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**Case G 3/08 – Patentability of Programs for Computers  
Referral under Art. 112 (1) b) EPC by the President of the EPO  
to the Enlarged Board of Appeal  
Statement by Accenture Global Services GmbH, Schaffhausen**

The present written statement is submitted by Accenture Global Services GmbH, Schaffhausen, Switzerland under Art. 10 Rules of Procedure of the Enlarged Board of Appeal following the Announcement published in OJ EPO 2009, 32 with respect to the referral under Art. 112(1) b) EPC by the President of the European Patent Office, dated October 22, 2008 (case number G 3/08).

**I. Admissibility of the Referral under Art. 112 (1) b) EPC**

**A. General Remarks**

Art. 112 (1) b) EPC stipulates that in order to ensure uniform application of the law, or if a point of law of fundamental importance arises, the President of the European Patent Office may refer a point of law to the Enlarged Board of Appeal where two Boards of Appeal have given different decisions on that question.

Accordingly, a referral by the President of the EPO is admissible under two conditions, both of which must be fulfilled, namely

1. the referral is necessary in order to ensure uniform application of the law, or if a point of law of fundamental importance arises and
2. two Boards of Appeal must have given different decisions on that question.

Regarding the latter requirement, while it is not strictly necessary that the differing decisions are originating from "two Boards" in the sense of two *separate* Boards of Appeal<sup>1</sup>, however, the decisions must be different in the sense that they are conflicting<sup>2</sup> or contradictory decisions. In this respect, however, it is necessary<sup>3</sup> to draw a distinction between conflicting decisions and a conscious development of case law. In fact, according to the intention of the lawmaker<sup>4</sup>, the President of the EPO should not be awarded an extensive right to refer questions to the Enlarged Board of Appeal under Art. 112 (1) b) EPC. Instead, the referral competence of the President of the EPO under Art. 112 (1) b) EPC was intended to be limited to cases of specific present divergence in the interpretation of the Law. Accordingly, when the decisions cited by the President of the EPO in a referral to the Enlarged Board of Appeal are not conflicting, but are the result of a development of case law over time, the referral has to be rejected as inadmissible<sup>5</sup> under Art. 112 (1) b) EPC.

With respect to the present referral G 3/08, the decisions cited by the President of the EPO are not "different decisions" within the meaning of Art. 112 (1) b) EPC, because most of the cited decisions are not in conflict with each other. The few seemingly conflicting decisions cited in the referral are the result of a conscious development in the case law over time, as will be set out in detail below, not presently conflicting decisions, so that the referral has to be dismissed as inadmissible.

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1 G 4/98, OJ EPO 2001, 131 seq. (point 1.2); Joos in: Singer/Stauder, EPC, 3<sup>rd</sup> ed., Art 112 note 30; Steinbrener, GRUR Int. 2008, 713 seq. (719).

2 Refer *inter alia* to G 3/95, OJ EPO 1996, 169 seq. (point 8); G 4/98, OJ EPO 2001, 131 seq. (point 1.2).

3 Joos in: Singer/Stauder, EPC, 3<sup>rd</sup> ed., Art 112 note 30; Steinbrener, GRUR Int. 2008, 713 seq. (719); Günzel in: Benkard, EPÜ, 2002, Art. 112 note 6; see also the statement of the President of the EPO regarding the referral G 4/98 as reported in the "Summary of facts and submissions" in the decision G 4/98, OJ EPO 2001, 131 seq. (point II).

4 Refer to Steinbrener, GRUR Int. 2008, 713 seq. (718) and the further references cited therein.

In fact, the principles laid down in recent case law, based particularly on the decisions T 931/95<sup>6</sup>, T 641/00<sup>7</sup>, T 258/03<sup>8</sup> and T 424/03<sup>9</sup> cited in the referral of the EPO President, are consistent and not at all in conflict with each other. Following these decisions an invention consisting of a mixture of technical and nontechnical features is regarded as having a technical character<sup>10</sup> and thus not falling under the exclusion of Art. 52 (2) and (3) EPC. In contrast to this, according to the case law<sup>11</sup> of the Boards of Appeal of the EPO "purely abstract concepts devoid of any technical implications", are regarded as lacking technical character and thus fall under the "as such" exclusion of Art. 52 (2) and (3) EPC.

It should be noted however, that even though a mix of technical and non-technical features is regarded as an invention within the meaning of Art. 52 EPC (i.e. does not fall under the exclusions of Art. 52 (2) and (3) EPC), the claimed subject matter must also involve an inventive step within the meaning Art. 56 EPC. According to the above cited decisions, in particular according to T 641/00<sup>12</sup>, an invention consisting of a mixture of technical and nontechnical features and having technical character as a whole, is to be assessed with respect to the requirement of inventive step by taking account of all those features which contribute to said technical character, whereas features making no such contribution cannot support the presence of inventive step. In view of achieving this goal and starting from the established approach<sup>13</sup> for generally assessing inventive step under the *problem solution approach*, the Technical Boards of Appeal have developed a *modified problem solution approach* for assessing inventive step for inventions including a mix of technical and non-technical features. The *modified problem solution approach* is the established examination practice of the EPO<sup>14</sup>. According to the *modified prob-*

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5 G 3/95, OJ EPO 1996, 169 seq.

6 T 931/95 – Controlling pension benefits system/PBS PARTNERSHIP.

7 T 641/00 – Two identities/COMVIK.

8 T 258/03 – Auction method/HITACHI.

9 T 424/03 – Clipboard formats/MICROSOFT.

10 Refer e.g. to T 641/00 – Two identities/COMVIK (headnote 1).

11 Refer e.g. to T 258/03 – Auction method/HITACHI (point 4.5); T 688/05 – Ticket auctioning system/TICKETMASTER (point 4.4).

12 T 641/00 – Two identities/COMVIK (headnote 1).

13 See e.g. Case Law of the Boards of Appeal, 5<sup>th</sup> ed. 2006, chapters I.D.2 to I.D.4 (pp. 120-131).

14 See Guidelines for Examination in the EPO C-IV, 11.7.2.

*lem solution approach*, the Boards of Appeal assess inventive step based on the following steps<sup>15</sup>:

1. Identification of the technical field of the invention (which will also be the field of expertise of the person skilled in the art to be considered for the purpose of assessing inventive step);
2. Identification of the closest prior art in this field;
3. Identification of the technical problem which can be regarded as solved in relation to this closest prior art. Where the claim particularly refers to an aim to be achieved in a non-technical field, this aim may legitimately appear in the formulation of the problem as part of the framework of the technical problem that is to be solved, in particular as a constraint that has to be met; and
4. Assess whether or not the technical feature(s) which alone or together form the solution claimed, could be derived as a whole by the skilled person in that field in an obvious manner from the state of the art; on the one hand, the approach is to make sure that nontechnical aspects do not support a finding of inventiveness; on the other hand, actual contributions to the technical character by any feature of an invention must be taken into account when assessing inventive step.

The above interpretation with respect to the exclusion under Art. 52 (2) and (3) EPC, as well as with respect to the assessment of inventive step under Art. 56 EPC has also been specifically adopted and thus confirmed by the Boards of Appeal of the EPO *inter alia* in the following decisions:

T 1177/97 – Translating natural languages/SYSTRAN of July 9, 2002  
 T 60/98 – Game machine/SIGMA Inc. of April 25, 2003  
 T 643/00 – Searching image data/CANON of October 16, 2003  
 T 172/03 – Order management/RICOH of November 27, 2003  
 T 125/04 – Assessment system/COMPARATIVE VISUAL ASSESSM. of May 10, 2005  
 T 49/04 – Text processor/WALKER of October 18, 2005  
 T 425/03 – Clipboard formats III/MICROSOFT of February 23, 2006  
 T 467/03 – Clipboard formats IV/MICROSOFT of February 23, 2006  
 T 468/03 – Clipboard formats V/MICROSOFT of February 24, 2006  
 T 469/03 – Clipboard formats VI/MICROSOFT of February 24, 2006  
 T 928/03 – Video game/KONAMI of June 2, 2006  
 T 717/05 – Auxiliary game/LABTRONIX CONCEPT Inc. of September 7, 2006  
 T 959/03 – International transactions/ED POOL of September 29, 2006  
 T 1242/04 – Bereitstellung produktspezifischer Daten/MAN of October 20, 2006  
 T 309/05 – Domain name generation/RAREDOMAINS.COM of October 27, 2006

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<sup>15</sup> T 641/00 – Two identities/COMVIK (point 5 and headnote 2); T 928/03 – Video game/KONAMI (point 5.3.3 and headnote II). Whether this problem-and-solution approach is the only or best way to assess inventive step remains an important question, particularly when much invention does not follow the classic model of a research laboratory searching diligently for solutions to problems, but rather creative inventors simply realizing creative new applications of various technology to not only solve existing problems but provide new, practical applications. But for purposes of this referral, the current case law is clear and consistent.

T 154/04 – Estimating sales activity/DUNS LICENSING ASSOC. of November 15, 2006  
T 1023/06 – Computer implemented game process/IGT of December 7, 2006  
T 1227/05 – Schaltkreissimulation I/INFINEON TECHNOLOGIES of December 13, 2006  
T 958/03 – Purchase incentives/CATALINA MARKETING of January 17, 2007  
T 121/06 – Garbage collection/TAO GROUP of January 25, 2007  
T 1274/06 – Gaming device/IGT of February 5, 2007  
T 537/04 – Slimmer's calculator/WEIGHT WATCHERS of February 13, 2007  
T 690/06 – Financial records/AUKOL of April 24, 2007  
T 1543/06 – Game machine/GAMEACCOUNT of June 29, 2007  
T 740/05 – Attention management/ACCENTURE of October 2, 2007  
T 845/05 – Application apparatus/MINERVA of October 10, 2007  
T 336/07 – Electronic multi-play poker/IGT of October 11, 2007  
T 198/06 – Petit écran/PHILIPS of November 14, 2007  
T 912/05 – Recipient elected messaging services/PITNEY BOWES Inc. of April 15, 2008  
T 701/06 – Determining group name/CASIO of June 6, 2008  
T 1793/07 – Video game device/KONAMI of July 2, 2008

According to the reasoning above, it is clear that there is no divergence in the interpretation of the Law among the decisions which resulted from the conscious development of the case law so far, following the decisions T 641/00, T 258/03 and T 424/03.

## **B. Decisions cited with respect to questions 1 and 2**

In the decision T 1173/97<sup>16</sup> the Board of Appeal overruled a previous approach<sup>17</sup>, according to which any claim for a computer program would be excluded under Art. 52 (2) and (3) EPC. In T 1173/97 the Board of Appeal decided that in case the claimed computer program product had the potential to bring about a further technical effect when executed on a computer, i.e. a technical effect going beyond the "normal" physical interactions between program (software) and computer (hardware), it would not be excluded under Art. 52 (2) and (3) as a computer program as such.

In the decision T 424/03<sup>18</sup> cited in the referral of the EPO President, the finding of T 1173/97 was confirmed in that it was decided that the computer-executable instructions have the potential of achieving the further technical effect of enhancing

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<sup>16</sup> T 1173/97 – Computer program product/IBM.

<sup>17</sup> T 26/86 – X-Ray apparatus/KOCH & STERZEL (point 3.1); T 110/90 – Editable document form/IBM (point 5); T 164/92 – Electronic computer components/ROBERT BOSCH (point 4); T 204/93 – System for generating software source code components/ATT (point 3.13).

the internal operation of the computer, which goes beyond the elementary interaction of any hardware and software of data processing. Therefore, the computer program recorded on the medium at issue in the decision was not considered to be a computer program as such within the meaning of Art. 52 (2) and (3) EPC, and thus contributes to the technical character of the claimed subject-matter. Accordingly, the decision T 424/03 cannot be seen as being in conflict with the decision T 1173/97.

Even assuming a strict interpretation of the decision T 1173/97 which requires the claimed computer program to bring about a further technical effect as a necessary condition (in the sense of a *conditio sine qua non*), for the claimed subject matter to have a technical character and thus be regarded an invention within the meaning of Art. 52 EPC, the subsequent case law<sup>19</sup> has further departed therefrom. According to this consistent case law, claimed subject matter involving technical means is regarded as an invention within the meaning of Art. 52 EPC, independently of the presence or absence of a further technical effect. In this connection it should be noted that in case a further technical effect is established, also under the present practice<sup>20</sup> the claimed subject matter is regarded as an invention within the meaning of Art. 52 EPC, i.e. the presence of a further technical effect can be seen as a further additional, and therefore sufficient condition, but not as a necessary requirement<sup>21</sup> for technical character.

### C. Decisions cited with respect to question 3

In the decision T 163/85<sup>22</sup> of March 14, 1989, cited in the referral in connection with question 3, a claimed TV signal was regarded as not falling under the exclusions of Art. 52 (2) and (3) EPC, because it was regarded as a physical reality

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18 T 424/03 – Clipboard formats/MICROSOFT.

19 In particular by the decision T 424/03 – Clipboard formats/MICROSOFT and T 258/03 – Auction method/HITACHI cited in the referral of the EPO President in connection with questions 1 and 2; see also *inter alia* T 1242/04 – Bereitstellung produktspezifischer Daten/MAN.

20 Following e.g. T 424/03 – Clipboard formats/MICROSOFT (point 5.3).

21 German: *hinreichende, aber nicht notwendige Bedingung*.

22 T 163/85 – Colour television signal/BBC.

which can directly be detected by technological means. Therefore, the TV signal cannot be considered as an abstract entity, despite its transient character.

Furthermore, in the decision T 190/94<sup>23</sup>, cited in connection with question 3, the claimed system for rotating an image was regarded as differing from a known system due to a difference manifesting itself in the real world in a technical effect on a physical entity. Hence, the claimed system was regarded as making a contribution to the art in a field not excluded (by Article 52(2)/(3) EPC) from patentability, and thus the subject-matter of the Claim was regarded as an invention within the meaning of Art. 52 (1) EPC.

The considerations made in these two decisions T 163/85 and T 190/94 that physical realities and differences manifesting themselves in the real world in a technical effect on a physical entity are to be considered as a sufficient condition, but not as a necessary requirement for establishing the presence of a technical character in connection with Art. 52 EPC. In other words, the cited decisions do not set out minimum requirements for a subject matter to be regarded as an invention within the meaning of Art. 52 EPC. Instead, the decisions acknowledge that physical realities and differences manifesting themselves in the real world as a technical effect on a physical entity suffice as one way for meeting the requirement of invention under Art. 52 EPC. As a consequence the present case law, in particular the cited decisions T 125/01<sup>24</sup> and T 424/03<sup>25</sup>, is not in conflict with this approach, since these decisions do not rule out the above findings, but go beyond the findings and thus broaden the scope of their applicability.

In fact, decision T 125/01 considers<sup>26</sup> the specific restructuring of a software control program to be more flexible (regarding the addition of further technical functions for the device and/or to improve the operability of the device) - in analogy to the reconstruction of a hardware control apparatus for these purposes - to result in an invention possessing a technical character. By this analogy T 125/01 in the re-

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23 T 190/94 – System for rotating an image/OCE.

24 T 125/01 – Gerätsteuerung/HENZE.

25 T 424/03 – Clipboard formats/MICROSOFT.

26 T 125/01 – Gerätsteuerung/HENZE (headnote and point 4.2).

sult broadens the applicability of the sufficient conditions for technical character with respect to hardware as decided in T 163/85 and T 190/94 to also include the field of software implemented functions.

Similarly, in T 424/03<sup>27</sup> specifically claimed clipboard formats were regarded as functional data structures being used independently of any cognitive content in order to enhance the internal operation of a computer system. In particular the clipboard formats facilitated the exchange of data among various application programs. Thus, the claimed steps were regarded as providing a general purpose computer with a further functionality, namely that the computer assists the user in transferring non-file data into files. Accordingly, it was concluded that the claimed method steps contribute to the technical character of the invention.

Consequently, T 125/01 and T 424/03 cannot be regarded as being in conflict with T 163/85 and T 190/94, and thus are not "different decisions" within the meaning of Art. 112 (1) b) EPC.

#### **D. Decisions cited with respect to question 4**

With respect to question 4 of the referral regarding whether the activity of programming a computer involves technical considerations, the referral cites the decisions T 833/91<sup>28</sup>, T 204/93<sup>29</sup> and T 769/92<sup>30</sup>. In these decisions mere programming as such was held to be an activity, which essentially involves mental acts, and thus is excluded under Art. 52 (2) and (3) EPC. The findings of these decisions is, however, outdated in view of the large number of new cases cited above (in particular T 1177/97 and T 172/03). The cited cases represent the present established examination practice, according to which implementing a function on a computer system always involves, at least implicitly, technical considerations, and means in substance that the functionality of a technical system is increased.

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27 T 424/03 – Clipboard formats/MICROSOFT (point 5.2).

28 T 833/91 – Simulation of computer program external interfaces/IBM.

29 T 204/93 – System for generating software source code components/ATT.

30 T 769/92 – General purpose management system/SOHEI.

These decisions also accord with the every-day reality that so many of the useful inventions of our modern world, which support and underlay much of our current industry and goods and services, involve computer programs that, in one fashion or another, transform a general-purpose computer to achieve specific practical, industrially related effects.

In this connection, the allegedly conflicting decision T 769/92<sup>31</sup> also acknowledges that the implementation, in the claimed system and by the claimed method, is not merely an act of programming but rather concerns a stage of activities involving technical considerations to be carried out before programming can start. Thus, it can be said that the above finding of T 769/92 already points to, if not anticipates the present established examination practice as set out above.

## **E. Conclusions**

In conclusion, the decisions cited by the President of the EPO in the present referral are not "different decisions" within the meaning of Art. 112 (1) b) EPC, because most of the cited decisions are not in conflict with each other. The few seemingly conflicting decisions cited in the referral are the result of a conscious development in the case law. Thus, the referral G 3/08 of the President of the EPO has to be dismissed as inadmissible under Art. 112 (1) b) EPC.

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<sup>31</sup> T 769/92 – General purpose management system/SOHEI (point 3.7, 5<sup>th</sup> paragraph).

## II. Questions raised in the referral

Notwithstanding the inadmissibility of the referral under Art. 112 (1) b) EPC for the reasons discussed above, the questions raised in the referral by the President of the EPO are answered, based upon the current consistent case law, as follows:

### A. Question 1

Question 1 of the referral G 3/08 reads as follows:

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

It is the established case law of the Boards of Appeal, including the decisions cited by the President of the EPO in the referral, that under Art. 52 (2) and (3) EPC only such subject matter which does not have a technical character is regarded as a non-invention and is thus excluded from patentability. Accordingly, in connection with Art. 52 (2) and (3) EPC, no formal distinction should be made in terms of the specific wording of the claims, i.e. whether a claim is explicitly directed to a computer program. Instead, what should be assessed is whether the claimed subject matter, taken as a whole, has technical character or not.

### B. Question 2

Question 2 of the referral G 3/08 reads as follows:

2.(a) 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?

(b) If question 2(a) is answered in the negative, 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?

Following the recently established case law<sup>32</sup>, a claimed subject matter involving technical means is an invention within the meaning of Art. 52(1) EPC. Accordingly, by explicitly mentioning the use of a computer or a computer-readable data storage medium in the claims, the claimed subject matter is not excluded under Art. 52 (2) and (3) EPC.

Such approach is also in conformity with the principles laid down in Art. 69 EPC and its Protocol on Interpretation (which according to Art. 164 (1) EPC forms integral part of the EPC), according to which, the extent of the protection conferred by a European patent or a European patent application shall be determined by the claims. Accordingly, since the deliberate inclusion of the use of a computer or a computer-readable data storage medium into the claims limits the scope of protection under Art. 69 EPC, said limiting features should also be taken into account as a *quid pro quo* for the assessment of the invention requirement of Art. 52 EPC.

Nevertheless, the case law<sup>33</sup> has correctly recognized and pointed out that the above approach does not imply that all methods involving the use of technical means are patentable: they still have to be new, represent a non-obvious technical solution to a technical problem, and be susceptible of industrial application. Particularly in view of the requirement of inventive step under Art. 56 EPC and under the above mentioned *modified problem solution approach*, only a technical contribution to the prior art is significant for the assessment of inventive step.

This approach also has the recognized advantage of allowing a streamlined discussion of the patentability of the claimed subject matter with respect to the relevant prior art, since when assessing an inventive step under the *modified problem solution approach* the relevant prior art has to be established and taken into account. In this respect, the case law stresses<sup>34</sup> that the search is an essential element of the grant procedure, being designed to identify prior art relevant to the

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32 *Inter alia* T 258/03 – Auction method/HITACHI; T 424/03 – Clipboard formats/MICROSOFT; T 1242/04 – Bereitstellung produktspezifischer Daten/MAN.

33 T 258/03 – Auction method/HITACHI (point 4.6).

34 T 1242/04 – Bereitstellung produktspezifischer Daten/MAN (point 8.2); T 690/06 – Financial records/AUKOL (point 8); T 668/05 – Ticket auctioning system/TICKETMASTER; T 1515/07 – Cost estimate/SAP.

application. The intention is to make it possible to determine, on the basis of the documents mentioned in the search report, whether and to what extent the invention is patentable. Furthermore, it has been decided, that as long as no search has been performed, an examining division should normally not refuse an application for lack of inventive step if the invention as claimed contains at least one technical feature which is not notorious, wherein the term "notorious" should be interpreted narrowly.

### **C. Question 3**

Question 3 of the referral G 3/08 reads as follows:

- 3.(a) 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?
- (b) If question 3(a) is answered in the positive, is it sufficient that the physical entity be an unspecified computer?
- (c) If question 3(a) is answered in the negative, 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?

A claimed feature does not need to cause a technical effect on a physical entity in the real world in order to contribute to the technical character of the claim. As mentioned above under point I.C, the case law cited in the referral of the EPO President does not strictly require a technical effect on a physical entity in the real world, but rather mentions such technical effect as a sufficient condition, but not a necessary requirement for establishing the presence of technical character.

As a consequence, it is immaterial for the assessment of the requirement of invention under Art. 52 EPC, as well as for the requirement of inventive step under Art. 56 EPC, whether the technical effect comes about on a physical entity in the real world or not. As long as such technical effect occurs at all, this fact implies that the subject matter has a technical character and is thus an invention under Art. 52 EPC. Thus, the respective features causing the technical effect need to be taken into account when assessing inventive step under Art. 56 EPC.

In this connection it was decided in T 643/00<sup>35</sup> that technical considerations involving a technical character may also aim at enabling the user to manage a technical task in a more efficient or faster manner, even if an evaluation by the user on a mental level is involved. Although such evaluation *per se* does not fall within the meaning of "invention" pursuant to Article 52 EPC, the mere fact that mental activities are involved does not necessarily qualify subject matter as non-technical since any technical solutions in the end aim at providing tools which serve, assist or replace human activities of different kinds, including mental ones.

Furthermore, it was decided in T 1793/07<sup>36</sup> that a graphical user interface indicating an internal state of a device<sup>37</sup> to a user in an easily readable format, which allows the user to grasp the specific situation faster and more accurately, results in an improved, continued man-machine interaction, much in the same way the format of information served this technical purpose in T 49/04 or T 928/03. In the decision T 1793/07, the Board also held that they cannot but agree that a feature, which concerns not so much the cognitive content *per se* as *how* it is conveyed to the user, is technical in nature, as are its associated effects. In this connection, it has been noted that any display of information of the internal state of an apparatus conveys a cognitive content to the user, as this is the fundamental reason for its existence; to exclude all such systems from patent protection cannot be seriously envisaged<sup>38</sup>.

#### D. Question 4

Question 4 of the referral G 3/08 reads as follows:

4.(a) Does the activity of programming a computer necessarily involve technical considerations?

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<sup>35</sup> T 643/00 – Searching image data/CANON (headnote, point 16); see also T 49/04 – Text processor/WALKER (point 4.5); T 928/03 – Video game/KONAMI (point 4.1.1); T 1793/07 – Video game device/KONAMI (point 3.5.1).

<sup>36</sup> T 1793/07 – Video game device/KONAMI (point 3.5.1).

<sup>37</sup> Such as the result of the judging subroutine, in a manner analogous to that underlying the decision T 717/05 – Auxiliary game/LABTRONIX CONCEPT INC.

<sup>38</sup> T 717/05 – Auxiliary game/LABTRONIX CONCEPT INC. (point 5.4); see also T 115/85 – Computer related invention/IBM.

(b) If question 4(a) is answered in the positive, do all features resulting from programming thus contribute to the technical character of a claim?

(c) If question 4(a) is answered in the negative, 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?

In line with the established examination practice (see above point I. D as well as the case law mentioned under point I.A) the questions 4(a) and 4(b) both have to be answered in the positive. Namely, implementing a function on a computer system always involves, at least implicitly, technical considerations. Thus, all features resulting from programming contribute to the technical character of a claim. Hence, these features also need to be taken into account when assessing inventive step under Art. 56 EPC, and must involve an inventive step in order to be patentable.

This approach is also in line with Art. 27 TRIPS. The direct applicability of TRIPS to the EPC1973 might be questioned, since the European Patent Organization is not a member of the WTO Agreement and thus not subject to any direct obligations deriving from GATT/TRIPS. However, with the revision undertaken in the EPC2000, it was the clear intention of the lawmaker<sup>39</sup> to bring Art. 52 (1) EPC into line with Art. 27 (1), first sentence of the TRIPS Agreement with a view to enshrining the word "technology" in the basic provision of substantive European patent law, clearly defining the scope of the EPC, and making it plain that patent protection is available to technical inventions of all kinds.

As the above revision in Art. 52 (1) EPC2000 has been ratified by all EPC member states, TRIPS conformity is now an integral part of the EPC2000, meaning that the EPC2000 must be construed in line with TRIPS.

Similar to Art. 52 EPC2000, Art. 27 TRIPS stipulates that "patents shall be available for any inventions (...) in all fields of technology" subject to certain prerequi-

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<sup>39</sup> See comments in the preparatory documents for the revision as published in Special edition No. 4 OJ EPO 2007, p. 48 and further references mentioned therein.

sites. As set out in its Preamble, the objective and purpose of the TRIPS Agreement essentially consists of "reducing distortions and impediments to international trade" and in "promoting effective and adequate protection of intellectual property rights". In order to avoid any distortions of trade among the Member States, the intention<sup>40</sup> of the TRIPS Agreement is to set minimum conditions to be met by the Member States.

In order to achieve a common minimum standard among the Member States and in view of construing TRIPS under the principle of *de facto* effectiveness<sup>41</sup> (also referred to as *règle de l'effet utile*), the interpretation of TRIPS cannot be left to the national jurisprudence of the Member States. Thus, TRIPS must be construed autonomously<sup>42</sup>, on the basis of the treaty itself, i.e., independently of national interpretations.

Art. 27 (1) TRIPS does not explicitly define what areas of invention are to be encompassed by the expression "in all fields of technology". However, it appears reasonable to include computer programs as a field of technology and to distinguish computer programs from other fields such as discoveries, scientific theories, mathematical methods, business ideas, games, etc. as such, which the Member States intended to exclude from patent protection.

In the proposals from a number of countries, these areas were included as a negative list and were intended to be excluded from patent protection; these areas were also still included as a negative list in the Chairman's report<sup>43</sup> on the negotiations dated July 23, 1990. It was only with the *Dunkel Draft*<sup>44</sup> that a negative list comprising these areas was abandoned, no doubt on the assumption that they could already be excluded from patentability (but only to the extent they do not them-

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40 See Art. 1 (1) TRIPS.

41 According to which the provisions of a treaty are to be construed in such a way that their purpose is achieved to the greatest extent possible; see also *Haertel* in *Haertel/Stauder*, GRUR Int. 1982, 85 seq. (90).

42 *Schiurma* IIC 2000, 36 seq.

43 Status of work in the negotiating group, Chairman's Report to the GNC, GATT Doc. MTM.GNG/NG11/W/76.

44 GATT Doc. MTN.TNC/W/FA, reproduced in: World Intellectual Property Report, February 1992, at 42.

selves incorporate technical aspects, hence the critical "as such" limitation) WPS: that's fine as a footnote) through the restriction to "fields of technology". From this development, it is apparent that no Member State of TRIPS equated or intended to equate computer programs with mathematical methods or the like. This would also be in conflict with the nature of computer programs, which according to the definitions set out by the EPO President in the referral G 3/08 are to be understood as a "series of steps (instructions) which will be carried out by the computer when the program is executed". Just as pharmaceutical and agrochemical products can be included within Art. 27 (1) TRIPS without any difficulty<sup>45</sup>, and thus, can be ascribed to a "field of technology", computer programs can also be qualified as belonging to a "field of technology". Equally, computer programs cannot be excluded *a priori* from every "field of technology" and thus from Art. 27 (1) TRIPS. Moreover, while Art. 27 (3) TRIPS specifies definitively those areas of invention that a Member State can exclude from patentability, the attempt to expand artificially the areas of exclusion permitted by Art. 27 (3) TRIPS would result in a considerable weakening of the principle laid down in Art. 27 (1) TRIPS, i.e. that patent protection shall be available "in all fields of technology". This would thus prevent the objective of TRIPS from being achieved<sup>46</sup>. Also, in view of the commonly accepted<sup>47</sup> *accumulation principle* through which copyright protection and patent protection can be cumulatively provided, and in view of the fundamentally different nature of copyright protection and patent protection, no other conclusion can be drawn from Art. 10 seq. TRIPS, which stipulates copyright protection for computer programs. In other words, it cannot be concluded from the existence of specific provisions concerning the copyright protection of computer programs in TRIPS, that computer programs shall be excluded from the scope of Art. 27 (1) TRIPS regarding patents.

In view of "promoting effective and adequate protection of intellectual property rights" as laid down in the Preamble of TRIPS, it is believed that a broader under-

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45 See e.g. Art. 70 (8) TRIPS.

46 In view of the "Interpretation in the light of its object and purpose", as e.g. laid down in Art. 31 of the Vienna Convention on the Law of Treaties whose codified principles, in particular of customary international law can serve as a starting point, as well as in view of the "Principle of *de facto* effectiveness" (*Règle de l'effet utile*).

47 The accumulating principle which permits the claim to parallel systems of protection as a fundamental principle of industrial property law and copyright, see e.g. *Lehmann* GRUR 1995, 250 seq. and *Ullrich* GRUR Int. 1995, 623 seq.

standing of "technology" in the light of computer programs and their applicability is appropriate.

In this connection, it is noted that Accenture is a global consulting firm that regularly serves 94 Fortune Global 100 companies and more than two-thirds of the Fortune Global 500. Accenture got its start in the mid-1950s developing tools for managing businesses using mainframe computers. Today, Accenture uses industrial and management science disciplines to address problems of human organization, collaborating with clients to help them become high-performance businesses and governments. Accenture's vision – "bringing innovations to improve the way the world works and lives" – focuses on applying scientific and engineering methods to organizing businesses, non-profit groups, and the public sector.

Engineering and scientific principles applied to the management of people, organizations, and businesses have been recognized as innovative for more than a century, providing society with useful, concrete, and tangible advancements. What has been termed variously *industrial engineering* or *management science* encompasses a variety of practical and technical disciplines. Industrial engineering broadly includes fields of mathematics, logics, economics, operations research, engineering, and social sciences, deployed to improve the operations of integrated systems of industry, finance, and business management.

The Handbook of Industrial Engineering: Technology and Operations Management<sup>48</sup>, defines an "Industrial and Systems Engineer" (and thus implicitly also industrial engineering) as:

"concerned with the design, installation, and improvement of integrated systems of people, material, equipment, and energy by drawing upon specialized knowledge and skills in the mathematical, physical, and social sciences, together with the principles and methods of engineering analysis and design to specify, predict, and evaluate the results to be obtained from such sys-

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<sup>48</sup> The Handbook of Industrial Engineering: Technology and Operations Management, edited by Gavriel Salvendy, John Wiley & Sons, Inc., 3<sup>rd</sup> ed. 2001 (page 5).

tems."

Industrial engineers focus their applied scientific, mathematical, and engineering improvements upon systems of human organizations ("enterprises") which can be anything from a single person's activity, to a larger corporate, non-profit, or governmental organization. "[T]he systems designed by industrial engineers involve people as basic components."<sup>49</sup>

The development and history of industrial engineering as a field includes the systematic measurement and analysis made by Charles Babbage of factory operations during the early 1800s, the development of early scientific techniques for managing industry by numerous innovators, and the development of the first mass production system by Eli Whitney in 1798<sup>50</sup>. In the later 1800s, Frederick W. Taylor developed his theory of "scientific management" by measuring production steps and introducing new improvements to increase efficiency. His methods brought significant and rapid increases in productivity. Other researchers and engineers such as Frank and Dr. Lillian Gilbreth, Henry Gantt, and W. A. Shewhart, introduced new methods including time and motion studies, planning and scheduling methods, and statistical quality control. Henry Ford developed the innovations of his car assembly line, bringing automobile products to the mass market<sup>51</sup>.

As a testament to the importance of these developments, the Society of Industrial Engineers was formed in the early 20<sup>th</sup> century, the American Management Association in 1922, and the American Institute of Industrial Engineers in 1948. The first course in Industrial Engineering was introduced in 1908 in Pennsylvania State University, the same year Ford produced the Model T.

More recently, the application of science and engineering to the problems of human organizations in industry and government expanded with the development of digital computers. The field now spans the separate but often interrelated special-

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49 See page 3 of Introduction to Industrial and Systems Engineering , Wayne C. Turner et al., Prentice Hall, 3<sup>rd</sup> ed. 1993.

50 See Introduction of Industrial and Systems Engineering at 13; Handbook of Industrial and Systems Engineering at 4.

ties of information technology, manufacturing and production systems, service industry systems, performance improvement management, human factors and ergonomics, quality management and control, decision analysis, and optimization systems and methods.

This broader understanding of "technology" is also corroborated by the etymology of the French expression "technologique" going back to the ancient Greek expression *τεχνολογία*, meaning treaty or dissertation on an art deduced from *τέχνη*, *téchnè* (art, industry, ability), implying industrial and commercial applications in contrast to areas of "pure" science or of artistic creations, and the suffix "-logie" also going back to the ancient Greek *λόγος*, *logos* meaning word, discussion.

The unquestioned economic progress that the innovative, practical application of science and engineering to business organizations and processes has produced underscores the importance of that application to the progress of science and useful arts, and leads to a broader concept of what is considered technology and technical contribution to the prior art.

### III. Concluding remarks

Given this background, and the progress of what constitutes practical innovation and technology, the proper assessment of what is to be regarded as a technical character in the sense of pertaining to a "field of technology", is particularly crucial when assessing the patentability of the claimed subject matter, especially in view of the requirement of inventive step under Art. 56 EPC.

An example of a "field of technology" in the above sense is a digital noise filter for reducing noise fluctuations of a specific variable. If the specific (new and innovative) digital noise filter was implemented in a music player (such as an MP3-player) in order to reduce the noise fluctuations of the music being output to the user, such new and innovative filter being applied to a digital signal containing music information would not only be regarded an invention within the meaning of Art.

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51 See Introduction to Industrial and Systems Engineering at 13-15.

52 EPC, but the corresponding features would also be regarded as giving a technical contribution to the prior art. Thus, the innovative digital noise filter would be taken into consideration when assessing inventive step under Art. 56 EPC. However, if the same digital noise filter were to be applied to reduce noise fluctuations of a specific variable relating to a stock value of the stock market, the features relating to the innovative digital noise filter are - under the current practice and understanding of "technology" - unlikely to be regarded as giving a technical contribution to the prior art (i.e. not pertain to a "field of technology"); in the result, the innovative digital filter would not be taken into consideration when assessing inventive step under to Art. 56 EPC. While the innovation implemented in the digital noise filter for both examples is identical, the current narrow understanding of "technology" and technical character leads to distorted results.

Such discrimination based on the narrow understanding of the term "technology", apart from being in contradiction with Art. 27 (1) TRIPS, which requires that " patents shall be available and patent rights enjoyable without discrimination as to (...) the field of technology", is also irreconcilable with any of the basic principles<sup>52</sup> of patent law going back to the natural right or property right theory (German: *Naturrechts- bzw. Eigentumstheorie*), reward theory (German: *Belohnungstheorie*), incentive theory (German: *Anspornungstheorie*) and the contract or disclosure theory (Geman: *Vertrags- bzw. Offenbarungstheorie*).

In summary it is believed that the present approach taken by the Boards of Appeal to predominantly focus on the assessment of inventive step under the *modified problem solution approach*, is acceptable, provided a broader concept of "technology" is adopted, particularly in order to interpret Art. 52 EPC2000 in line with TRIPS and come to equitable solutions with respect to modern innovations.

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<sup>52</sup> See e.g. *Bernhardt/Krasser*, Patentrecht, Ein Lehr- und Handbuch, 6<sup>th</sup> edition, 2009, page 36 seq.; *Machlup/Penrose* 10 The Journal of Economic History 1, 10 (1950), see page 10.



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Enclosures:

- Introduction to Industrial and Systems Engineering, Wayne C. Turner et al.
- Handbook of Industrial Engineering: Technology and Operations Management, edited by Gavriel Salvendy