

Registry of the Enlarged Board of Appeal  
European Patent Office  
80298 München

GERMANY

30 April 2009

Dear Sirs:

**AMICUS CURIAE BRIEF BY THE ASSOCIATION FOR COMPETITIVE TECHNOLOGY  
ON THE BASIS OF  
ARTICLE 10 OF THE RULES OF PROCEDURE OF THE ENLARGED BOARD OF  
APPEAL  
IN CASE G 3/08**

The Association for Competitive Technology (ACT) respectfully submits the following brief as *amicus curiae* in case G 3/08.

**1. Executive Summary**

The consideration of issues surrounding the patentability of computer programs in Europe is of great interest to innovative small and medium-sized enterprises (“SMEs”) active in the information and communications technology (“ICT”) sector. Many small innovators heavily rely on patents to develop high-impact, technologically advanced solutions.

The Association for Competitive Technology (“ACT”) considers that the evolution of the case law of the European Patent Office (“EPO”) is striking an appropriate balance that permits the protection of deserving computer-related inventions that are critical to Europe’s competitiveness, while at the same time maintaining the exclusion of non-technical subject matter from the ambit of the patent laws.

Consistent with this approach, the “two-step” test established by the Board of Appeal (“Board”) constitutes an appropriate substantive assessment of the patent claims, which duly takes into account innovative SMEs’ needs for flexibility and protection for deserving computer-related inventions. This approach confirms that an invention, including a computer-related invention, is patent eligible where: (i) the invention uses a technical means; and (ii) the invention, when considered as a whole, solves a technical problem.

In any event, the apparent divergences noted in the EPO referral document can be resolved in a manner supportive of innovative SMEs by a careful examination of the relevant cases.

## 2. Introduction

ACT is an international education and advocacy group for the technology industry. Focusing on the interests of small and mid-size entrepreneurial technology companies, ACT advocates for a “Healthy Tech Environment” that promotes innovation, competition and investment. ACT has been active on issues such as intellectual property (“IP”), international trade, e-commerce, privacy, internet policy, and antitrust. ACT represents nearly 4000 member companies. Of these, there are some 1000 European-headquartered companies which cover the full breadth of the ICT industry. These innovative companies include software developers, system integrators, ICT consulting and training firms, and e-businesses, and enjoy the support of larger “platform” firms.

The EPO consultation on the patentability of computer programs<sup>1</sup> raises questions of fundamental importance to ACT’s members. The objective problems solved by computer programs, the technical effects caused or the improvement of a specific task are key issues for ACT members in the activities they conduct on a daily basis.

Beyond these questions, this consultation offers a unique opportunity to significantly improve the current IP system in Europe, as well as to support growth and innovation. At a time of financial turmoil, the highly innovative software industry can be a real driver to survive, combat and overcome economic difficulties. Therefore, it is critical to ensure the right regulatory, legal and cultural environment is set up for the European software industry to deliver its full potential.

Innovative SMEs across Europe need IP protection but they need the right sort of IP protection.

IP protection is vital to ACT members, and patents are essential to SMEs on the cutting edge of innovation:

- Patent protection increases access to capital: venture capital will be invested in SMEs only if there are good prospects that there will be a profitable rate of return for the investor. Having a robust patent protection regime in place helps SMEs attract much-needed capital: companies are able to demonstrate that their future inventions will be protected by law, and therefore their business is worth investing in.
- Leverage against larger companies: a strong patent regime allows SMEs to continue to protect their computer-implemented inventions against often larger competitors that could otherwise take and unfairly exploit their ideas.

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<sup>1</sup> Communication from the Enlarged Board of Appeal concerning case G 3/08.

- Patents provide flexibility: instead of having to produce and sell their inventions as products on the mass market, patents allow their invention to be licensed and brought to market by a larger player.

However, SMEs need to benefit from the right patent system. ACT is not calling for more patents but for higher quality patents. This stance represents both the concerns of those SMEs who are “innovators” and those SMEs whose business models rely on innovative solutions.

This contribution tries to answer the key question of “What is innovative and therefore deserves to be patented?”

ACT believes that the EPO consultation will not only help to answer this question but should also promote Europe’s innovation, protect the interests of innovative software producers and support Europe’s future growth.

### **3. Questions referred to the Enlarged Board of Appeal**

*3.1. Can a computer program only be excluded as a computer program as such if it is explicitly claimed as a computer program?*

3.1.1. Patent eligibility should not depend on particular claim formulations

The short answer to Question 3.1 is “no.” ACT submits that the importance of claim formulations should not be overstated. While from a business strategy standpoint, the formulation of a patent claim is important to ensure that the scope of protection obtained is appropriate for the business purpose that it serves, patent eligibility should not depend upon a particular claim formulation. ACT members support a rigorous and equal application of the patentability standards irrespective of the particular formulation of the claimed subject matter.

The definition of “invention” is underpinned by the fundamental principle that inventions must possess “technical character.” This must remain the essential principle upon which patent eligibility is based, even (and perhaps especially) in the field of computer-related inventions. Consistent with the findings of the Board in its decision T 1173/97, a “program as such” within the meaning of the exclusions under Article 52(2) of the EPC, would be a non-technical program. Similarly, the Board noted that: “with regard to the exclusions under Article 52(2) and (3) EPC, it does not make any difference whether a computer program is claimed by itself or as a record on a carrier.”<sup>2</sup> These findings emphasize that a particular claim formulation should not be determinative of patent eligibility.

In ACT’s view, the patentability of any technology should depend on whether it qualifies as an invention and whether it is new, has inventive step, and is capable of industrial application.

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<sup>2</sup> T 1173/97 – Computer program product/IBM (OJ EPO 10/1999, 609), point 13

In that light, many claims directed to “computer programs” therefore may not necessarily fall within the exclusions of Article 52(2) and (3). At the same time, other formulations that lack “technical character,” e.g., those formulations reciting “inventions” where the patenting of cognitive content itself is sought, may fall within the exclusions.

However, it should be recalled that, at its most fundamental level, this debate is less about claim formulations than it is about innovation. What ACT members are seeking is a strong, balanced patent system that values and protects the innovative technologies of its members. Such a system must allow patent protection without favor or limitation as to the field of technology.

3.1.2. Computer programs, like other inventions, must possess necessary technical character

In Decision T 424/03, the Board considered whether the claimed computer readable medium having computer-executable instructions could be excluded in accordance with Article 52(2) and (3) of the EPC. In doing so, it first determined, in accordance with the Board’s decision in T 258/03,<sup>3</sup> that the invention related to a technical product involving a carrier and thus contributed to the technical character of the claim.

However, before concluding that the claimed invention was not to be excluded as a computer program “as such,” the Board found that this invention has the potential of achieving a “further technical effect of enhancing the internal operation of [a] computer, which goes beyond the elementary interaction between any hardware and software of data processing.”<sup>4</sup> In fact, the Board not only found that the claimed invention caused a “further technical effect” in this case, it also directly referred to the decision in T 1173/97. This raises some doubts about the extent of “divergence” mentioned in the referral documents. In ACT’s view, both decisions are compatible as a general matter.

The reasoning applied in T 424/03 reflects the evolution of the EPO case law on the assessment of a procedure applicable to any inventions, which looks separately at the question of whether a specific invention has a technical character and whether it solves a technical problem (e.g., does the invention provide a general purpose computer with a further functionality). Nevertheless, irrespective of the category of the claim, the fundamental purpose of the exclusion provided in Article 52(2) and (3) of the EPC (i.e., to exclude non-technical processes or other formulations) will always be considered.<sup>5</sup>

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<sup>3</sup> T 258/03 – Auction Method/HITACHI (OJ EPO 12/2004, 575).

<sup>4</sup> T 424/03 – Clipboard formats/MICROSOFT, point 5.3.

<sup>5</sup> T 331/06 – Order processing/ADVANCED TRANSACTION SYSTEMS, point 3.6.

3.1.3. The *Astron Clinica* case in the United Kingdom rejected eligibility determinations based on particular claim formulations

The referral document mentions a recent UK court case about the patentability of computer software, *Astron Clinica Limited and others v. Comptroller General of Patents, Designs and Trade Marks*,<sup>6</sup> to illustrate the importance of claim formulations. This case is also consistent with the view that the particular claim formulation used should not be dispositive in determining patent eligibility. Much to the delight of innovative SMEs in the United Kingdom, the *Astron Clinica* court sided with innovators and found that where computer-implemented methods are patent eligible, then, in principle, claims to the computer programs themselves should also be patent eligible.<sup>7</sup> The UK court further clarified that the answers to the tests applied to determine patentability would be “the same irrespective of whether the invention is claimed in the form of a programmed computer, a method involving the use of a computer, or the program itself.”<sup>8</sup>

This case also illustrates the need for SMEs to obtain patents on deserving software inventions. *Astron Clinica* is a UK-based ACT Member that holds a number of patents critical to their ability to compete and thrive. One of their most successful technologies generates realistic images of the skin representing the results of planned surgical interventions. This invention enables doctors to see what is going on beneath the skin without the need to make a single incision. In doing so, it also provides doctors with the most accurate way to visualize skin cancer and other skin diseases and is used around the world for these purposes. While hardware is a part of the technology, the fundamental invention is the software which took years to research and develop.

The problem for *Astron Clinica* was that the UK Intellectual Property Office (UK IPO) had allowed patent claims for a computer *carrying* *Astron Clinica*’s software program, while, at the same time, the patent examiner rejected corresponding claims to the software that delivered that same innovation. In other words, while the UK IPO recognized that the method performed by running a suitably programmed computer was innovative and deserving of patent protection, it formalistically rejected the notion that the program itself constituted an innovation.

*Astron Clinica* challenged the UK IPO’s decision because this decision disregarded the very nature of the innovation at play. *Astron Clinica*’s invention includes hardware, but the real innovation behind this revolutionary technology is the sophisticated computer modeling software. Small businesses depend on the success of their innovations – and on the fact that these inventions, and the significant investment that goes into them, can be recognized,

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<sup>6</sup> *Astron Clinica Limited and others v. Comptroller General of Patents, Designs and Trade Marks*, Case No. CH/2007/APP/0466, [2008] EWHC 85 (Pat.).

<sup>7</sup> *Ibid.* at para 51

<sup>8</sup> *Ibid.* at para 49.

protected and remunerated. Rightly, the UK High Court sided with the SMEs as it found the UK IPO overlooked where “the technical advance truly lie[d]”<sup>9</sup>: i.e., because the technical problem was solved by the computer program, there were no reasons to exclude it from patentability.

3.2. *Can a claim in the area of computer programs avoid exclusion under Art. 52(2)(C) and (3) merely by explicitly mentioning the use of a computer or a computer-readable data storage medium? If not, is a further technical effect necessary to avoid exclusion, said effect going beyond those effects inherent in the use of a computer or data storage medium to respectively execute or store a computer program?*

3.2.1. All claims must be subjected to the same tests for patent eligibility

ACT maintains that the required threshold should depend on the features of an invention. In addition, it is well-recognized in case law that an invention must be considered “as a whole.”<sup>10</sup> Accordingly, patents should not be granted on the mere basis of the use or inclusion (or exclusion for that matter) of any specific medium.

As established in EPO case law, the fundamental consideration is that an invention must have technical character. In fact, the exclusions provided in Article 52(2) and (3) EPC are purposely formulated, as consistently explained in the decisions of the Board, to exclude claims to subject matter that lacks of technical character. In the early case law of the Board, this technical character was considered in light of the contribution of the invention to the prior art. Thus, the assessment of the technical character necessarily involved an assessment of the non-obviousness of the claimed invention. More recently however, the case law has been refined in a “two-step” test.

For example, the T 258/03 decision clarifies that any method involving technical means should be qualified as an “invention” under EPC Article 52. However, the decision also makes clear that any such method would not necessarily meet the conditions to be patentable. In fact, the decision emphasizes that an invention still must be “new, represent a non-obvious technical solution to a technical problem, and be susceptible of industrial application.”<sup>11</sup>

The two-step test articulated by the Board ensures that inventions, including software inventions, possess the appropriate technical character. This test assesses the invention as follows: (i) does the invention use a technical means? and (ii) is the invention solving a technical problem (e.g., does the invention provide a general purpose computer with a further functionality)?

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<sup>9</sup> *Ibid.* at para 31.

<sup>10</sup> See, e.g., T 209/91 Method of increasing the productivity of reversing plate mills/TIPPINGS MACHINERY COMPANY; T 26/86 (OJ EPO 1988, 19).

<sup>11</sup> T 0258/03 at para 4.6.

### 3.2.2. Innovation must be recognized in all fields of technology

The two-step test established by the Board's recent case law is consistent with an approach that rightly does not distinguish innovative computer programs from other types of technologies. From the perspective of innovative SMEs, it does not matter whether a purported invention is denied because it lacks the technical character to be defined as an invention<sup>12</sup> (EPC Article 52) or because it fails to solve an objective technical problem, considered pursuant either to the definition of invention or to the inventive step test (EPC Article 56).<sup>13</sup> The fundamental question is whether innovative software is eligible to be patented.

In ACT's view, as soon as a computer program may be considered as eligible subject matter according to the two-step test set out by the Board, the patentability of a computer program should be denied only if it is not novel, if it lacks inventive step, or if it is not susceptible of industrial application. If not addressed earlier, the inventive step test will address whether the relevant technology solves a technical problem. The exclusion provided in Article 52(2) and (3) will thus be respected.

*3.3. Must a claimed feature cause a technical effect on a physical entity in the real world in order to contribute to the technical character of the claim? If so, is it sufficient that the physical entity be an unspecified computer? If not, can features contribute to the technical character of the claim if the only effects to which they contribute are independent of any particular hardware that may be used?*

#### 3.3.1. Innovative SMEs need a technical character standard that accommodates emerging technologies

As early as its decision T 208/84, the Board recognized that the physical entity on which the claimed feature caused a technical effect could be "an image stored as an electrical signal", and not necessarily "a material object".<sup>14</sup> Indeed, the analysis provided in the referral document is not clear as to the intended scope of what may be considered a "technical effect on a physical entity in the real world." Two of the cases cited for the proposition that no further effect is required, T 424/03 and T125/01, certainly appear to involve inventions with consequences flowing in the "real world," e.g., when run on a computer. Therefore such a distinction does not appear to be helpful and may unfairly complicate analysis of patent eligibility to the detriment of innovators. ACT submits that it is unnecessary and counterproductive to further restrict the concept of technical effect.

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<sup>12</sup> T 1173/97 – Computer program product/IBM (OJ EPO 10/1999, 609).

<sup>13</sup> T 258/03 – Auction Method/HITACHI (OJ EPO 12/2004, 575), para 5.3; T 424/03 – Clipboard formats/MICROSOFT, para 5.3; T 1284/04 – Loan system/KING.

<sup>14</sup> T 208/84 – Computer program/VICOM (OJ EPO 1987, 14).

ACT submits that the assessment of the technical character of a claim should continue to be flexible for two reasons. First, innovative SMEs typically strive in niche and emerging markets, where the development of cutting-edge technology requires them to depart from commonplace solutions. Second, flexibility is also key when one considers the diverse and cross-cutting nature of computer-implemented inventions – e.g., the inventions span the innovative telecommunications, healthcare, transportation (including the aviation and automotive sectors), and consumer electronics industries.

If an unduly restrictive notion of technical character were to be adopted, a wide range of deserving inventions may be excluded without any good reason. For example, a system that would permit a doctor located in Canada to perform a surgical intervention using robotics or other means on a patient located in the UK would unquestionably constitute a breakthrough technology. While hardware components (e.g., communication lines and devices, robotics control systems, etc.) would be important to the operation of such a system and may involve patentable components, the central innovation to permit the realization of this system (i.e. the real-time representation, protection and management of critical data over long distances, would likely be software-based). Any unduly restrictive notion of technical character might put intellectual property protection for such a system into question. As explained above, Astron Clinica faced a similar issue in the UK for its comparable breakthrough technology.

A robust patent system is needed to preserve incentives for SMEs to create such technologies for the benefit of society at large. A more restrictive view would provide a disincentive for investment in developing these new technologies, particularly for SMEs and their investors, who will not risk their resources in the knowledge that protection may be denied for their innovations, thereby leaving them vulnerable to appropriation by more sophisticated competitors.

In sum, ACT supports a system based on a substantive assessment of the innovative features of a technology (i.e. one that considers whether the technology solves a technical problem in a non-obvious manner) rather than a category-based system, which disqualifies certain technologies without considering their merits.

### 3.3.2. Innovation is about problem-solving

Under the two-part test explained above in section 3.2.1, the patentability of a computer program should not depend on whether it produces a “technical effect on a physical entity,” however that may be defined, but rather on whether (i) the computer program uses technical means, and (ii) whether it solves a technical problem.

Innovation is about industriousness and problem-solving. The two-part test recognizes the need to make it possible for SMEs in the ICT sector to patent their inventions when they solve a technical problem.

Thus, ACT believes that features can contribute to the technical character of a claim even if the only effects contributed are independent of any particular hardware, provided that they solve a technical problem. This was clearly illustrated in T 424/03. Although not particular to any specific hardware, the claimed invention provided a computer with further functionality solving an objective technical problem, i.e. to facilitate a data exchange across different data formats. Indeed, a more restrictive approach risks eliminating a wide swath of deserving technical inventions in the ICT field from patent protection.

In any event, ACT sees no substantive divergence between the cases cited in the EPO referral in support of this question. In T-163/85, the reference to the physical entity was required because of the nature of the invention. However, the “physical entity” in this case merely realizes the technical character of a TV signal, much in the same way that a computer realizes the technical character of the computer-executable instructions in T 424/03. In either case, the critical question is whether the invention solves a technical problem. This is also similar to the Board decision in T 190/94 in which the physical entity cited realized the image transformation invention in that case.

Also, more recent case law appears to be consistent with this view. For example, the Board decided in T 928/03 that a specific user interface in a soccer game that was programmed to display specific guide marks had technical character to the extent it solved a technical problem of facilitating perceptibility. Had the Board taken a narrow view in assessing the technical effects of the invention, it would have been impossible for the creator of this technology to recoup its investment. Indeed, the real innovation lied in the improvement of the user interface, not in the hardware structure of the actual display device.

ACT’s members are concerned that an overly restrictive approach would deny protection to deserving inventions even where they constitute a breakthrough for the industry. For example, if an SME strives to develop a new touch-based user interface for a specific mobile phone, its invention would not necessarily involve a change or manipulation of the structure of the mobile phone itself, but may very well solve a number of technical problems, such as the management of the small display area or the detection of the different input methods (finger, stylus, buttons, voice). In ACT’s view, there should be no difference between the configuration of “physical” hard buttons and this type of management of input methods because these innovations are solving technical problems and functionally achieving similar ends. In fact, such a distinction would appear to impede developments in forward-looking technologies. Irrespective of the user interface chosen, such inventions are important technical developments that drive innovation in cell phone-based and other relevant technologies.

*3.4. Does the activity of programming a computer necessarily involve technical considerations? If so, do all features resulting from programming thus contribute to the technical character of a claim? If not, can features resulting from programming contribute to the technical character of a claim only when they contribute to a further technical effect when the program is executed?*

The activity of programming necessarily involves technical considerations. However, not all features resulting from programming contribute to the technical character of a claim.

Developing a computer program requires the programmer to notably consider memory and CPU usage, portability and flexibility, and/or power consumption of the resulting program. Many of these technical considerations are directly at issue without regard to whether the programming involves low-level or higher-level programming languages. In addition, as technology continues to evolve, the distinctions between the use of “hardware” (i.e., field programmable circuitry or customized circuitry) versus “software” (i.e., a general-purpose computer configured to solve a technical problem using innovative programs) continue to blur. The touchstone for patentability should be the two-step test articulated above.

The fact that programming activity involves technical consideration does not mean that the activity of programming should be patentable, as such. Even if most features resulting from programming will be considered to have the necessary technical character, only those inventions that, when considered as a whole, possess the requisite technical character, should be eligible to be patentable.

In ACT’s view, the invention should be considered as a whole and these technical considerations should be assessed only to the extent they form part of the solution of the relevant technical problem.<sup>15</sup>

It follows that the divergence highlighted by the referral is not directed to the critical questions. The key questions (i.e., whether the claimed invention uses technical means and solves a technical problem) should remain the fundamental basis to ensure that deserving inventions receive protections while methodologies or paradigms of a non-technical nature are excluded.

#### **4. Conclusion**

A careful examination of the cases presented as diverging reveals that the EPO case law is not inconsistent. In fact, the natural evolution and refinements of the Board’s examination practice are welcomed by small innovators active in the ICT industry.

If it elects to address the questions raised by the President of the EPO, the Enlarged Board of Appeal should be very careful not to harm innovative SMEs. Small innovators indeed require an environment that allows them to recoup their investments by ensuring an adequate protection of deserving software inventions.

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<sup>15</sup> See, e.g., T 209/91 Method of increasing the productivity of reversing plate mills/TIPPINGS MACHINERY COMPANY; T 26/86 (OJ EPO 1988, 19).

In light of the arguments developed in this submission, ACT respectfully submits that the Enlarged Board of Appeal should:

- clarify that patent eligibility does not depend on mere claim formulations that exalt form over substance;
- confirm the appropriateness of the “two-step test” commonly used in the recent case law of the Board, which provides that an invention, including a computer-related invention, is patent eligible where the invention: (i) uses a technical means and (ii) solves a technical problem; and
- reject any further conditions (e.g., a so-called “further technical effect on a physical entity in the real world,” however that is defined) for the patentability of computer programs that meet the requirements of the two-step test.



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