna	-	All inventions must meet the requirement of making a technical contribution to the state of the art. The technical contribution must be new and not obvious to specialists in the given technical field. If it makes no technical contribution, the solution is not patentable, because there is no inventive step.
214	Harbour	-	In order to be patentable, inventions in general and inventions which can be realised by a computer program (computer implemented inventions) in particular must be susceptible of industrial application, new and involve an inventive step. In order to involve an inventive step, computer implemented inventions must in addition make a new technical contribution to the state of the art.
215 = 217	Kudrycka and Zwiefka; Bertinotti	++	It is a condition for inventions in general that they must make a technical contribution to the state of the art. The technical contribution must be new and not obvious to the person skilled in the art. If there is no technical contribution, there is no patentable subject matter and no invention.
11 = 216	Rocard; Lichtenberger and Frassoni	+	It is a condition for inventions in general that, in order to involve an inventive step, they should show a significant difference between the overall technical characteristics in the patent claim and the state of the art.

The original Council recital also codifies the EPO's "technical contribution in the inventive step" doctrine.

212 rightfully deletes the recital.

213 mixes technical contribution and inventive step

215 = 217 replace it with the general conditions of patentability and stress that technical character is the basic test for whether or not something is an invention.

214 only adds some extra rhetoric to the Council recital, but keeps the original meaning.

11 = 216 focus only on the inventive step condition and in this way elegantly remove the mixing of the "invention" and "inventive step" test from the Council version.

8.3 Recital 13

number	submitter	recmnd	text
12 = 220 = 221 = 222 = 223 = 224 = 225	Rocard; Harbour; Lichtenberger and Frassoni; Ortega; Kauppi; Kudrycka and Zwiefka; Bertinotti	++	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.
219	Szenja	o	If a computer-implemented invention is not technical in nature, then it does not satisfy the criterion of being an inventive step and therefore shall not be patentable.

219 is equivalent to the Council version and removes the misleading remarks from that text, but keeps the confusion between "technical character" (= statutory subject matter) and "inventive step".

The other amendments all fix this.

9 Negative Definitions of "Contribution" / "Invention"

9.1 Article 4.2 a (new)

number	submitter	recmnd	text
111 = 112 = 113 = 115	Kudrycka and Zwiefka; Bertinotti; Kauppi; Ortega	++	Member States shall ensure that data processing solutions are not considered to be patentable inventions merely because they improve efficiency in the use of resources within data processing systems.

These amendments codify both UK case law (Gale's application) and Germany's case law (German High Patent Court's ruling in the Error Search case). As the German court found: if an improvement of efficiency in the use of computing resources, such as time or data space, is deemed to be a technical contribution, then all computer-implemented business methods become patentable.

9.2 Article 4 bis (new) (and 3.2 (new))

number	submitter	recmnd	text
110 (4.2 a new) = 114 (4 bis new) = 92 (3.2 new) = 93 (3.2 new) = 95 (3.2 new) = 32 (4.2)	Ortega; Mastenbroek and Lichtenberger; Kudrycka and Zwiefka ; Bertinotti; Rocard	++	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.

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.

9.3 Recital 14

number	submitter	recmnd	text

13 = 226	Rocard	-	Accordingly, whilst computer-controlled inventions belong to a technical field, because their technical contribution lies outside the software that controls them, implementation on an apparatus such as a computer of an otherwise unpatentable method, such as a business method, data-processing method or any other method, in which the contribution to the state of the art is not technical in nature, cannot under any circumstances be considered a technical contribution. Accordingly, such an implementation cannot under any circumstances constitute a patentable invention.
227	Szejna	+	The mere applicationofan otherwise unpatentable method on an apparatus such as a computer is not in itself sufficient to warrant a finding that a technical contribution is present. Accordingly, a computer-implemented business method, data processing method or other method of a non-technical nature cannot constitute a patentable invention.

Unfortunately, 13 = 226 actually introduce the notion that software can make a technical contribution, by specifically talking about the "technical contribution (that) lies outside the software that controls them" (suggesting there could also be one in the software).

227 nicely removes the suggestion that there can be technical business and data processing methods.

9.4 Recital 15

number	submitter	recmnd	text
229	Lichtenberger, Frassoni	o	If the contribution to the state of the art relates solely to unpatentable matter, there can be no patentable invention irrespective of how the matter is presented in the claims. For example, the requirement for technical contribution cannot be circumvented merely by specifying technical means in the patent claim.

It's not entirely clear what the intention of this amendment is (replacing "claims" with "claim").

10 Disclosure of the invention

10.1 Article 3 (new paragraph)

number	submitter	recmnd	text
94 = 96	Kauppi; Lehne	o	The application for a patent must disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art.

94 = 96 repeat a general principle of patent law.

10.2 Article 6 a (new)

number	submitter	recmnd	text
158	Gargani	-	The content of patent contracts must be shared by means of appropriate publicity arrangements.

It is not clear what is meant by this amendment. Patent contracts fall outside the scope of this directive.

10.3 Recital 17 a (new)

number	submitter	recmnd	text
239	Kauppi	o	Member States shall ensure that the description shall disclose the invention as claimed in such terms that the technical solution can be understood, and state any advantageous effects of the invention with reference to the background art.
240	Lehne	-	Member States shall ensure that the description shall disclose the invention as claimed in such terms that the technical problem and its solution as well as the inventive step can be understood.

239 is ok, but simply repeats a general principle of patent law.

240 refers to the EPO's problem-solution(-effects) approach, which as explained in comments to amendments 15 and 231-235 to recital 16 allows the EPO to consider pretty much everything done with a computer as "making a technical contribution".

11 Definition of "Data Processing" and "Computer Program"

11.1 Article 4.1

number	submitter	recmnd	text
31	Rocard	o	1. A computer program as such, on any carrier or in the form of a signal, cannot constitute a patentable invention.
97	Ortega	++	[deleted]
99 = 100 = 101	Kudrycka and Zwiefka; Bertinotti; Kauppi	+++	Programs for computers are not inventions in the sense of patent law.
102	Manders	-	A computer program as such cannot constitute a patentable invention. Computer programs as such are effectively protected by copyright. The objective of the directive is to provide a proper legal certainty as an incentive for innovation for inventors and does not affect computer-programmers.

103	Lichtenberger, Frassoni	+	The content of a computer program cannot constitute a patentable invention. Software shall remain under the protection of copyright according to Directive 91/250 CEE.

31 has good intentions, but mixes the form of the claim and statutoriness.

97 correctly deletes the misleading "A computer program as such is not a patentable invention" inserted by the Commission at the last minute in the May 2004 Council meeting. This sentence is part of the Commission's attempt to redefine "computer program as such" into "the source code of one particular computer program", making the exclusion of Art 52 EPC powerless.

102 makes the Commission intention even more clear, and additionally states that somehow this directive by definition will not affect computer programmers. Moreover, having the legal certainty that one can be sued over patent infringement for selling a program entirely written by oneself is not an incentive for innovation. No directive is better than a directive which allows software patents.

99 = 100 = 101 improve upon the deletion of amendment 97 by adding a phrase equivalent to Art 52(2) to the directive. The "as such" clarification happens in amendments to Art 4(2).

103 is somewhat vague, since it is not entirely clear what "the content of a computer program" could mean.

11.2 Article 4.1 a/4.2

number	submitter	recmnd	text
98	Ortega	+	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.
104 = 105 = 106	Kauppi; Kudrycka and Zwiefka; Bertinotti	++	A computer program is a solution of a problem by calculation with the abstract entities of a generic data processing machine, such as input, output, processor, memory, storage as well as interfaces for information exchange with external systems and human users. A computer program may take various forms, e.g. a computing process, an algorithm, or a text recorded on a medium. If the contribution to the known art resides solely in a computer program then the subject matter is not patentable in whatever manner it may be presented in the claims.
107	Szejna	-	A computer-implemented invention shall not be regarded as making a technical contribution merely because it involves the use only of a computer, network or other programmable apparatus, with no practical possibility of its application in the starting and controlling of material systems. Accordingly, inventions involving exclusively computer programs, whether expressed as source code, as object code or in any other form, and those which implement business, as well as mathematical computational methods, texts recorded on a carrier and algorithms themselves shall not be patentable.

108	Frassoni, Lichtenberger	+	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, computer programs, 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.
109	Manders	o	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. 2a. 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.

98 is self-explanatory.

104 = 105 = 106 clarify the "as such" clause of Article 52(3) of the European Patent Convention, by noting that if "the contribution to the known art resides *solely* in a computer program" there is no patentable invention present. These amendments are based on the examination guidelines of the EPO before it allowed software patents.

107 keeps the "whether expressed as source code, object code" terminology from the Council. Additionally, one could say that every computer program can be used to "control material systems" (after all, a computer is material).

108 is slightly better than the Council version because it deletes the "whether expressed as source code, object code or in any other form". However, it keeps referencing the harmful EPO's "further technical effect doctrine", which, as explained in the justification of 104=105=106, was introduced by the EPO merely to enable them to be able to grant patents on computer-implemented business methods.

109 does not substantially change the Council text.

12 Product and Process claims

12.1 Article 5.1

number	submitter	recmnd	text
33	Rocard	+	1. Member States shall ensure that a computer-controlled invention may be claimed only as a product, that is as a device controlled by a programmed computer, a programmed computer network or other programmed apparatus, or as a technical process controlled by such a computer, computer network or apparatus through the execution of software.

116	Szejna	+	Member States shall ensure that a computer-implemented invention may be claimed as a product in the form of a machine or technical apparatus with the addition of a computer, computer network or other programmable apparatus or as a technical process which is started and controlled by means of sensors, circuit breakers and commutators through such a computer, computer network or other control apparatus.
117	Lichtenberger, Frassoni	+	Member States shall ensure that a computer-implemented invention may be claimed only as a product, that is a programmed device, or as a technical production process.
118	Ortega	++	Member States shall ensure that a computer-assisted invention may be claimed only as a product, that is a programmed device, or as a technical production process.
119 = 120 = 121	Kudrycka and Zwiefka; Bertinotti; Kauppi	++	Member States shall ensure that a computer-aided invention may be claimed as a product, that is as a programmed apparatus, or as a process carried out by such an apparatus.

116 is better than the Council version, but is overly complex (the inclusion of sensors, circuit breakers etc is no necessary).

117 is a reprise from first reading. 118 is a little better since it says "computer-assisted" instead of "computer-implemented". 33 is quite similar, though a bit more convoluted since it takes on board a lot of Council wordings.

119 = 120 = 121 simplifies the first reading definition by removing the "technical production" wording (this article is only about the form of the claims, not about patentability criteria).

13 Freedom of Publication

13.1 Article 5.1/2 a (new)

number	submitter	recmnd	text
122 = 123 = 141 = 143	Kudrycka and Zwiefka; Bertinotti; Kauppi; Ortega	++	Member States shall ensure that the distribution and publication of information, in whatever form, can never constitute direct or indirect infringement of a patent.
134	Szenja	+	Member States shall ensure that the production, processing, dissemination and publication of information in any form cannot be the basis of direct or indirect breach of patent law, even if patented technical apparatus is used to this end.
135	Frassoni, Lichtenberger	+	Member States shall ensure that the production, handling, processing, distribution and publication of information in any form can never constitute a patent infringement, either direct or indirect, even if a technical device is used for this purpose.

Freedom of publication, as stipulated in Art 10 ECHR, can be limited by copyright but not by patents. Patent rights are broad and unsuited for information. These amendments do not make any patents invalid, rather they limit the ways in which a patent owner can enforce his patents.

122 = 123 = 141 = 143 are more balanced than 134 and 135 (the latter are more or less reprises from the first reading, the others are compromises by limiting themselves only to the distribution and publication of information).

14 Disclosure of a sample program

14.1 Article 5.1/2 b/c (new)

number	submitter	recmnd	text
124 = 125	Kudrycka and Zwiefka; Bertinotti	++	Member States shall ensure that whenever a patent claim names features that imply the use of a computer program, an well-functioning and well-documented program text shall be published as part of the patent description without any restricting licensing terms.
140	Szenja	-	Member States shall ensure that in the event of a patent claim relating to technical features which install computer program applications, full documentation of such program applications shall require that they be presented as part of the patent description and in the form of specific examples, not in the form of separate, main or even additional patent claims.
144	Ortega	-	Member States shall ensure that whenever a patent claim names features entailing the use of a computer program, a well-documented operational reference application of that program is published as part of the description without any restriction on the licensing terms.

124 = 125 ensure that the obligation of disclosure is taken seriously, and that software is treated as a means of describing the invention, rather than as an invention in itself. The Commission's objection that patent law does not normally require the disclosure of a full reference implementation does not apply, because this amendment does not ask for a reference implementation but only for an accurate description.

140 is quite confusing and seems to be very broad.

144 is based on a similar amendments from first reading (and still contains the phrasing "reference implementation" the Commission and Council object to), but apart from that also contains several linguistic errors and does not ask for source code publication (only for the publication of an "application").

14.2 Recital 17 b (new)

number	submitter	recmnd	text

241	Kauppi	-	It would aid in the diffusion of information and the establishment of a comprehensive database of prior art, if patent applicants could, where feasible, but independently of the need for the purposes of sufficiency of disclosure to do so, file with each patent application relating to a computer-implemented invention a well-functioning and well documented reference implementation of a program suitable for use in implementing the invention, which can be made available to the public at the same time as the publication of the description.

This amendment requires very little, and if one of the art 5 1 b (new) amendments were to be adopted, this recital would weaken them by stating the requirement for releasing a well documented program-text is not about disclosure (while that is exactly the whole point of that article).

15 Program Claims

15.1 Article 5.2

number	submitter	recmnd	text
34	Rocard	+	In accordance with Article 3, Member States shall ensure that the use of information processing methods can never constitute a direct or indirect patent infringement.
126	Szejna	-	A claim to a computer program, as the major provision of the invention, cannot apply to a computer programme on its own or on a carrier. Member States shall ensure that a patent claim for a computer-implemented invention shall lead to a change in the state of the art.
127	Harbour	--	A claim to a computer program product, on its own or on a carrier shall be allowed only if the invention realised by a computer program would, when loaded or run on a computer, computer network or other programmable apparatus, have an antecedent main claim in the same patent with a product or process claim as described in Article 5.1.
128 = 129 = 130 = 131 = 132	Kudrycka and Zwiefka; Bertinotti; Kauppi; Lichtenberger and Frassoni; Ortega	++	A patent claim to a computer program, either on its own or on a carrier, shall not be allowed.
133	Lehne	--	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 computer, programmed computer network or other programmable apparatus, put into effect a product or process claimed for the invention in accordance with paragraph 1.

34 replaces this paragraph with one that states that the usage of data processing methods can never constitute patent infringement, directly or contributory. Although this is infinitely better than codifying program claims like the Council does, this amendment may go a little too far in the other direction.

In 126, it is unclear what is meant by "as the major provision of the invention". The second sentence is also not very clear, what is meant is possibly that the contribution to the state of the art must be in the claim.

128 = 129 = 130 = 131 = 132 briefly and clearly states that program claims (= claims on computer programs on their own) are not allowed.

127 does not change the Council version (the "antecedent claim" can always be written). 133 doesn't substantially change the Council version either. They both try to incorporate some properties of contributory infringement in an amendment about direct infringement, thereby convoluting the law and longstanding principles of patent law.

16 Limits of use of the patent

16.1 Article 5.2 a/b (new)

number	submitter	recmnd	text
136	Lehne	o	Where individual elements of software are used in contexts which do not involve the realisation of any validly claimed product or process, such use will not constitute patent infringement.
137	Harbour	-	A claim as described in paragraph 2 only gives protection for the use which is described in the respective patent.
138	Szenja	o	Member States shall ensure that using computer programs for purposes not contained in the scope of a patent claim cannot be taken as direct or indirect breach of patent law.
139	Lichtenberger, Frassoni	o	Member States shall ensure that the use of a computer program for purposes that do not belong to the scope of the patent cannot constitute a direct or indirect patent infringement.
142	Kauppi	o	Limitation of the effects of a patent The rights conferred by patents for inventions within the scope of this Directive shall not extend to: a. acts done privately and for non-commercial purposes, b. acts done for experimental purposes relating to the subject-matter of the patented invention, including non-commercial academic and research use.

136, 138 and 139 repeat a general principle from patent law: the scope of patent law by definition only extents to what is claimed. 137 additionally depends on the assumption that program claims are included.

142 also repeats some general principles from patent law.

16.2 Recital 17

number	submitter	recmnd	text
17	Rocard	+	The scope of the exclusive rights conferred by any patent is defined by the claims, as interpreted with reference to the description and any drawings. Computer-controlled inventions should be claimed solely with reference to either a product such as a programmed apparatus, or to a technical process carried out in such an apparatus. Accordingly, where individual elements of software are used in contexts which do not involve the realisation of any validly claimed product or technical process, such use will not constitute patent infringement.
237	Lichtenberger, Frassoni	+	The scope of the exclusive rights conferred by any patent is defined by the claims, as interpreted with reference to the description and any drawings. Computer-controlled/assisted inventions should be claimed only with reference to either a product such as a programmed apparatus, or to a technical process carried out in such an apparatus.
238	Kauppi	++	The scope of the exclusive rights conferred by any patent is defined by the claims, as interpreted with reference to the description and any drawings.

17 and 237 talk about the form of the claim (no program claims, which is good), and again repeat some general principles of patentability (usage not mentioned in the claims is no infringement).

238 simply removes the suggestion of the Council that an individual element of software could constitute patent infringement.

17 Interoperability Exemption from Patent Enforcement

17.1 Article 2 b a (new)

number	submitter	recmnd	text
66 = 69 = 80 = 84	Karas; McCarthy; Kauppi; Rocard	+	"Interoperability" means the ability of a computer program to communicate and exchange information with other computer programs and mutually to use the information which has been exchanged, including the ability to use, convert, or exchange file formats, protocols, schemas, interface information or conventions, so as to permit such a computer program to work with other computer programs and with users in all the ways in which they are intended to function.

A definition of what exactly interoperability means is good to have.

17.2 Article 6 bis (new)

number	submitter	recmnd	text
35	Rocard	+	Member States shall ensure that, wherever the use of a patented technique is needed for ensuring conversion of the conventions used in two different computer systems or networks so as to allow communication and exchange of data content between them, such use is not considered to be a patent infringement.
145 = 146 = 149	Rocard; Lichtenberger and Frassoni; Karas	+	Member States shall ensure that, wherever the use of a patented technique is necessary in order to ensure interoperability between two different computer systems or networks, in the sense that no equally efficient and equally effective alternative non-patented means of achieving such interoperability between them is available, such use is not considered to be a patent infringement, nor is the development, testing, making, offering for sale or license, or importation of programs making such use of a patented technique to be considered a patent infringement.
147	Szejna	+	Member States shall ensure that whenever it is necessary to use a patented technology solely to ensure the conversion of standards used in two different data processing systems in order to ensure communication and data exchange, such use is not considered breach of patent.
148	Manders	-	a. Member States shall ensure that a patented computer-implemented invention that is essential for enabling interoperability between programmable devices can be used on reasonable and non-discriminatory terms and conditions by third parties to enable interoperability between programmable devices. b. If a voluntary license on reasonable commercial terms and conditions cannot be obtained within a reasonable period of time, Member States shall apply Article 31 TRIPS to such a patented invention. c. It shall not be deemed reasonable if a potential licensee is forced to license its own technology that is essential for interoperability without any compensation or to agree to abstain from enforcing his own rights on such technology.
150	Lehne	-	a. Member States shall ensure that the non-commercial use of an interface for the sole purpose of ensuring interoperability with an otherwise non-infringing product, system, network, or service does not constitute a patent infringement. b. Any person requesting a licence for such use on a commercial basis may require the patent owner to grant a licence to the patented interface for such use on reasonable and non-discriminatory terms and on adequate conditions. c. This article applies without prejudice to the TRIPs agreement.

151 = 152	Lehne	-	Member States shall ensure that, where the use of an interface, which is protected by a patent for a computer-implemented invention, is indispensable for the sole purpose of ensuring interoperability, such as to ensure conversion of the conventions used in two different computer systems or network in order to allow communication and exchange of data content between them, this use of the interface is not considered to be a patent infringement.
153	Lehne	-	The Member States shall ensure that, in all cases in which the use of a patented technology for the conversion of the conventions used in at least two different computer systems is indispensable to enable data content to be communicated and exchanged between the computer systems, an applicant for a licence for that patented technology is entitled to be granted a licence on appropriate terms (compulsory licensing) in relation to the right-holder.
154	Kauppi	-	Member States shall ensure that wherever the use of a patented technique is needed for the sole purpose of ensuring interoperability of two different computer systems or networks so as to allow communication and exchange of data content between them, such use is not considered to be a patent infringement. Member States must ensure that the court may require a patent owner to grant a licence for such use having regard to the public interest in permitting access to the patented technique, provided that a licence is not otherwise available for such use on reasonable and non-discriminatory terms and conditions.
155	McCarthy	-	Interoperability exception The developing, testing, making, using, offering for sale or license, selling, licensing, or importing of a patented computer-implemented invention shall not require the authorisation of the patent owner, to the extent that use of the patented computer-implemented invention is indispensable to achieve the interoperability of the computer program with one or more other computer programs, in the sense that no equally efficient and equally effective alternative non-patented means of achieving such interoperability between them is available. The exceptions set out in this Article may not be interpreted in such a way as to allow its application to be used in a manner which unreasonably prejudices the right holders legitimate interests or unreasonably conflicts with a normal exploitation of the computer implemented invention, taking account of the legitimate interests of third party software developers to achieve interoperability and of end-users to have access to interoperable programs systems and networks and the need to use data on different computer systems.

156 = 157 = 159	Kudrycka and Zwiefka; Bertinotti; Ortega	++	Member States shall ensure that, wherever the use of a patented technique is needed for the sole purpose of ensuring conversion of the conventions used in two different data processing systems so as to allow communication and exchange of data content between them, such use is not considered to be a patent infringement.
160	Ortega	-	The development, examination, production, use, offering for sale, licensing, or import of a computer program incorporating a computer-implemented invention shall not require the authorisation of the patent holder where (a) the invention incorporated is essential in order to make the computer program interoperable with one or more computer programs, provided that those programs cannot be made interoperable by any equally efficient and effective alternative means not covered by a patent; (b) the computer program uses the computer-implemented invention to achieve such interoperability. 2. For the purposes of this Article, "interoperability" is defined as the ability of a computer program to communicate and exchange information with another computer program and reciprocally use the information exchanged, including the ability to use, convert, or exchange file formats, protocols, or interface or convention schemes or information, or conventions in such a way as to enable the computer program to work in conjunction with another computer program and with users in every form in which it is designed to operate.

145 = 146 = 149 is a bit dangerous, because of the usage of the expression "computer systems or networks". This could mean that conversion between two different file formats on the same computer (e.g. Microsoft Word to OpenOffice) could still infringe. Another example is interoperation between a computer and an mp3 player (an mp3 player may not be considered to be a computer system or a network).

35 is a narrowed down version of the amendment adopted in first reading (safeguarding interoperability, removing the overly broad "significant purpose"), although it suffers from the same problem as the amendments above.

148, 150, 153 and 155 all make their provisions completely powerless by referring to vague TRIPs provisions. This directive is the ideal place to concretise those provisions, by stating that an interoperability privilege does not prejudice the legitimate rights of patent owners (just like the exemptions for research and private use).

Additionally 153 talks about forced licenses, which is a very heavy-handed tool and not suited to the quickly evolving information economy.

151 = 152 is powerless since it talks about interfaces, which are unpatentable even at the US Patent Office. The exemption must relate to the algorithms and techniques required to interoperate, not to some general description of the interfaces to a system.

154 is a bit contradictory, since it first states that using a patented technique for the sole purpose of interoperability does not require a license, and next talks about forced licenses.

156 = 157 = 159 is a simplified version of the first reading amendment, and uses "data processing systems" which can both refer to different computer programs, devices and computer systems. 147 is very similar.

160 suggests that a computer program on its own can "incorporate an invention". Since computer programs are not inventions, this is impossible.

17.3 Recital 18 a (new)

number	submitter	recmnd	text
243	Ortega	-	In accordance with the TRIPS Agreement, no exception made to the enjoyment of patent rights should be interpreted in terms allowing it to be used in a manner entailing unreasonable damage for the right-holder or unreasonably at variance with normal exploitation of the computer-implemented invention, taking into account the legitimate interests of other computer program writers in achieving interoperability and the desire of end users to access systems and networks with interoperable programs and be able to use data on different computer systems.

Relativises freedom of interoperability by saying that a judge should decide whether to take it into account or not. It does not clarify TRIPs, but by repeating it it implies interoperability could not be allowed because it would interfere the "normal exploitation" of the patent.

17.4 Recital 21

number	submitter	recmnd	text
250 = 252	Harbour; Kauppi	+	This Directive should be without prejudice to the application of the competition rules, in particular Articles 81 and 82 of the Treaty.
251	Frassoni, Lichtenberger	o	The provisions of this Directive are without prejudice to the application of Articles 81 and 82 of the Treaty, in particular where a dominant supplier refuses to allow the use of a patented technique which is needed to ensure conversion of the conventions used in two different computer systems or networks so as to allow communication and exchange of data content between them.

250 = 252 removes the suggestion that interoperability should be handled through competition law.
251 does not significantly change the Council text.

17.5 Recital 21 a (new)

number	submitter	recmnd	text
254	Kauppi	o	The dominant supplier shall not be able to refuse to allow the use of a patented technique which is needed for the sole purpose of ensuring interoperability of two different computer systems or networks so as to allow communication and exchange of data content between them.

254 is ok per se, but not if it would be interpreted later as meaning that only dominant suppliers have to allow interoperability. This amendment also suggests interoperability should be handled through some form of compulsory license ("shall not be able to refuse to allow"), instead of automatically.

17.6 Recital 22

number	submitter	recmnd	text
21 = 255	Rocard; Lichtenberger and Frassoni	++	The rights conferred by patents granted for inventions within the scope of this Directive should not affect acts permitted under Articles 5 and 6 of Directive 91/250/EEC, in particular under the provisions thereof in respect of decompilation and interoperability. In particular, acts which, under Articles 5 and 6 of Directive 91/250/EEC, do not require authorisation of the rightholder with respect to the rightholder's copyrights in or pertaining to a computer program, and which, but for those Articles, would require such authorisation, should not require authorisation of the rightholder with respect to the rightholder's patent rights in or pertaining to the computer program. Moreover, where it is necessary to make use of a patented technique to ensure conversion of the conventions used in two different computer systems or networks so as to allow communication and exchange of data content between them, such use should not be considered as an infringement of patent.

21 = 255 add the equivalent of the interoperability privilege in the copyright directive for patents.

18 Importance of SMEs

18.1 Article 7 a (new)

number	submitter	recmnd	text
163	Alvaro, Wallis, Manders, Fourtou	-	To assist in the monitoring obligation set forth in Article 7 of this Directive, a Committee on Technological Innovation in the Small- and Medium-sized Enterprise Sector, hereinafter referred to as "the Committee", shall hereby be established. The Committee shall in particular: examine the impact of patents for computer-implemented inventions on small- and medium-sized enterprises and highlight any difficulties; monitor participation of small- and medium-sized enterprises in the patent system, with particular regard to patents for computer-implemented inventions, and consider and recommend any legislative or other EU-level initiatives related thereto; and facilitate the exchange of information with regard to relevant developments in the area of patents for computer-implemented inventions that might affect the interests of small- and medium-sized enterprises.

Apart from using the term "computer-implemented inventions", this amendment is particularly objectionable because of its misleading and propagandistic justification. All known independently held

European SME surveys show that the majority of European SMEs oppose software patents. There is no need for yet another EU Committee or body.

18.2 Article 7 bis (new)

nr	submitter	recmnd	text
164	Szájer	0	The Commission shall conduct a feasibility study looking to the establishment of a Fund for small and medium-sized enterprises to provide financial, technical and administrative support to small and medium-sized enterprises dealing with issues related to the patentability of computer-implemented inventions.

This amendment starts from the idea that SMEs do want software patents, but that they are just not informed well enough or that they just need a little money and administrative support to help them overcome a few basic hurdles. The problem is that most SMEs simply do not want software patents, even if they could obtain them very cheaply. They generally value the knowledge that they own what they write much higher than that they might win the patent lottery.

18.3 Article 8 a a (new)

nr	submitter	recmnd	text
167 = 168	Alvaro, Wallis, Manders, Fourtou	o	participation by small- and medium-sized enterprises in the patent system for computer-implemented inventions. Such report shall include data, to the extent available, regarding applicants for and recipients of patents for computer-implemented inventions;

More data is indeed better, but a study on the costs and benefits for companies of various sizes would be much more interesting than simply the amount of patents obtained by SMEs. This amendment also still talks about "computer-implemented inventions".

18.4 Article 8 g a (new)

nr	submitter	recmnd	text
174	Szájer	0	the feasibility study looking to the establishment of a Fund for small and medium-sized enterprises.

See comments to amendment 167 to article 7 bis (new).

18.5 Recital 20 a (new)

nr	submitter	recmnd	text

249	Alvaro, Wallis, Manders, Fourtou	--	Small- and medium-sized enterprises are essential to the economic success and global competitiveness of the European Union and its Member States. Intellectual property rights benefit small and medium-sized enterprises just as they do larger entities. To ensure that this Directive advances the interests of SMEs, a Committee on Technological Innovation in the Small- and Medium-sized Enterprise Sector should be formed. This Committee should focus on patent-related issues relevant to such enterprises and should bring these issues to the attention of the Commission as necessary.

One cannot say anything useful about "intellectual property rights" in general regarding any sector. Copyright benefits SMEs a lot and software patents do not, yet both are classifiable under the general term "intellectual property". This sort of dogmatic statement with the same misleading justification as for amendment 163 to article 7 a (new) does not belong in a directive.

A split before "To ensure that this Directive ..." with voting recommendation -/+ on the resulting parts might be acceptable, although one should be careful about forming new committees and the decision to do so does not necessarily belong into a recital.

19 Monitoring, Creation of Committees, Raising of State Quota

19.1 Article 7

number	submitter	recmnd	text
161	Speroni	o	The Commission shall monitor the impact of computer-implemented inventions on innovation and competition, both within Europe and internationally, on European businesses, especially small and medium-sized enterprises, including electronic commerce.
162	Lévai	o	The Commission shall monitor the impact of computer-implemented inventions on innovation and competition, both within Europe and internationally, on Community businesses, especially small and medium-sized enterprises, on the open-source community and on electronic commerce, in particular from the aspect of employment in small and medium-sized enterprises.

Art 7 is odd in the Council version. What should be monitored is the impact of the patents, not of the inventions themselves. None of the amendments addresses this. 161 removes "open source" from the subjects which should be monitored in particular.

19.2 Article 8 (changes and additions)

number	submitter	recmnd	text
36, 37, 39	Rocard	+	replaced "computer-implemented" with "computer-controlled" in paragraphs a, d and g

165 = 166	Lehne; Szájer	o	The Commission shall report to the European Parliament and the Council by*..... on: ... 3 years after the date of entry into force of this Directive
169	Kauppi	+	whether the rules governing the term of the patent and the determination of the patentability requirements, and more specifically novelty, inventive step and the proper scope of claims are adequate;
38 = 170 = 171	Kauppi; Lichtenberger and Frassoni	+	[deletion of paragraph f]
172	Lehne	o	developments in the interpretation of the terms "technical contribution" and "inventive step" by patent offices and patent courts in the light of the future evolution of technology.
173	Kauppi	o	whether the option outlined in the Directive concerning the use of a patented invention for the sole purpose of ensuring interoperability between two systems is adequate;
175	Kauppi	-	Whether difficulties have been experienced arising from the grant of patents for computer-implemented inventions which do not comply with the statutory requirements for patentability both in terms of whether the invention 1. involves an inventive step and 2. makes a technical contribution in accordance with Article 4.1 above, and as such should not have legitimately been granted.
176	Lehne	o	whether this Directive has performed the desired effects in terms of harmonisation and clarification of the legal rules governing the patentability of computer-implemented inventions.
177	Lehne	o	the developments of the world-wide patent systems in the area of computer-implemented inventions in terms of the aspects mentioned in this article (a to d and f to gb).
178	Manders	+	The Commission shall come forward within a year with a proposal for an effective European Community Patent there by allowing a democratic control by the European Parliament on the European Patent Office and the European Patent Convention.

179	Kauppi	+	Member States shall ensure that its representatives in the Administrative Council of the European Patent Organisation take such measures within their authority to ensure that the European Patent Office only grants European patents when the requirements of the European Patent Convention have been met, in particular with respect to inventive step and technical contribution as defined in Article 2(b). The Council shall provide a yearly report to the European Parliament on the activities of representatives of Member States that are Contracting States to the European Patent Convention in the Administrative Council of the European Patent Organisation, and the progress that has been made to achieving the objectives set out in Article 8A.1 above.

36, 37 and 38 are self-explanatory.

Regarding 165 = 166, waiting less long means that it will be less clear what the effects are, but on the other hand action can be taken sooner.

There is no need to review international obligations regarding patents, the EU's policy goals can be perfectly framed in them. 169 correctly scraps this suggestion from the Council text.

38 = 170 = 171 scraps a proposal to revise the European Patent Convention. The EPC is fine, and the last revision (in 2000) almost resulted in scrapping the exclusion of computer programmes from patentability. As other amendments state, this directive is not about changing the EPC or conditions for patentability, only about clarifying them.

172 is not bad, but these trends should not only be followed due to future evolution of technology, but more because of the impact of patents when applied to future developments.

173 is self-explanatory.

One cannot have an invention without a technical contribution (see amendment 57=62=63), however 175 suggests this is possible.

176 and 177 are ok apart from the use of the term "computer-implemented invention".

178 is well-intended, but probably falls outside the scope of this directive. This would only be possible by making the EU a subscribing member to the EPC, which probably requires the Community Patent.

179 addresses the Council instead of the EPO itself, so possibly does not require the Community Patent.

19.3 Article 9

number	submitter	recmnd	text
180	Lehne	o	In the light of the monitoring carried out pursuant to Article 7 and the report to be drawn up pursuant to Article 8, the Commission shall review the impact of this Directive at latest 2 years after having submitted the report, and, where necessary, submit amending proposals to the European Parliament and the Council.

See 165 = 166.

19.4 Recital 21 a (new)

number	submitter	recmnd	text
253	Alvaro, Wallis, Manders, Fourtou	-	Patents play an important role in European innovation. To ensure effective functioning of the patent system, it is important to monitor developments in this sector, including developments involving patents on computer-implemented inventions. To this end, relevant data should be gathered and appropriate reports produced. Such reports should include information pertaining specifically to participation by small- and medium-sized enterprises in the system of patents for computer-implemented inventions.

253 is a rehash from several things already in article 7 and 8, mixed with some rhetoric.

20 The Need for Harmonisation

20.1 Recital 1

number	submitter	recmnd	text
2, 181	Rocard; Lichtenberger and Frassoni	+	The realisation of the internal market implies the elimination of restrictions to free circulation and of unjustified distortions in competition, while creating an environment which is favourable to innovation and investment. In this context the protection of inventions by means of patents is one of the elements contributing to the success of the internal market. Appropriate, effective, transparent and harmonised protection of computer-controlled/assisted inventions throughout the Member States is essential in order to maintain and encourage investment in all technical fields involving the use of information technology.

2 uses the term "computer-controlled", 181 uses the term "computer-assisted". Apart from that small difference, they are identical.

Especially the addition of the word "appropriate" is commendable in these amendments. They correct the bias towards "more patents = better" bias inherent to the original text.

20.2 Recital 2

number	submitter	recmnd	text
3, 182	Rocard; Lichtenberger and Frassoni	+	Differences exist in the protection of computer-controlled/assisted inventions offered by the administrative practices and the case law of the different Member States. Such differences could create barriers to trade and hence impede the proper functioning of the internal market.

3 uses the term "computer-controlled", 182 uses the term "computer-assisted". Apart from that small difference, they are identical. Their only change is replacing "computer-implemented" with their respective

alternatives.

20.3 Recital 5

number	submitter	recmnd	text
4, 183	Rocard; Lichtenberger and Frassoni	+	Therefore, the legal rules governing the patentability of computer-controlled/assisted inventions should be harmonised so as to ensure that the resulting legal certainty and the level of requirements demanded for patentability enable innovative enterprises to derive the maximum advantage from their inventive process and provide an incentive for investment and innovation. Legal certainty will also be secured by the fact that, in case of doubt as to the interpretation of this Directive, national courts may, and national courts of last instance must, seek a ruling from the Court of Justice.

4 uses the term "computer-controlled", 183 uses the term "computer-assisted". Apart from that small difference, they are identical. Their only change is replacing "computer-implemented" with their respective alternatives.

20.4 Recital 8

number	submitter	recmnd	text
7 = 193	Rocard	+	The aim of this Directive is to prevent different interpretations of the provisions of the European Patent Convention concerning the limits to patentability. The consequent legal certainty should help to foster a climate conducive to investment and innovation in fields of technology and in the field of software.

A useful clarification which recapitulates the important distinction between technology and data processing

20.5 Recital 23

number	submitter	recmnd	text
22	Rocard	+	Since the objective of this Directive, namely to harmonise national rules on the patentability of computer-controlled inventions, cannot be sufficiently achieved by the Member States and can therefore be better achieved at Community level, the Community may adopt measures, in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty. In accordance with the principle of proportionality, as set out in that Article, this Directive does not go beyond what is necessary to achieve that objective,

256	Lichtenberger, Frassoni	+	Since the objective of the proposed action, namely to harmonise national rules on the patentability computer-assisted inventions, cannot be sufficiently achieved by the Member States and can therefore, by reason of the scale or effects of this action, be better achieved at Community level, the Community may adopt measures, in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty.

22 uses the term "computer-controlled", 256 uses the term "computer-assisted". There are some more small differences, but nothing really significant. Both fix the usage of the term "computer-implemented".

21 Meaning of TRIPs

21.1 Recital 6

number	submitter	recmnd	text
5	Rocard	+	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). 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-controlled inventions, without prejudice however to the legitimate interests of software authors as regards exploitation of their work, as stipulated by Article 13 of TRIPS, since computer programs are protected under copyright pursuant to Article 10 of this agreement.
185	Kauppi	+	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).

186 = 187 = 188	Kudrycka and Zwiefka; Bertinotti; Ortega	++	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.
189	Lichtenberger, Frassoni	+	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). 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-assisted inventions. Nevertheless, the field of software is not considered to be a field of technology.

All amendments remove the Council's incorrect claim that TRIPs mandates software patents. Some, like 4, 186=187=188, 189 add some extra provisions to clarify that forbidding software patents can be easily made TRIPs-compliant by noting that pure software innovations do not belong to a field of technology.

22 Interpretation of the European Patent Convention

22.1 Recital 5 (a) (new)

number	submitter	recmnd	text
184	Kauppi	+	The rules of the Convention on the Grant of European Patents signed in Munich on 5 October 1973, and in particular Article 52 thereof concerning the limits to patentability, should be confirmed and clarified.

Self-explanatory.

22.2 Recital 7

number	submitter	recmnd	text
190	Ortega	+	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 applies because the said subject-matter and activities as such do not belong to a field of technology.
6 = 191 = 192	Kudrycka and Zwiefka; Bertinotti	++	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.

190 leaves one instance of "as such", thereby largely nullifying its clarifying effect and still suggesting that computer programs etc can be made patentable by declaring them to be "not as such".

5=191=192 restore the first reading version of this recital.

22.3 Recital 8 a (new)

number	submitter	recmnd	text
194	Lehne		Member states shall respect the provisions of this directive when acting in the framework of the European Patent Convention.

195	Kauppi		The European Patent Convention provides that the European Patent Office is supervised by the Administrative Council of the European Patent Organisation, and that the President of the European Patent Office is responsible for its activities to the Administrative Council. The Administrative Council is composed of representatives of the Contracting States of the European Patent Convention, a clear majority of which is formed by Member States. These representatives shall exercise such measures within their authority to achieve compliance by the European Patent Office with this directive.

Although whether or not this provision is in our interest depends on the overall outcome, stating that the member state representatives who together govern the EPO have to take into account EU legislation and cannot simply do whatever they want, is a good principle to have.

23 What Patents are Good for

23.1 Recital 9

number	submitter	recmnd	text
8	Rocard	+	Patent protection may allow inventors to benefit from their creativity. Patent rights protect innovation in the interests of society as a whole and should not be used in a manner which is anti-competitive or excessively detrimental to the innovation derived therefrom.
196 = 197 = 198	Ortega; Kudrycka and Zwiefka; Bertinotti	++	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, users' rights or legal insecurity and anti-competitive effects must be kept within reasonable limits.
199	Kauppi	++	Patents are temporary exclusion rights granted by the state to inventors in order to benefit from their creativity and to stimulate technical progress. In order to ensure that the patent rights protect innovation in the interest of society as a whole and 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, users' rights or legal insecurity and anti-competitive effects must be kept within reasonable limits.

200	Lichtenberger, Frassoni	+	Patent protection allows inventors to benefit from their creativity. Patent rights protect innovation in the interests of society as a whole and should not be used in a manner which is anti-competitive or excessively detrimental to the innovation derived there from.

196 = 197 = 198 clearly state that patents are merely a policy tool which governments can use where they deem them to be beneficial to innovation and the economy as a whole.

199 adds that patents are also there for innovators to benefit from their creativity. This "natural rights" principle is however generally not accepted amongst law scholars as far as intangibles are concerned, because such rules introduce artificial scarcity (with tangible property, scarcity occurs automatically -- multiple people can't simultaneously use the same physical object).

200 is only a small improvement compared to the Council text.

8 is a bit better than 200, but still unconditionally states that "Patent rights protect innovation in the interests of society as a whole", although this is not true by definition (only if applied well as one of the tools available to economic policy makers).

24 Relations between Patent and Copyright

24.1 Recital 10

number	submitter	recmnd	text
201	Ortega	-	(10) In accordance with Council Directive 91/250/EEC of 14 May 1991 on the legal protection of computer programs, the ownership of computer programs is acquired through reserved rights. The ideas and general principles which underlie a computer program should be freely usable so as to enable different innovators simultaneously to acquire the ownership of creative works based on those ideas and individual principles.
202 = 203	Kudrycka and Zwiefka; Bertinotti	++	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.
9 = 204	Rocard; Lichtenberger and Frassoni	+	In accordance with Council 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, because they are algorithms which are comparable to mathematical methods or methods of presenting information.

201 seems to be a mistranslation in Spanish from the first reading amendment, "reserved rights" are merely a way to use copyright.

202 = 203 correctly notes that the fact that the "underlying ideas" of computer programs are not covered by copyright is a feature of copyright which promotes competition in the free market, and not an "error" which should be "corrected".

9 = 204 make a slight mistake: the algorithms underlying computer program are in fact mathematical methods and methods to present information, not just comparable to them. Additionally, computer programs themselves are of course also excluded from patentability.

25 Replace "invention" with "innovation" where patentability is not esta

25.1 Recital 11

number	submitter	recmnd	text
10	Rocard	++	In order for any innovation to be considered as patentable it should have a technical character, and thus belong to a field of technology. It must also be capable of industrial application, be new and involve an inventive step.
206	Kauppi	+	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. In order to be patentable, inventions in general and inventions which can be realized by a computer program in particular must be susceptible of industrial application, new and involve an inventive step.
207	Szejna	o	In order for any invention to be considered as patentable it should have a technical character, that is, it should apply to material systems such as structures and materials, as well as materials, substances and energy, and their manufacture and processing.
208	Lichtenberger, Frassoni	o	In order for any invention to be considered as patentable it should have a technical character, and thus belong to a field of technology. It must also be capable of industrial application, be new, and involve an inventive step.
209 = 210	Kudrycka and Zwiefka; Bertinotti	++	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.
211	Ortega	++	In order for any innovation to be considered as patentable it should have a technical character, and thus belong to a field of technology.

206 is ok overall, except that it would have been better if it had talked about "inventions realised with the help of computer programs", as a computer program itself cannot realise an invention.

207 is not really an improvement over the Council version, as it still talks about inventions as if there can be inventions without technical character.

9=208 suffers from the same problem as 207.

209=210 (=211 minus some translation differences) clearly states that when there is no technical character (or if the technical character is not yet established), one should not talk about inventions but

about innovations (innovation does not have a special meaning in European patent law, invention is however a synonym for "statutory or patentable subject matter"). 9 adds some extra references to the other conditions of patentability, but is otherwise equivalent.

26 Excuse for Patenting Algorithms

26.1 Recital 16

number	submitter	recmnd	text
230	Ortega	+	[deleted]
15 = 231	Rocard; Lichtenberger, Frassoni	++	Thus, an algorithm or computer program, which are inherently non-technical, can never be regarded as inventions. A computer-controlled technical procedure might be patentable to the extent that this process has characteristics which make it a technical contribution. However, any patent granted for such a process may not establish a monopoly on the algorithm or the program itself, as programs as such cannot be patentable, as stated in particular in Article 52(2)(c) of the European Patent Convention.
232 = 233 = 234 = 235	Kauppi; Szejna; Kudrycka and Zwiefka; Bertinotti	+	Furthermore, an algorithm is inherently non-technical and therefore cannot constitute a technical invention.

The original Council claims that algorithms are patentable if they are used to solve a "technical problem" ("a method involving an algorithm" includes algorithms as such). The EPO uses the problem-solution-effects approach to make pretty much everything, including computer-implemented business methods, patentable. As soon as one of those three things (problem, solution, effects) is technical, it's ok for them.

Examples of technical problems are the fact that you must use less computer memory or use less space on a computer screen. Examples of technical effects are automating something which is known and results in surprising economy of scale benefits.

230 properly deletes the original Council text.

232 = 234 = 235 clarify the Council text by removing the problem-solution approach, which suggests that if the problem is technical, the invention (= the solution) automatically becomes technical as well.

15 = 231 are even more clarifying, by noting that a computer-controlled/aided/assisted technical process is perfectly patentable, and by explaining the meaning of the exclusion of computer programs as such from patentability in the European Patent Convention.

27 Not a separate body of law

27.1 Recital 18

number	submitter	recmnd	text
18	Rocard	++	The legal protection of computer-controlled inventions does not necessitate the creation of a separate body of law in place of the rules of national patent law. The rules of national patent law remain the essential basis for the legal protection of computer-controlledinventions. This Directive simply clarifies the present legal position witha view to securing legal certainty, transparency, and clarity of the legislation and avoiding any drift towards the patentability of unpatentable methods in particular inherently non-technical methods such as algorithms, software, data processing methods or educational or business methods.
242	Lichtenberger, Frassoni	++	The legal protection of computer-assisted inventions does not necessitate the creation of a separate body of law in place of the rules of national patent law. The rules of national patent law remain the essential basis for the legal protection of computer-assisted inventions. This Directive simply clarifies the present legal position with a view to securing legal certainty, transparency, and clarity of the law and avoiding any drift towards the patentability of unpatentable methods, in particular inherently non-technical methods such as algorithms, software, data processing methods or teaching or business methods.

18 replaces "computer-implemented" with "computer-controlled", and additionally removes the ambiguous Council sentence, which could be interpreted that "technical business methods" should be patentable.

242 the same, except that it uses "computer-assisted" instead of "computer-controlled".

27.2 Recital 19

number	submitter	recmnd	text
19 = 244 = 245 = 246	Rocard; Kudrycka and Zwiefka; Bertinotti; Ortega	++	[deletion]

Similarly to Council recital 13, this newly inserted Council recital claims that there are non-technical inventions. This can obviously not be the case.

28 Strengthening EU in International Competition

28.1 Recital 20

number	submitter	recmnd	text

20	Rocard	++	The competitive position of Community industry in relation to its major trading partners will be improved if the current differences in the legal protection of computer-controlled inventions are eliminated and the legal situation is transparent. The present trend for traditional manufacturing industry to shift their operations to low-cost economies outside the Community, as well as the requirements for sustainable and balanced development, are factors to be taken into account when determining an appropriate level of intellectual property protection and in particular patent protection for technical inventions and copyright protection for software. The level of this protection, as well as the monopolistic effects it might create should be determined in a manner that will not prejudice the dynamics of competition and cross-fertilisation which are the key to the development of innovative small and medium-sized enterprises in the European Union with easy market access, which will serve to ensure the Community's future competitiveness.
247	Lichtenberger, Frassoni	++	The competitive position of Community industry in relation to its major trading partners will be improved if the current differences in the legal protection of computer-assisted inventions are eliminated and the legal situation is transparent. The present trend for traditional manufacturing industry to shift their operations to low-cost economies outside the Community, as well as the requirements for sustainable and balanced development, are factors to be taken into consideration when choosing an appropriate level of intellectual property protection and in particular patent protection for technical inventions and copyright protection for software. The level of this protection, as well as the monopolistic effects it might create, should be determined in a manner that competition and cross-fertilisation which are the key to the development of innovative small and medium-sized enterprises in the European Union with easy market access; such enterprises will be the guarantors of the future competitiveness of the Community.
248	Lehne	+	The competitive position of Community industry in relation to its major trading partners will be improved if the current differences in the legal protection of computer-implemented inventions are eliminated and the legal situation is transparent.

248 correctly deletes the Commission and Council's strange logic that introducing software patents will help against or compensate for outsourcing manufacturing. In fact, software patents make it more easy to outsource software R&D as well, since this allows such companies to gain European exclusion rights on their foreign software R&D (so it becomes harder for the left-behind European workforce to compete with them). Multinationals such as Philips are already outsourcing software R&D to China today, simply because China has a very highly trained and cheap workforce (and at the same time they want "protection" in Europe from the same Chinese companies who make use of that same workforce to develop products).

20 (= 247, except for “computer-controlled” instead of “computer-assisted”) adds additional nuances to the recital, noting that clarification of the law in itself is no guarantee for improved competitiveness (e.g., making it clear that software must be patentable would not be better than being in doubt over whether or not that is the case).