

Opinion of the Economic and Social Committee on the 'Proposal for a Directive of the European Parliament and of the Council on the patentability of computer-implemented inventions'

(COM(2002) 92 final — 2002/0047 (COD))

(2003/C 61/25)

On 4 March 2002 the Council decided to consult the Economic and Social Committee, under Article 95 of the Treaty establishing the European Community, on the above-mentioned proposal.

The Section for the Single Market, Production and Consumption, which was responsible for preparing the Committee's work on the subject, adopted its opinion on 11 September 2002. The rapporteur was Mr Retureau).

On 19 September 2002, at its 393rd Plenary Session, the Economic and Social Committee adopted the following opinion by 43 votes to 18, with 9 abstentions.

1. Introduction to intellectual property regimes

1.1. Industrial patents create temporary operating monopolies for their inventions, subject to specific conditions, and for the benefit of and within the limits of the claims made by patentees. The conditions for patentability generally accepted in Europe apply to an invention of a technical nature, which is not obvious to a person skilled in the art, and thus makes a 'new contribution to the state of the art'. An invention must also have 'industrial applicability'. It may be a technical object or a (manufacturing) process in the material world, as opposed to the immaterial world of theories and ideas.

1.2. Obtaining a patent implies proof of progress with respect to the state of the art. The major patent offices keep databases on patents issued, which must include descriptions and explanations to make it possible to reproduce the protected invention. An essential feature of the patent concept is that the temporary monopoly awarded to the patentee (contrary to ideas of free competition and free markets) is compensated by making public the technical know-how and new knowledge brought to bear by the invention, which thus directly contributes to technology transfer and the dissemination of knowledge.

1.2.1. The quality of a patent depends, apart from the significance of the innovation, on the quality of the manifold skills and expertise implemented, firstly by the inventor and then by the patent experts and advisors and the patent office examiners (in-depth knowledge of the state of the art and the search for precedence, backed up by top quality databases which are constantly kept up to date). Given the territoriality of substantive law, registration must take place in the various countries for which protection is requested. These are cumbersome

and costly procedures, which were only partially simplified by the 1973 Munich Convention on the European Patent (EPC) for its member countries in Europe and at international level by the PCT (Patent Cooperation Treaty) which can extend protection to member countries of the relevant conventions and treaties of the World Intellectual Property Organisation (WIPO). The EPO deals with registrations made under the Patent Cooperation Treaty.

1.2.2. The Committee would like to take this opportunity to repeat how crucial it is to have effective protection of intellectual and industrial property to step up investment, competitiveness, innovation and therefore growth for businesses and the creation of skilled jobs in the Community. The Committee has already insisted, and reiterates its request to the Council, that the registration costs and periodic dues remain moderate, so that patents are accessible in particular to SMEs-SMIs. As these costs increase with the number of countries of registration and translations, it is therefore important for the Community patent to be truly accessible.

1.3. It is clear and universally accepted that intellectual creations, fundamental discoveries and scientific theories about the properties of matter, mathematics (equations, algorithms, set theory, the calculation of probabilities, matrix operations, fuzzy logic, etc.), which are applied directly in data processing or software programming are not patentable. The theories of relativity or quantum mechanics, the discovery of radioactivity or nuclear fission cannot be protected by law, as they are abstract ideas, fundamental scientific discoveries, although radioactivity or nuclear fission, for example, may provide the theoretical basis for industrial applications with considerable social and economic value (energy, medicine).

1.4. Some intellectual creations, such as the works of literary authors, painters, photographers, sculptors, film-makers, musicians, lyricists, etc. which can be marketed in various material forms (publication in different media) or publicly performed, are protected by the copyright regime. For a good thirty years, computer software has been covered at international (WIPO, then WTO) and European (national rights or exclusion from the EPC) level by copyright. Some countries, however, (United States, Japan, etc.) have changed their laws and have recently allowed patents on software and even on intellectual methods. In these countries 'novelty' and 'utility' are sufficient criteria, which means that many patents, are issued for 'inventions', which, in Europe would come under the utility model (confirmation of internet purchases with a mouse click, but also — and by the EPO — a patent on a computerised programme for choosing music to play in supermarkets).

1.5. Author's rights have per se a more directly international impact, as they do not require filing fees or dues to be paid, although substantive law, like patent law always comes under the national jurisdiction of each country. They are therefore easily granted, sometimes on condition of registration in some countries (Latin America, etc.) or first publication in others ('copyright' in English law) or any other way of proving the work's precedence and the author's identity. Author's rights are thus protected almost freely and universally compared to patents, which in general are quite costly (EUR 50 000 to EUR 150 000 for a European patent).

1.6. Given the increasing role of fundamental and applied research in industry, the ever growing contribution of knowledge and 'immaterial' components in new technologies (embedded software, programmed electronic components, 'intelligent' or 'virtual' machines, etc.), it now sometimes seems more difficult to draw a line between the two main legal systems for intellectual property without calling into question their essential premises. With adaptation and greater flexibility in some areas, the patent should continue to be applied to procedures and inventions which produce material effects in the physical world, even if they comprise tailor-made software to do so (ABS braking, digitally controlled machines, guiding instruments, etc.), which is implemented by sets of electronic components and input/output extensions (for which the assembled whole is similar to a computer). As for copyright, it should continue to be applied to intellectual creation and publications in the fields of culture, literature, science or software programmes, even if the material media for these works has profoundly changed in some instances (multimedia,

electronic networks, television), and although their copying and illegal use have become relatively easy, which affects the ways and means in which rights are protected — and which have been enhanced in recent years — overall the legal arrangements for property remain, subject to adaptation, adequate.

1.6.1. Nonetheless, the question is to provide better definitions of the most suitable adaptations to the traditional forms of protection or to define the protection *sui generis* in order to provide the best guarantees for intellectual property rights that affect the new technologies and the information and communication society without obstructing the dissemination of knowledge and technology. Depending on the case, discussions have focussed either on *sui generis* regimes (semi-conductor topography, new plant varieties) or on more or less extensive overhauls of the traditional legal regimes, to make them more flexible and better suited to the nature of the technologies and the general interests of society (for example, the imposition of 'national licences' or cheap, compulsory licences for patents on medicines, in order to fight epidemics; limits to the scope of application in the protection of biotechnologies, etc.). It is a question, and one that is a classic legal and ethical problem, of striking a balance between exercising a legitimate right (right to intellectual property, recognised as a right of the human person) and the legitimate rights and interests of other people and society, to promote the general interest.

1.7. An embryonic body of Community law on intellectual and industrial property is developing (software directives, biotechnologies, electronic circuit board designs, EU trade mark, geographical indications and designations of origin, etc.). However, the lack of a Community patent, which the Community failed to introduce in the 1970s, is regrettable and has led to the legal vacuum being filled by the strictest of all regimes, that of intergovernmentalism: the 1973 Munich Convention on the European patent — EPC — and the establishment of the European Patent Office (EPO). The arrival of a Community patent has been delayed yet again by serious political and legal difficulties in the Council — due in particular to linguistic issues (pretexts) and objections to the creation of a specialist European jurisdiction⁽¹⁾ — which the Committee would like to see overcome in the Council.

1.8. With the development of the NTICs, particularly the open and universal interoperable network, i.e. the internet, the permanent creation of programmes to operate the different hardware which make the network an area of freedom, expression and communication as much as a medium for the net economy, together with the creation of applications for communication, trade, capital flows, education or administration, it is appropriate to ask whether the patent system is suitable for these new technologies. Although copyright has

⁽¹⁾ ESC Opinion 282/98, OJ C 129, 27.4.1998.

been applied to computer programmes (compilers, languages, operating systems and applications), the internet has not been patented, its regulatory bodies are establishing standards and preserving the universality and interoperability of the world network, which is undeniably an essential aspect of the development of the new technologies of the knowledge-based society and the growth of numerous industrial and service sectors.

1.9. But universality and interoperability together with the low cost of internet access, which are essential for democracy and for the economy, are sometimes threatened by the registration of patents that affect internet standards and the software essential for it to operate, and which must remain, as far as possible, open and, whatever happens, free of charge. This is a fundamental question and Europe should play a more active role to protect a tool of universal value as an inalienable public asset, as much for businesses, universities and research centres, who play an essential role in its development and for software innovation, as for administrations or private individuals.

1.10. Software programmes are essential both to the development of these network technologies and to the improvement of data processing tools or various automated machines in industry. They are used in an increasing number of services or innovative technological objects, some of which are profoundly affecting everyday life, culture and social relationships.

2. The Commission proposal

2.1. The proposal requests Member States to introduce 'the patentability of computer-implemented inventions' (Article 1, Scope) into national legislation, either through statute law or case law, and thus oblige patent offices in all the Member States to grant patents for such inventions, as the EPO does, despite the exclusion allowed in the EPC, in order to 'unify' the jurisprudence of the national courts.

2.2. The definitions set out in Article 2 state what such inventions and their characteristics are understood to mean in the draft directive.

2.3. The performance of such an invention involves the use of a computer, computer network or other programmable apparatus (Article 2(a)).

2.4. The definition of 'technical contribution' as 'a contribution to the state of the art in a technical field which is not obvious to a person skilled in the art' (Article 2(b)) is a standard one, but this 'prima facie' novel technical contribution is 'realised wholly or partly by means of a computer program or computer programmes'.

2.5. Given that a programme is a series of instructions, the purpose of which is to process digital or analogue data, the technical contribution is therefore inseparable from and largely, if not wholly, dependent on the execution of one or several programmes in a programmable computer or similar apparatus.

2.6. However, any 'computer-implemented invention' is 'defined as belonging to a field of technology' (Article 3). This means that items of software, (the invention may be entirely implemented by software, i.e. comprise software and the method or result of data processing, or perhaps include databases), are automatically related to a technical field and are thus considered *de facto* to fulfil some of the fundamental requirements for patentability (technical invention, contribution to the state of the art).

2.6.1. In addition to the requirements outlined above, Article 4 (conditions for patentability) also demands the additional, traditional requirement for a patent to be issued, whereby the invention must have 'industrial applicability'.

2.7. Article 5 (Form of claims) provides that inventions may be claimed as 'products', i.e. as programmed computers or programmed networks or as 'processes' through the execution of software.

2.8. Article 6 maintains the provisions on the legal protection of computer programmes by copyright in Europe, as set out in Directive 91/250/CE, which allow reverse engineering, decompilation, for the purpose of interoperability or personal software backup copies. The provisions concerning semiconductor topographies and trade marks also remain unaffected.

3. General comments

3.1. The Directive makes it possible to patent a programmed computer or programmed network or a process implemented through the execution of a programme. Any innovation made in this way is automatically considered 'to belong to a field of technology', even if the result is derived entirely from software operations. The door thus seems wide open to a software patent, as no programmable electronic hardware can operate without software and as the distinction between software 'by itself' and 'software producing technical

results', the product of legal casuistry, is indefinable in practice as all software is made to run on a computer or an electronic component, either as a system or as an application. This extension of the scope of application of patentability could thereafter be extended without limit to software programmes and intellectual methods at successive legal rulings of the technical chambers of the EPO, irrespective of the exclusion provided for in Article 52 of the EPC.

3.1.1. Although for the time being the scope of application of the Commission's proposal for a directive concerns computer-implemented inventions, to which are attached the classic, cumulative criteria limiting the field of application of patentability — which will not satisfy those in favour of purely and simply abolishing all limits on the field of application of patent law — the text is, nonetheless, a *de facto* acceptance and justification of the *a posteriori* drift of EPO jurisprudence. While at first glance the directive seems to advocate something less extreme than the pure and simple abolition of Article 52(2) of the EPC, which is what the EPO executive and some Council members want, it does nonetheless open the way to the future patentability of the entire software field, in particular by the admission that the 'technical effect' can amount to the simple fact of a program running on a standard computer.

3.1.2. The step towards patenting business methods has already been envisaged by the EPO executive, using the model of internal interpretation applied to software programmes (Appendix 6 of the internal rules for examiners, entitled 'Business Methods', is unambiguous in this respect). By analogy, other methods could progressively be included in the scope of patentability, such as teaching methods, which can also, like business methods, be implemented through software programmes or on electronic networks, particularly the internet.

3.2. An increasing number of apparatuses contain electronic components and software programmes: digital video cameras and camcorders, aeroplanes, satellites, cars, industrial analysing instruments, automatic surveillance and warning systems, industrial robots, programmable machine-tools etc. The complete list would be long and it is constantly growing. It therefore seems essential to consider that a 'technical effect' can only be a creation or an effect of a material nature, that is an action in the physical world.

3.3. Otherwise, as every computer-implemented invention [and therefore totally or partially implemented by software] is *ipso facto* considered by the proposed directive to belong to a field of technology, this is likely to mean that all software used

will be treated as technical inventions subject to patents, which would seriously blur the distinction between the legal arrangements applicable to software, depending on whether it is considered 'by itself' or 'totally or partially implementing a technical invention'.

3.4. This muddle is made worse by Article 6, which seems to maintain the legal copyright arrangements for programmes implementing inventions with a new 'technical effect', while at the same time including them in patent law. But the arrangements authorising decompilation, the development of interoperable applications and copying for personal use, provision for which is made in the software directive and more generally by the copyright regime, would amount to counterfeiting or illegal copying under the patent regime.

3.5. One may well wonder what the real objective of the Directive is, in particular given the explanatory memorandum, which begins with considerations about the need to protect the software industry against piracy, and in the documents appended to the Directive discusses almost exclusively software and the 'software industry', whose influence on the proposal seems excessive yet entirely irrelevant, if the scope of application was really as limited as the Commission maintains.

3.6. Software programmes are the result of modular processes, which often re-use entire portions of code and are also incremental, building on existing functionalities. Furthermore, interoperability requires older computers, components and applications to have sufficient upward compatibility so that they do not have to be replaced with each new version of the operating system or processors.

3.7. Software is now so complex because it is the natural outcome of a process whereby knowledge has been accumulated and broadened, the usual process for intellectual and scientific activities, which build on previously accumulated knowledge (or on criticism of them). The scientific and technical knowledge contained in technical objects is not of the same nature as the hardware components. Knowledge can thus be shared, disseminated or given without losing its value. As far as software is concerned, the cooperative processes whereby programmes are produced in universities or in public research laboratories, for example, form part of the dissemination of knowledge, which is indispensable to the knowledge-based society. The patents regime could obstruct this cooperation and the free circulation of free or open source software.

3.8. Given the nature of software, together with the lack of in-depth examination and the lack of a requirement to register source code in countries which use a software patent, the door would be open in Europe, as is already the case in other countries, to hostile legal proceedings for counterfeiting, which would be unverifiable unless the code was published, and even in this case, large blocks of code would necessarily be the same (current instructions in programmes, algorithms to sort or

compress images or text, file formats, etc.). The risk of a proliferation of lawsuits requiring costly and time-consuming technical and legal expertise, as can be seen in the United States, would not be beneficial to SMEs, who might go under despite winning a legal action brought by a competitor with sufficient financial resources or who could be taken over or forced to give out overlapping licences, sharing the innovation with a dominant company, which would not have had to lay out the initial research investment. These processes favour anti-competitive practices and concentrations.

3.9. Moreover, the Commission gives no explanation as to how the patent would provide better protection than copyright against the unauthorised copying of proprietary software. No effective economic analysis has shown the alleged benefit for SMEs-SMIs of patents for 'computer-implemented inventions'. Feedback from the free/open source software sector, which includes opinions in favour of a *sui generis* regime, has been dismissed on the pretext that only the proprietary model can create wealth and employment, whereas up until now in Europe, this sector has developed economically under the copyright regime, which has not been a hindrance to investment. For the most part, the opinion that has been credited is that of a dozen large software houses, most of which are not European. Furthermore, an opposing opinion from other large firms has been ignored, as have some counter-proposals which advocate a *sui generis* regime or an adapted utility model.

3.10. Neither does the proposal clearly define the concept of a network, i.e. this could mean the internet. A patent for an invention implemented on the internet, a public arena, and which cannot therefore consist exclusively of software, could become possible under the draft directive. The freedom of the internet, the essential medium of the communication, information and knowledge-based society, is at stake.

3.11. The Commission proposal thus makes decisions about a democratic issue and a market in which consumers still have choices to make. Patents will enhance monopolising positions. They would threaten the continued existence of the free/open source model and the disinterested shareware forms of development, offer innovations and a competitive alternative, which give invaluable service to society and the economy.

3.12. Is it wise in today's world to widen the scope of patents, tools of the industrial age, to intellectual works which are immaterial, such as software, and to the results of running software on a computer? The reply is quite explicit and partisan in the presentation of the proposal for a directive and the impact assessment form. The narrow field of vision that has been adopted, based on the legal regime for patents as the sole motivation, without sufficient consideration of the economic factors, the impact on research or on European companies, which therefore lacks a view of the whole, is not consistent with the importance of the implications for society, for development and indeed for democracy (e-administration, education, citizens' information), which in the longterm is what is at stake.

3.13. It is hardly plausible to have us believe that the directive would only be a sort of reversible three-year experiment, at the end of which an assessment would be made. Rights would have been acquired and in any event there would be uncertainty and perhaps even legal chaos. In fact the process would be irreversible, with largely unknown effects on our economies and societies, although certain trends can already be deduced: brakes on innovation and interoperability, risk of internet segmentation, increase in access costs, pressures on the choice for consumers of open source software and its type of profitability for authors and providers of internet and network services and applications adapted to use this type of software

3.14. The Committee considers that given the lack of independent, in-depth, serious economic and impact studies, in particular on SMEs-SMIs, employment and long-term social impact, it would be dangerous to rush legislation through to extend the arrangements for patents to an indefinite number of software programmes considered to produce a 'technical effect', but that it would be more appropriate to harmonise laws and, by a knock-on effect, the jurisprudence of the member countries by confirming, as is already the case in most member countries, the possibility of allowing patents for technical inventions that include specific dedicated code indispensable for them to operate (but not those solely or mainly in the software) or which would use standard software almost exclusively).

3.15. In its present form, the proposal clearly runs the risk of overturning the legal arrangements for software and other intellectual works, which would be in breach of the conventions administered by the World Intellectual Property Organisation (WIPO) and the WTO agreements on intellectual property rights in trade. The patents system, applied extensively in some countries to new technologies, has helped to eliminate or marginalise into 'niches' numerous creative players, in particular SMEs, in markets that are essential to growth and

the achievement of an information and knowledge-based society. This has also led the patents system to include other forms of intellectual property, such as business methods, teaching methods and algorithms (encryption, compression).

3.16. The Economic and Social Committee considers that the proposal also runs the serious risk of exacerbating divergent practices in national offices and jurisprudence, if common legislation became more ambiguous in the internal market. Now it seems that national jurisprudence is currently moving towards greater homogeneity. In the future — and, in particular, once a clear Community framework for intellectual property has been established — this harmonisation should be studied and encouraged appropriately, for example, by using an open method of coordination.

3.17. One important way in which software is protected and which has not been discussed, is the market itself. An innovative creation can conquer a market and stay on top long enough to make up for expenditure on research and marketing before competitors come up with competing solutions. This occurs quite frequently, given the nature of the software market. Conversely, if the competition is more innovative or better value for money, it can in time establish itself in the market. Competition thus widens consumer choice and reduces the price of licences.

4. Specific comments

4.1. A number of difficulties and specific features inherent to software are an obstacle to patentability using the same model as technological inventions.

4.1.1. There are difficulties inherent in knowing what the 'state of the art' is. Unlike the existing databases of technological inventions, such as those belonging to the EPO or the USPO (United States Patent Office), which are accessible over the Internet or on CD-ROM, there are no databases of software programmes. The concept of 'state of the art' is practically impossible to define for software programmes.

4.1.2. For the most part SME-SMIs do not have the technical, legal and financial resources to register patents, nor, above all, to fight hostile legal actions for counterfeiting, which are particularly easy to bring to court where software is concerned. A European fund or national funds should be set up for this purpose, but without them, introducing software patentability would leave these enterprises in a very vulnerable — indeed critical — situation when faced with hostile lawsuits.

4.1.3. Software programmes consist of sets of instructions (source code), increasingly independent of the technical platform or system (cross compatibility), which facilitates portability and interoperability, particularly over the Internet. There are great similarities in the programmes written independently in the same programming language as a result of the constraints specific to each programming language, to their algorithmic nature — a number of languages derive from previous languages or combinations of languages —, to the programmes produced using development kits, some of which require practically no code to be written. This is also the case for database or website management.

4.1.4. The concept of 'innovation' is not therefore easy to define. It often boils down to a greater or lesser number of features included in different programmes applied to similar aims or to the way in which they are called up. User interfaces are often similar, either because they use the same software development programs for one or several platforms, or because they aim at interoperability. Otherwise users would have to learn a new interface for each application.

4.1.5. Code must be constantly maintained to correct bugs and security failures or to make improvements in response to users' needs. Maintenance has become an essential responsibility for software publishers and IT service companies against what has become the strategic backdrop of network security. In the defence world, in military production and — increasingly — to develop e-administration and guarantee the security and durability of software, the confidentiality of information or payments, governments ask for open software, so that they know the source code and can therefore guarantee it is maintained, stable and secure, even if the publisher goes out of business. A patent-based regime for software would be ill-suited to these legitimate priorities, unless extensive provision was made for waivers, whereas the copyright regime seems more flexible and adaptable (software directive).

4.1.6. Code is not a traditional 'technical object', which can be subject to an existing legal standard for material technologies. In countries which accept software patents there are no clear concepts of 'technical effect', 'inventive activity' or 'change to the state of the art', which in fact is impossible to define. In the United States the idea of creating a software database has been abandoned. As the state of the art is indefinable, conclusions need to be drawn for patentability in Europe.

4.1.7. It has also to be recognised that the current conditions for registering 'computer-implemented inventions', in particular those which consist entirely of software, do not meet the normal examination and registration requirements in line with European patentability requirements, as the software source code, or at least its user interface or file formats are not subject to publication for the sake of interoperability. In addition, the question of whether licences for inventions that affect the way the internet operates should be free of charge is not raised.

4.2. Software, like multimedia products, suffers from illegal copies, which are relatively easy to make, despite the various technical and software protection devices sometimes used. The problems of protecting copyright against the making and distribution of copies, from the technical and legal point of view are quite similar, with respect to the solutions to be implemented, to other intellectual and artistic multimedia productions, as well as with respect to illegal copying and distribution which are particularly well-developed, especially over the internet. There are, however, much greater differences in the methods to combat the counterfeiting of technical objects or hardware products ⁽¹⁾.

4.3. It is perfectly acceptable that a complex technical object, in which non-standard embedded software plays an essential role in real time (braking, ABS, robotics) and is, in fact, inseparable from the object, justifies the registration of a patent for the entire invention. But nothing would prevent these components being separated legally, as each is subject to a distinct legal regime. In fact, in practice this is most often the case. A technical invention, such as an electronic pocket computer diary (Personal Digital Assistant, PDA) can be subject to several distinct intellectual property laws: name and trademark, design, copyright for the embedded software system, optical character recognition software and other applications, distinct patents for various components such as touch screens, battery type, electronic components (some of which are pre-programmed or programmable), etc. There are standard embedded software programmes that can be used in several fields, from the pocket computer to the space shuttle or vehicle guidance systems (such as QNX, an industry standard, open source programme based on Eclipse, which is a software engine created and put in open source by IBM; there is also, for example, an embedded Windows XP, a Windows-CE, an embedded BSD, an embedded Linux, some of which are proprietary, others open).

4.4. Furthermore, some robots and software used for heavy industrial production are often not even patented and remain internal production secrets of a company (and as such are protected in some countries and could be in Europe, too).

4.5. No comparative study and no argument has shown that the patent would offer more protection than copyright for software, whether embedded or not. The BSA (Business Software Association) estimates that more than 40 % of professional software used by businesses is pirated. In some countries, this figure can climb to 90 %, not to mention copies made for private use by company staff. Multimedia, music, cinema and electronic games, which are protected by copyright, also have similar problems with illegal copying. It is not clear, nor has it been shown, that the copyright regime, which makes it possible to gather together considerable amounts of capital in the cinema and music industries, would not be able to do the same for software, and that to do so would require changing the legal arrangements.

4.6. The reasons why European SME-SMIs do not make greater use of patent registration are known, but will not be solved, even partially, by the draft directive on computer-implemented inventions. In the first place, as the Committee stressed in previous opinions ⁽²⁾ the problem is the lack of a real Community patent that is technically and financially accessible.

4.7. The Committee urges the Council to take a decision quickly, but some existing texts need to be revised or completed, while respecting international standards in force, though this should not rule out specific regimes, for example those which may provide greater protection.

4.8. Finally, on the issue of innovation, the Committee has already pointed out that the financial efforts made for basic research and R&D were notoriously insufficient.

4.9. These are the Committee's real priorities. The Committee therefore considers that more detailed, independent economic and legal studies, together with the opinions of all the sectors and actors concerned, must be re-examined in a truly objective manner, without prejudice, before irreversibly changing the law on intellectual property, even in a manner limited to part of the software sector, given the profound impact the initiative would have on the scope of application of patentability.

⁽¹⁾ ESC Opinion 701/2001, OJ C 221, 7.8.2001.

⁽²⁾ ESC opinion 411/2001, OJ C 155, 29.5.2001 and ESC opinion 921/2001, OJ C 260, 17.9.2001.

5. Conclusions

5.1. The question of which legal regimes should protect all types of software against undue appropriation, illegal copying or counterfeiting is, as in other sectors, to be posed. However, should this also mean irreversibly modifying the applicable legal regime, as was also planned for the removal of software from the exclusion clause in Article 52 of the EPC, without first holding more detailed and equitable discussions among all stakeholders and in the general interest? The Committee considers that a comprehensive discussion about the European approach and the principles for harmonisation on intellectual property issues should take place before any fundamental changes are made, so that a coherent set of rules for the single market can be devised.

5.2. The Committee is of the view that the Commission, the Council and the Parliament have to consider intellectual property issues as part of a coherent overview of industrial and intellectual property in its diverse forms, and in the context of the EU's political and economic objectives, in particular those set out in Lisbon. The Internal Market Council in May 2002 again highlighted the priority nature of the Community patent.

5.3. It has not been shown in the Commission's presentation and impact documents, nor by the only study commissioned from a national patent office, that the legal protection conferred by copyright would be less effective, as far as software programmes are concerned, than the industrial patent. Nor has the impact on users (consumers) been assessed. How would they benefit from a change in the legal arrangements, which would be very costly for businesses? Neither has the impact on employment been determined. The protection of inventors, whether working as salaried employees or sub-contractors, has not been raised, although they play an essential role in these immaterial 'productions'.

5.4. The Committee would prefer that the draft directive be seriously revised, and believes that the Commission would do better to initiate a truly political and legal process of harmonising issues of intellectual and industrial property at Community level, keeping abreast of research, innovation and financing. It could also make the Community patent a priority project, fully respecting the EU's international commitments with respect to the WTO and those of the Member States with respect to the WIPO and the EPC in its current form. But would it not be more suitable to make the EPC and the EPO EU bodies? Failing

this, attempts at EU harmonisation will remain backward and dependent on a non-EU organisation, which is competent in only one area of intellectual property and is naturally attempting to extend its own particular area of competence and sources of revenue. However, given its specific point of view, it cannot readily perceive the overarching nature and complexity of intellectual property issues, nor the need for greater flexibility or more variety in the legal arrangements for the new technologies.

5.5. There are certainly new legal solutions that can be adapted to the ongoing increase of intellectual/scientific input, i.e. the 'immaterial' component of technological innovations, which require in-depth examination and consultation with all the parties and interest groups concerned, including end users, keeping in mind international commitments to the WIPO and the WTO, both to protect innovation and ensure technology transfers and the dissemination of knowledge, which are the essential pillars of legal protection for technological innovation and their only justification for exemption from competition law. These goals should not be abandoned to create unsuitably long monopolies or control mechanisms over developing countries or the newly industrialising countries.

5.6. The Committee believes that only the quality of the legal instruments, patents or copyright, the effectiveness of their protection and above all the quality of the innovations, can attract the capital that would be seriously interested in developing them. It is therefore important for the European legislator to lay down uniform rules on the patentability of computer-implemented inventions, which can be the basis for maintaining the high level of European patent rights.

5.7. With respect to the Commission proposal, the Committee feels that the laws and, by a knock-on effect, the jurisprudence of courts in the Member States must be harmonised in such a way that it will be possible to allow patents for technical inventions that include a specific dedicated code indispensable for them to operate, insofar as the patentability requirements of an invention have been met. However, on the issue of technical inventions for which innovation arises principally or indeed wholly from the software or which are technically innovative but rely exclusively or principally on standard software, the Committee feels that detailed legal investigations are necessary, with particular reference to the questions of definition and delimitation, so that application of each of the respective legal regimes for the protection of innovation in Europe may be harmonised. Economic studies should also be carried out, cost-benefit analyses for instance, and on the financial impact of protection and its effectiveness,

particularly for SMIs-SMEs, as well as on the costs to consumers and their rights and guarantees.

5.8. The Committee fully endorses the views of the businesses, industries and services based in Europe and the views of authors and users, who expect true consistency in economic and research policy with the necessary legislation to ensure effective, harmonised protection of the various forms of intellectual property.

5.9. Political and budgetary measures and legal instruments must guarantee increased encouragement of scientific and technological innovation, which are now indissociable, and thus stimulate sustainable growth and competitiveness — which create skilled jobs through innovation — in order to promote the knowledge-based economy that Europe aims to achieve, which the Committee fully supports, and which should be shared more equitably with the developing countries.

Brussels, 19 September 2002.

The President

of the Economic and Social Committee

Göke FRERICHS

APPENDIX

to the opinion of the Economic and Social Committee

The amendments below were rejected, but received at least one quarter of the votes cast:

Point 3.12

Delete.

Reason

The scope of patents is not widened by the proposed directive. The EPO has already granted thousands of patents for computer implemented inventions. The directive is proposed to unify interpretation because divergent national rulings have been made in some countries, particularly Germany and the UK.

Point 3.13

Delete.

Reason

The text is misleading. As stated above, the EPO has granted thousands of patents for computer implemented software (according to the Commission representative at the TEN-section meeting approx. 25 000). Rights already exist and have existed in Europe since the EPO began granting such patents after the Sohei decision published in T-769/92 (Sohei). The 'legal chaos' that the directive is said to threaten us with must therefore already exist, yet it does not. The purpose of the directive, as stated, is to codify in intellectual property law the existing practice under which patents for computer implemented inventions, including patents for computer software, are already granted in large numbers.

Point 3.14

Delete.

Reason

Here again the directive is said to change the arrangements for patents, but it does not change arrangements. It codifies the existing practice under which patents for computer implemented inventions have been granted by the EPO (similar to the USPTO and JPO).

Point 3.15

Delete.

Reason

The text contains misleading generalisations. Business methods are patentable in the US, but not under the EPO nor through the JPO. An algorithm in the sense of a mathematical formula by itself is not patentable anywhere in the world. The use of an algorithm in a new invention that solves a technical problem is a patentable invention in most jurisdictions. Paragraph 3.15 says that the directive is leading to patents for business methods, teaching methods and (pure) algorithms. No, it is not. It codifies the existing practice under which patents are granted for computer implemented inventions that are new, inventive, and have a technical effect. The directive does not change the present practice, and neither does it change the patentability of business methods or algorithms.

Result of the vote

For: 27, against: 27, abstentions: 6.
