29 August 2019

Enlarged Board of Appeal
European Patent Office
80298 Munich
Germany
Attn. Mr Wiek Crasborn, registry
EBAamicuscuriae@epo.org

Re: European Patent Office Enlarged Board of Appeal Referral G 1/19 (patentability of computer simulations)

Dear Sirs,

We are writing to provide Intellectual Property Owners Association (IPO)'s view on the questions referred to the Enlarged Board of Appeal (EBA) in G 1/19. IPO is pleased to be able to provide its opinion on the questions referred.

Intellectual Property Owners Association is an international trade association representing companies and individuals in all industries and fields of technology that own or are interested in intellectual property rights. IPO's membership includes more than 200 companies and more than 12,000 individuals who are involved in the association either through their companies or as inventor, author, executive, law firm, or attorney members.

The members of the IPO Boards of Directors, which approved the filing of this brief, are listed in the appendix of this letter. IPO procedures require approval of positions in briefs by a two-thirds majority of directors present and voting.

Background and Recommendation

The applicant (appellant) appealed against the decision of the Examining Division refusing European patent application No. 03793825.5. The claims pursued by the appellant in this application related to the computer-implemented simulation of the movement of an autonomous entity through an environment. The Examining Division essentially argued that the simulation model was non-technical and that its implementation on a computer was obvious.

Questions regarding the patentability of computer simulations have been referred to this Board. It is expected that the Board's answer to these questions will provide much needed clarity to the scope of the technical character framework used by the EPO, especially as they relate to specific computer implemented inventions.

Regarding this case, we respectfully suggest that the referred questions should be answered as follows:

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1. Question 1 should be answered as “Yes, a computer-implemented simulation of a technical system or process can solve a technical problem by producing a technical effect which goes beyond the simulation’s implementation on a computer, if the computer-implemented simulation is claimed as such”.

2. Question 2 should be answered as “Yes, it is a sufficient condition that the simulation is based, at least in part, on technical principles underlying the simulated system or process”.

3. Question 3 should be answered as “The answers to the first and second questions are yes, even if the computer-implemented simulation is claimed as part of a design process, in particular for verifying a design”.

Legal Discussion

In the Interlocutory decision of the Technical Board of Appeal of 22 February 2019 related to this case T0489/14, the Board has indicated an intention to deviate from the approach established by the EPO Technical Board of Appeal in the landmark decision T1227/05 and followed by other decisions (e.g.: T 625/11 of January 2017). We believe that the approach adopted in T1227/05 is the correct approach and should be followed in this case. Answering the referred questions in the negative would deviate from the approach of the T1277/05 decision and require a new test for determining the patentability of computer implemented inventions.

In case T 1227/05, the deciding board concluded that the claimed numerical simulation of a noise-affected circuit described by a model featuring input channels, noise input channels and output channels and a system of differential or algebroid differential equations was a functional technical feature. The English translation of T 1227/05 in the EPO Official Journal reads:

"Simulation performs technical functions typical of modern engineering work. It provides for realistic prediction of the performance of a designed circuit and thereby ideally allows it to be developed so accurately that a prototype's chances of success can be assessed before it is built. The technical significance of this result increases with the speed of the simulation method, as this enables a wide range of designs to be virtually tested and examined for suitability before the expensive circuit fabrication process starts.

Without technical support, advance testing of a complex circuit and/or qualified selection from many designs would not be possible, or at least not in reasonable time. Thus computer-implemented simulation methods for virtual trials are a practical and practice-oriented part of the electrical engineer's toolkit. What makes them so important is that as a rule there is no purely mathematical, theoretical or mental method that would provide complete and/or fast prediction of circuit performance under noise influences."

In the Interlocutory decision of the Technical Board of Appeal in this case (§15), the Board’s criticises T 1227/05 stating that “although a computer-implemented simulation

of a circuit or environment is a tool that can perform a function "typical of modern engineering work", it assists the engineer only in the cognitive process of verifying the design of the circuit or environment, i.e. of studying the behaviour of the virtual circuit or environment designed" and that "the decision appears to rely on the greater speed of the computer-implemented method as an argument for finding technicality".

On the contrary, following T 1227/05, we believe that the simulations and the process of verifying the design of a circuit or an environment cannot be performed purely mentally and considered cognitive processes and that T 1227/05 does not rely on the speed of a simulation method to confer technicality to the method but only to measure its accuracy and/or efficiency.

In addition, we respectfully disagree with the Board's view (Interlocutory decision of the Technical Board of Appeal of 22 February 2019 related to the case T0489/14, §11) according to which "a technical effect requires, at a minimum, a direct link with physical reality" and in particular with the strict interpretation given by the Board to the "direct link with physical reality".

On the contrary, following T 769/92 (OJ EPO 1995, 525), we believe that the necessity for technical considerations in the design of a computer implemented method or system is sufficient for the programming features of the method or system to "implicitly" solve a technical problem or achieve a technical effect. In particular, in T 769/92 (OJ EPO 1995, 525), the deciding board reasoned that the implementation of a user interface in the form of a "transfer slip" was not merely an act of programming but required technical considerations on the part of the programmer before programming could start; it therefore provided a technical contribution to the art (see reasons 3.7 and 3.8). Moreover, in T 769/92 the Board states that the very need for such technical considerations "implie[d] the occurrence of an (at least implicit) technical problem to be solved (Rule 27 EPC [1973]) and (at least implicit) technical features (Rule 29 EPC [1973]) solving that technical problem" (reasons 3.3). In T 625/11, the deciding board reasoned that a claimed method for establishing a limit value for a nuclear reactor by simulation had technical character despite not requiring implementation. Similarly, in T 471/05, the deciding board reasoned that a claimed method for designing an optical system had technical character without requiring the optical program to be actually produced since the optics design program itself is inherently technical (e.g., must run on computer hardware). Thus, it is our view that a "direct link with physical reality" requirement is not only not necessary to provide technical character in the case of computer simulations, but would also conflict with existing case law.

For at least these reasons, we respectfully submit that the Enlarged Board of Appeals should answer "Yes" to the questions referred by this case.

The referred questions:

(1). In the assessment of inventive step, can the computer-implemented simulation of

a technical system or process solve a technical problem by producing a technical effect which goes beyond the simulation's implementation on a computer, if the computer-implemented simulation is claimed as such?

(2). If the answer to the first question is yes, what are the relevant criteria for assessing whether a computer-implemented simulation claimed as such solves a technical problem? In particular, is it a sufficient condition that the simulation is based, at least in part, on technical principles underlying the simulated system or process?

(3). What are the answers to the first and second questions if the computer-implemented simulation is claimed as part of a design process, in particular for verifying a design?

We hope that the above suggestions are useful.

Yours faithfully,

Henry Hadad
President

APPENDIX[1]

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