

The Problem of the “Closest Prior Art”

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Kathrin Fücksle, Thorsten Bausch (Hoffmann Eitle)

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As readers of this blog will be aware, the EPO applies a quite peculiar and unique method to the analysis of inventive step, the “problem-solution approach”. This approach breaks the statutory question of Art 56 whether the invention was, having regard to the state of the art, obvious to a person skilled in the art, down into a 3-step test. This involves (1) the determination of the “closest prior art”, (2) the formulation of the “objective technical problem”, and (3) the assessment whether or not the claimed invention would have been obvious to the skilled person. One might quip that this approach has replaced a single problem (the determination of obviousness/inventive step) with three problems. This is because parties nowadays frequently argue about (i) what the closest prior art was, (ii) what the objective problem was, and of course (iii) whether the invention, expressed as the solution to the objective technical problem, was obvious or not at the priority or filing date. This contribution will focus on question (i), i.e. the question of what is (or should be) the closest prior art, and whether the EPO’s approach towards the closest prior art has changed in the last couple of years.

The jurisprudence of the Boards of Appeal has developed certain criteria for identifying the document which is used as a starting point for the assessment of inventive step, the so-called “closest prior art”. Usually, the closest prior art is the document which shares a common purpose with the invention or aims at the same objective, and which requires the minimum of structural and functional modifications (e.g. T 606/89). The Boards of Appeal of the EPO are quite adamant that this approach is “objective” and rules out hindsight, “if correctly applied”. For example, the Case Law Book states:

According to board of appeal case law (see T 1/80, OJ 1981, 206; T 20/81, OJ 1982, 217; T 24/81, OJ 1983, 133; T 248/85, OJ 1986, 261), the assessment of inventive step has to be based on the objective, not subjective, achievement of the inventor. By starting out from the objectively prevailing state of the art, the technical problem is to be determined on the basis of objective criteria and consideration given to whether or not the disclosed solution is obvious to the skilled person. Although the problem and solution approach is not mandatory, its correct application facilitates the objective assessment of inventive step. The correct use of the problem and solution approach rules out an ex post facto analysis which inadmissibly makes use of knowledge of the invention (T 564/89, T 645/92, T 795/93, T 730/96 and T 631/00). In principle, therefore, the problem and solution approach is to be used; however, if exceptionally some other method is adopted, the reasons for departing from this generally approved approach should be stated.

But let us be honest: At least the closest prior art cannot be determined without hindsight, i.e. without knowing the invention beforehand (ex post facto). This is so almost by definition: How can you determine whether certain prior art is close to or distant from the invention, if you are supposed not to know the invention? So the task is to first determine the closest prior art having knowledge of the invention, to then determine the problem that the invention “objectively” solves vis à vis this closest prior art (again requiring the invention to be known), and then to try to forget the invention completely when judging the third question of obviousness. This may or may not work, but excluding hindsight is probably the most difficult task in the determination of inventive step anyway, irrespective of the methodology used.

The concept of the closest prior art within the problem solution approach has been invented to facilitate and objectivize the examination of inventive step. The facilitation resides in the presumption that if the invention is not obvious starting from the closest prior art document, then it will a fortiori also be non-obvious starting from further remote prior art. Thus, if and when one document can be identified clearly as being closest prior art, the examination of inventive step can be focused and limited on this one document (in combination with any further document from the state of the art). The question is what happens in cases where (a) several documents are (arguably) about equally close to the invention and (b) if no document qualifies as a sensible starting point. In scenario (a), an Opponent was, at least in the past, usually allowed to present multiple attacks for lack of inventive step even if they start from different “closest” prior art documents.

However, one Board of Appeal decision and a subsequent change in the Guidelines for Examination G-VII, 5.1 about 18 months ago has raised concerns that the Opposition Division may take a step-wise approach and select the closest prior art document before proceeding to steps (2) and (3) of the problem-solution-approach. This might, in effect, require that an Opponent identifies his “best case” approach from the very start of the proceedings and focusses on just that one approach. Specifically, the Guidelines now cite T 320/15 stating:

... applying the problem-solution approach from different starting points, e.g. from different prior-art documents, is only required if it has been convincingly shown that these documents are equally valid springboards. In particular in opposition proceedings the structure of the problem-solution approach is not that of a forum where the opponent can freely develop as many inventive step attacks as he wishes in the hope that one of said attacks has the chance of succeeding.

Interestingly, T 320/15 mainly relates to an appeal based on an alleged violation of Opponent’s right to be heard, rather than the assessment of inventive step itself. In addition, the Board itself did not hesitate to start from two different documents. However, the decision has probably made its way into the Guidelines in view of one particular paragraph, which reads (in our translation from French) as follows:

With regard to the second objection, the Board notes that according to the problem-solution approach, the appellant should have selected, in a first step, the most promising document to arrive at the claimed invention. The appellant reproaches the Opposition Division for not having allowed him to make several choices as to the closest prior art document and to substantiate several attacks based on each of those documents. However, there is no indication in the record that the appellant was not given the opportunity to choose a document other than D4 as the closest state of the art. Furthermore, the structure of the problem-solution approach does not consist of a forum in which the appellant can at will develop various attacks based on various documents of the state of the art in the hope that one of them would have a chance of succeeding. Therefore, the second objection must also be rejected.

Thus, T 320/15 does not seem to prohibit an inventive step analysis based on two or even more different prior art documents (thus using two or more problem-solution-approaches), but seems to rather caution against abuse. Also the Guidelines for Examination repeatedly emphasize that multiple starting points can be appropriate. E.g., they state that “there is no need to discuss which document is “closest” to the invention; the only relevant question is whether the document used is a feasible starting point for assessing inventive step”.

At present, T 320/15 seems to not have been used by other Boards to prevent an Opponent from presenting more than one inventive step attack. Therefore, one should not overestimate the practical relevance of this decision, in particular for the appeal stage. This is even more so because several recent decisions rather point in the opposite direction, supporting a more liberal approach for the choice of the starting point for the assessment of inventive step.

Albeit in a somewhat unusual context, the criteria for the determination of the closest prior art were put to a test in T 405/14. In this case, the Appellant argued that the skilled person would never start from document D2 when document D1 was available. This argument relied on the view that document D1, in addition to sharing many features with the claimed invention, also addressed the same problem as the invention, which was (arguably) not the case for D2.

The Board, however, did not agree and concluded that D1 and D2 were both suitable starting points for the assessment of inventive step. In spite of its finding that the claimed subject-matter was not inventive when starting from D1, the Board took the trouble of analyzing the notion of the closest prior art in detail. In particular, the Board observed that, depending on the outcome of the objection for lack of inventive step, the term “closest prior art” encompasses two different meanings (cf. Reasons 18):

On the one hand, when concluding that a claimed invention is inventive, the notion of “closest prior art” seems to rely on the assumption that there exists a metric defining the distance between items of prior art and the invention, and that an invention which is not obvious from the “closest prior art” would a fortiori not be obvious with regard to all other items of prior art which, by definition, are not so close. Independently of the fact that the jurisprudence does not define any such metric beyond indicating what criteria might be considered relevant to it (common features, similar purpose, ...), there are frequent situations in which the identification of a unique closest or best starting point is not straightforward or even possible.

The second meaning is often formulated in terms of a requirement for the “closest prior art” to deal with the same problem as the invention. This is intended to avoid hindsight leading to a finding that inventive step is lacking. Here, there is no requirement that the “closest prior art” be unique, because the basic rule is that an invention lacks inventive step if it would have been obvious to the skilled person, without hindsight, for any starting point.

Furthermore, the assumptions underlying the concept of “closest prior art” do not accord well with the general principle, derived from the case law, that, in order to be successful, an objection of lack of an inventive step must establish a complete logical chain of considerations which would lead the skilled person to the claimed subject-matter. This basic requirement opens the door to the elaboration of various scenarios under the well-established problem-solution approach, and possibly relying on different items of prior art as starting points, not even limited to items of prior art dealing with the same or similar problem so long as hindsight is avoided.

Subsequently, the Board referred to T 2057/12. In this earlier decision, the same Board had questioned whether the concept of the “closest prior art” results in an analysis of inventive step which is objective and takes all realistic circumstances into account, or whether it rather excludes documents which would in practice be taken into account by the skilled person. When further investigating this issue, the Board drew the following conclusions (cf. T 405/14, Reasons 19; emphasis added):

Experience teaches that a document which shares a common purpose with a claimed invention, as well as a large number of features, in order to solve the same or a similar problem, will not necessarily allow a convincing objection of obviousness to be raised against that invention, whereas said invention may indeed result, without hindsight, in an obvious manner from an apparently less promising item of prior art. In this respect, all items of prior art considered as starting points which allow the elaboration of a realistic attack under Article 56 EPC may be considered to qualify as “closest prior art”, although this currently accepted terminology is somewhat misleading. The approach thus excludes any abstract notion of metric. It follows that every objection of lack of inventive step has to be assessed on its own merits and that a document selected as starting point cannot be excluded only because some seemingly more promising item of prior art is available.

Where does this leave us?

T 405/14 might suggest that, as a matter of principle, the concept of the “closest” prior art and its primacy in the first step of the problem-solution-approach is fundamentally put into question. If the term “closest prior art” (CPA) involves “no metric”, any document may qualify, provided that there is a logical (obvious) way from there to the invention. Widening the existing concept of the CPA, though, may compromise predictability, which is often praised by practitioners as an important benefit of the problem solution approach.

In any case, the Board’s observations in T 405/14 can be seen as a word of caution against a too narrow concept of the “closest prior art”. A document which concerns the same problem or use, does not necessarily have the most features in common with the invention, but can nonetheless be a suitable starting point for the evaluation of inventive step. This understanding would be fully in line with T 1841/11 wherein the Board held

(cf. Catchword):

The closest prior art should relate to the same or at least a similar purpose (or objective) as the claimed invention. Even if prior art relating to the same purpose is available, it is not excluded that a document relating to a similar purpose might be considered to represent a better – or at least an equally plausible – choice of closest prior art, provided that it would be immediately apparent to the skilled person that what is disclosed in the document could be adapted to the purpose of the claimed invention in a straightforward manner, using no more than common general knowledge (Reasons, point 2.6).

If, despite the availability of prior art relating to the same purpose as the claimed invention (here: manufacturing a semiconductor substrate comprising a silicon-germanium film), it is nevertheless considered appropriate to select as closest prior art a disclosure relating to a similar purpose (here: manufacturing a semiconductor substrate comprising a germanium film), at least one claimed feature corresponding to the purpose of the invention will generally appear as a difference over the closest prior art (here: silicon-germanium).

However, this difference is not one which can legitimately be invoked in support of inventive step. The problem-solution approach presupposes that the skilled person has a purpose in mind from the very beginning of the inventive process, which in this case is the manufacture of a known type of semiconductor substrate comprising a silicon-germanium film. Within this conceptual framework, it cannot be logically argued that the skilled person would find no motivation to incorporate silicon-germanium. Moreover, an argument that it would not be straightforward to incorporate this difference into the teaching of the document considered to be closest prior art, or that this would require more than common general knowledge, would not, in such a case, constitute an argument in favor of inventive step, but rather an argument that this document is not in fact a promising starting point.

Similar considerations can be found in T 1518/17 (cf. also T 1841/11). Taken together, these decisions seem to suggest that the “closest prior art” is (or should be) no more and no less than the most “promising springboard” towards the invention (which can, at least in our view, only be determined once the problem-solution-approach has been fully carried out). Also in T 1742/12, the Board effectively treated the terms “closest” and “most promising” as being equivalent and made the following observations (cf. Reasons 6.5):

... a piece of prior art on the basis of which the claimed invention is considered non-obvious cannot be “closer” than a document on the basis of which the claimed invention appears obvious, because it is evident in this situation that the former does not represent the most promising springboard from which to arrive at the invention (see T 824/05, Reasons 6.2).

Based on T 1742/12 and T 824/05, the Guidelines conclude that “the applicant or proprietor cannot refute the argument that the claimed subject-matter lacks inventive step by submitting that a more promising springboard is available”. It was exactly this argument on which the Appellant relied in T 405/14 and which was turned down by the Board.

Taking the above case law into consideration, it seems that the problem-solution-approach has meanwhile matured into a 4-step test, involving:

- (1) identifying a reasonable starting point among the available prior art as candidate “closest prior art”;
- (2) assessing the technical results (or effects) achieved by the claimed invention and defining the objective technical problem;
- (3) examining whether or not the skilled person, having regard to the state of the art, would have modified the embodiment of (1) in the claimed manner in order to solve this problem;
- (4) unless (1) to (3) lead to a finding of lack of inventive step, repeating (1) to (3) for any other reasonable starting point among the available prior art until the available reasonable starting points are exhausted or until a finding of lack of inventive step is reached.

This would then no longer be so different from the inventive step approaches taken by at least some national courts in EPC member states. In Germany, for example, the concept that there is a preference of a “closest” prior art and that the examination of inventive step can be stopped once it has been shown that the invention is not obvious starting from the “closest prior art”, has long been dismissed and criticized. The prevailing opinion in Germany is that inventive step must be present vis à vis the entire prior art and should not depend on the choice of the starting point in an individual case.