

Question Q217

National Group: Netherlands

Title: The patentability criterion of inventive step / non-obviousness

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Date: 26 May 2011

Questions

I. Analysis of current law and case law

Please note that the answers to the questions below deal with the general principles inventive step/non-obviousness, and do *not* deal with specific area's such as selection inventions, biotechnology, chemistry, pharmaceuticals, software and computer-related inventions and business methods.

Level of inventive step / non-obviousness

1. *What is the standard for inventive step / non-obviousness in your jurisdiction? How is it defined?*

In the Netherlands, two types of patents exist: *European patents* granted by the European Patent Office (EPO), in which the Netherlands (amongst other countries) has been designated and which are validated for the Netherlands, and *Dutch patents*, granted by NL Octrooiencentrum (=Netherlands Patent Office, hereafter: **NPO**). European patents are granted after examination on, inter alia, novelty and inventive step. They may be revoked or partially revoked by the opposition division of the EPO. National patents are granted after drawing up a search report (by NPO or EPO) accompanied by an opinion on whether the claimed invention meets the requirements on novelty and inventive step. Both European and national patents may be revoked by the Netherlands courts, national patents only after NPO has issued an opinion on whether or not the alleged grounds for revocation are applicable. The same standard for inventive step is applicable:

For Dutch patents: Article 6 Dutch Patents Act (DPA):

"An invention shall be considered as involving an inventive step if, having regard to the state of the art, it is not obvious to a person skilled in the art. [...]"

For European patents: Article 56 European Patent Convention 2000 (EPC 2000):

"An invention shall be considered as involving an inventive step if, having regard to the state of the art, it is not obvious to a person skilled in the art. [...]"

Article 75(1) DPA provides that a (Dutch or European) patent shall be invalidated by the court where (a) that for which the patent has been granted is unpatentable by virtue of the provisions of Articles 2 to 7 DPA or, where a European patent is concerned, by virtue of the provisions of Articles 52 to 57 EPC 2000.

2. *Has the standard changed in the last 20 years?*

No, the standard itself has not changed since both provisions find their origin in Article 5 of the Strasbourg Convention of 27 November 1963.

Has the standard evolved with the technical/industrial evolution of your jurisdiction?

The application of the standard has in this sense developed, that, the NPO and Netherlands courts are more inclined to follow as much as possible the interpretation of Article 56 EPC 2000 by the EPO and other European countries.

3. *Does your patent-granting authority publish examination guidelines on inventive step / non-obviousness? If yes, how useful and effective are the guidelines?*

Dutch patent applications filed after 1 April 1995 are no longer examined by the NPO on inventive step. Therefore, Dutch patents are 'registration patents'. Nevertheless, an opinion of NPO on whether the claimed invention fulfills the requirement of inventive step is published with the search report. Furthermore, Article 76(1) DPA provides that the party, which files in court a claim for nullity of a Dutch patent, must submit an opinion by the NPO regarding the validity. Further, Article 84(1) DPA provides that any interested party may request the NPO to render its advice on the (in)validity of a Dutch patent. In such (inter partes) opinions, the NPO also deals with the inventive step issue. Therefore, the NPO practice is relevant for the assessment of inventive step in the Netherlands. Until 1996, the NPO has published examination guidelines, which also dealt with the inventive step issue. Nowadays, in principal the Guidelines for Examination in the European Patent Office (hereafter: EPO Guidelines) are followed in respect to the assessment of inventive step.

4. *Does the standard for inventive step / non-obviousness differ during examination versus during litigation or invalidity proceedings?*

No. The legal standard is identical.

Construction of claims and interpretation of prior art

5. *How are the claims construed in your jurisdiction? Are they read literally, or as would be understood by a person skilled in the art?*

The claims are not read literally, but construed and read as understood by the person skilled in the art.

6. *Is it possible to read embodiments from the body of the specification into the claims?*

Yes, if the person skilled in the art would do so. Essentially, patent claims are to be interpreted in the context of the description and the drawings. Thus in the Netherlands, it is very well possible that a claim is interpreted in a narrower sense

than appears from the literal terms of the claim on the basis of the embodiment and drawings discussed in the description (e.g. Court of Appeal The Hague 22 September 2005, as upheld by Supreme Court 7 September 2007, *Lely Enterprises/Delaval*). We note that the opposite situation is also possible.

7. *How is the prior art interpreted? Is it read literally or interpreted as would be understood by a person skilled in the art? Is reliance on inherent disclosures (aspects of the prior art that are not explicitly mentioned but would be understood to be present by a person skilled in the art) permitted?*

The prior art is not read literally, but must be interpreted from the point of view of the person skilled in the art and - in case of assessment of inventive step - at the time of priority relevant for the application. Features not explicitly described in the prior art but inherent in, or implied by it, are also to be taken into consideration if they come to the skilled man's mind when reading the prior art.

8. *Do the answers to any of the questions above differ during examination versus during litigation?*

In principle the answers to these questions do not differ since the same standards apply to examination of European patents by the EPO, the opinions on Dutch patent applications and patents by the NPO, and during litigation before the Netherlands courts. However, as will follow from the answers below, it is our impression that Netherlands courts may be less formalistic.

Combination or modification of prior art

9. *Is it proper in your jurisdiction to find lack of inventive step or obviousness over a single prior art reference? If yes, and assuming the claim is novel over the prior art reference, what is required to provide the missing teaching(s)? Is argument sufficient? Is the level of the common general knowledge an issue to be considered?*

In the Netherlands, lack of inventive step can be found over a *single* prior art reference. The general requirement for this is that the relevant claim is not inventive in view of this prior art reference. In theory, argument would be sufficient, however, in practice, the reasoning which is used is that a claim is not inventive in view of the prior art reference *in combination with common general knowledge*. This is sometimes also referred to as that the solution proposed by the claim is "within the ambit of the skilled person in view of his common general knowledge" (e.g. NPO, case 1013620). Also it is sometimes said that a certain feature is "trivial" for the skilled person (e.g. District Court The Hague 2 July 2008, *Van Diepen/Pronk*). Although not stated explicitly, such expressions mean that a certain feature is part of the common general knowledge. The level of the common general knowledge is an issue to be considered, although quite often the NPO and Netherlands courts do not analyze this issue in detail. Rather they merely refer to a certain feature and say that this is part of the common general knowledge, without explaining why. The Netherlands Supreme Court (=Hoge Raad, the highest court in the Netherlands) has confirmed that lack of inventive step can be found on the basis of a single prior art reference in combination with common general knowledge. In this respect, the court stated that this is the case if starting from the prior art reference, the skilled person would have come to the solution of the patented invention on the basis of his common general knowledge (Supreme Court 15 February 2008, *Rockwool/Isover*, applying the so called *could/would* test, see further at question 28). The approach of the EPO (applicable to European patents validated in the Netherlands) is similar. In principle it is allowed to find lack of inventive step or obviousness over a single prior art reference. A *first* situation where this may occur, is

when a document is read taking the common general knowledge up to and including the day before the filing or priority date is taken into account (see EPO Guidelines C-IV 11.4). In that respect the disclosure of a document "grows" over time, in as far as the assessment of inventive step is concerned.

Another situation where lack of inventive step may be found over a single prior art reference is when the distinguishing features over the closest prior art do not make any technical contribution (thus not solving a technical problem). Such features are generally ignored for the assessment of inventive step (see EPO Guidelines C-IV 11.5.2, T 641/00).

A *further* situation where lack of inventive step may be found over a single prior art reference is when there are multiple-embodiments or teachings within the respective document. It may be obvious for the skilled person to combine such embodiments or teachings in case these teachings are associated with each other and provided that there is no inherent incompatibility (see EPO Guidelines C-IV 11.6 (iii)).

In case of any missing teachings in the closest prior art (thus rendering the claimed inventive novel) such teaching(s) may be obtained from the common general knowledge in the field of the invention or from a further reference. In some cases, such as in the case of common general knowledge argument may be sufficient. However, in case this argument is objected, evidence may need to be provided in support of the alleged common general knowledge.

The level of the common general knowledge is an issue to be considered because, as already discussed, the common general knowledge "grows" over time. In other words, the level of common general knowledge is not constant over time and thus depends on the filing date or priority date of the claim in question.

10. *What is required to combine two or more prior art references? Is an explicit teaching or motivation to combine required?*

Within the EPO practice it is generally considered obvious to combine with the closest prior art a well-known textbook or standard dictionary (representing common general knowledge in the technical field), no incentive is required for such combination (see EPO Guidelines C-IV 11.6 (iii)). In case of a teaching within a further prior art reference an incentive to combine must exist. The problem-solution approach (see *infra*, at question 14), and in particular the could-would approach used in the (non)-obviousness reasoning, is a very suitable tool to determine if such incentive is present. In principle an incentive to combine may be both implicit as well as explicit (see EPO Guidelines C-IV 11.5.3).

The NPO also applies this principle of "incentive to combine" if multiple documents needed to be combined in order to arrive at something falling within the scope of the claims (e.g. cases nos. 1013160, 1013620, 1013691, and 1020910). In these cases, the NPO assessed whether the skilled person had an incentive to apply a teaching of a secondary documents to the closest prior art. In the Netherlands, courts also refer to this principle (e.g. District Court The Hague 2 July 2008, *Novartis/Actavis*). This approach is also put within the scope of the could/would test (e.g. District Court The Hague 26 January 2011, *Sandoz/Glaxo*).

11. *When two or more prior art references are combined, how relevant is the closeness of the technical field to what is being claimed?*

The EPO practice is as follows. The closeness of the prior art references is very relevant in as far as the closest prior art, i.e. the starting point for non-obviousness reasoning, is concerned. The EPO Guidelines, C-IV 11.5.1, mention a number of requirements for a document in order to be admissible as closest prior art.

First of all, the disclosure of the document should be directed to a similar purpose or effect as the claimed invention. But in any case, the document should at least belong to the same or closely related technical field as the claimed invention. In view of this,

it is essential to look at the entity, which is claimed. For instance, when a claim is directed to a car having certain advantageous features over the prior art, a document disclosing an airplane having the same features, can not be the closest prior art. Instead, the closest prior art should preferably disclose a car, or at least disclose a different transport vehicle, which is considered as similar to a car within the framework of the claimed invention.

The closeness of the prior art reference becomes less relevant in as far as the secondary (or tertiary) documents are concerned. The technical field of such document may be the technical field of the person (or group of persons) qualified to solve the objective technical problem (EPO Guidelines C-IV 11.3), provided that the objective technical problem prompts the person skilled in art to seek its solution in this other technical field. Thus, the secondary, tertiary documents may be located in neighboring technical fields, general technical fields, but also remote technical fields, provided that the person skilled in the art has been prompted to search in the remote technical field.

The NPO and courts seem to follow the same approach. Courts have confirmed that the closest prior art is the piece of the prior art which shows the combination of features which provides the most promising springboard, and must come from the same or a closely related technical field (e.g. District Court The Hague 26 January 2011, *Sandoz/Glaxo*). With respect to the secondary (or even tertiary) prior art documents, in practice, courts have held that they must come from the same or a related technical field (e.g. District Court The Hague 29 October 2008, *Bergemann/Magaldi*). However, the fact that a secondary document is directed to provide a certain solution is also considered to be relevant (e.g. NPO, case 1026465).

How relevant is the problem the inventor of the claim in question was trying to solve?

It follows from our answers to the previous question and question 14 that the objective technical problem is very relevant in determining the admissible technical fields for non-obviousness reasoning. It may very well be that the objective technical problem is different from the problem the inventor was trying to solve. The objective technical problem is based on objectively established facts (cf. EPO Guidelines C-IV 11.5.2). Nevertheless, the originally envisaged problem (including possible pointers to other technical fields), which is disclosed in the application may still be relevant in determining what technical fields are admissible as secondary documents in the non-obviousness reasoning.

12. *Is it permitted in your jurisdiction to combine more than two references to show lack of inventive step or obviousness? Is the standard different from when only two references are combined?*

Within the EPO practice it is allowed to combine more than two references. However, where more than two references have to be combined with the closest prior art in order to arrive at the claimed invention, this may be an indication of the presence of inventive step. There are some exceptions to such indication of inventive step (see also EPO Guidelines C-IV 11.6 and 11.7).

The *first* exception occurs when combining of one or more documents with the common general knowledge. Such combination as such would normally be obvious, for instance when the common general knowledge is combined with the closest prior art. When the first exception applies, it is allowed to combine two references with the common general knowledge (e.g. standard text book or standard dictionary).

The *second* exception occurs when one reference makes a clear and unmistakable reference to another document. In certain scenarios such reference is to be considered as an integral part of the disclosure of the document in which the reference is made (EPO Guidelines C-IV 7.1 and 9.1).

The *third* exception occurs when the claimed invention does not constitute a true combination of features. Instead, in those cases the claimed invention comprises a mere juxtaposition (or aggregation) of at least two feature(s) or feature sets, each feature (set) having its own technical effect. A combination of features constitutes an aggregation of features in case there is no synergistic effect (e.g. T 389/86, T 204/06) between the features. With "synergistic effect" it is meant that in a combination of features there is a functional interaction between the features, which achieve a combined technical effect, which is greater than the sum of the technical effects of the individual features (or feature sets). In other decisions of the Technical Board of Appeal different wordings are used to explain the same principle, such as in T 55/93, where it was tested if the features were functionally linked in order to be admitted as a true combination invention. In T 1054/05 this is also being referred to as functional reciprocity. Whenever a mere juxtaposition of features occurs it is allowed to construe the invention as solving a plurality of partial problems (T 389/86), each partial problem being solved by a different feature (set). For each partial problem the obviousness may be determined by applying the problem-solution approach independently from the other partial problem. For each partial problem a different secondary document may be used, even a document from a remote field, provided that the respective partial problem prompts the person skilled in the art to look in that technical field (T 32/81, T 324/94). If all partial problems are regarded as obvious, the claimed invention as a whole is also regarded as obvious. It may thus be concluded that for a combination of more than one document with the closest prior art the same standard, namely the problem-solution approach applies albeit that it is based upon more than one (partial) problem and that it is to be applied twice (or more in case of more than two partial problems) independently for each problem.

The courts seem to follow the same approach, although in practice, this approach seems to be applied in a less structured way. In the Netherlands, it has been a long established principle that lack of inventive step cannot be shown on the basis of a cherry picking from various prior art documents ("making a *mosaic*"). Thus while in principle it cannot be excluded that more than two references are combined to show lack of inventive step, examples of such decision are extremely rare. In those cases where more than two references had to be combined to show lack of inventive step, one reference was considered to be part of common general knowledge (e.g. District Court The Hague 27 October 2010, *Sandoz/Merck*).

13. *Do the answers to any of the questions above differ during examination versus during litigation?*

The NPO and the Netherlands courts follow (explicitly or implicitly) the approach of the EPO. However, we note that

- the Netherlands courts seem to be less strict than the EPO in requiring *evidence* that a prior art reference is part of the *common general knowledge*
- the Netherlands courts seem less strict when combining prior documents and common general knowledge, and
- the Netherlands courts seem to apply a less structured, less mathematical approach to making combinations of prior art references.

Technical Problem

14. *What role, if any, does the technical problem to be solved play in determining inventive step or non-obviousness?*

When assessing inventive step, in principle, the problem-solution approach will be applied. This approach is explained and summarized in Case Law of the Boards of

Appeal of the EPO, 6th ed. 2010, Chapter I.D. par. 8 (cf. EPO Guidelines (C-IV, 11.5 - 11.5.3)). This approach has been formalized in the following four steps:

- 1) identify the closest prior art,
- 2) assess the technical results (or effects) achieved by the claimed invention when compared with the "closest state of the art" established,
- 3) define the technical problem to be solved as the object of the invention to achieve these results,
- 4) examine whether or not a skilled person, having regard to the closest state of the art, would have suggested the claimed technical features in order to obtain the results achieved by the claimed invention.

Under this approach, the objective technical problem to be solved must be established under step 3). Other methods for assessing inventive step are not excluded by the Netherlands courts nor by the NPO, but in practice, the EPO does normally not deviate from this method. See further our answer at question 28.

15. *To what degree, if any, must the technical problem be disclosed or identified in the specification?*

In principle, the assessment starts with the formulation of the *objective* technical problem to be solved. The subjective achievement of the inventor, the history of the invention, for example as presented during oral proceedings, is not relevant. Following Rule 42(1)(c) EPC 2000 for European patents and Article 8(k) Implementation Decree 2009 DPA for Dutch patents, the description (specification) is the starting point for identifying the technical problem. This is common practice by the EPO, the NPO and Netherlands courts (e.g. Court of Appeal The Hague 18 December 1997, *Unilever e.a./Nestlé*). However, the specific problem set out in the description may need reformulation if it later appears that the cited prior art in the application is not the closest prior art, or that the technical problem disclosed has in fact not been solved or has not been correctly defined (e.g. NPO cases 1030364, 1030849). The technical effect associated with the reformulated problem must be derivable from the original application. We note that the objective technical problem must be so formulated as not to contain pointers to the technical solution. Amending the specification by incorporating any newly defined objective problem and technical effect associated with this problem is not allowed if they were not already disclosed in the original application. A mere addition to the specification of a reference to newly defined closest prior art is normally allowed. Further, we note that the formulation of the problem cannot be so general, that clear indications in the prior art document towards the claimed solution are circumvented, because then the inventive step test will not be sufficiently selective (e.g. T 1019/99 and District Court The Hague 26 January 2001, *Sandoz/Glaxo*).

Advantageous effects

16. *What role, if any, do advantageous effects play in determining inventive step or non-obviousness?*

There exists no formal requirement that an invention, to be patentable, must have advantageous effects (e.g. EPO Guidelines C-IV, 1.3, T 588/93). An alternative solution to a known problem, without advantageous effects, can be patentable as long as that problem is solved in another non-obvious way (cf. Court of Appeal The Hague 6 February 1997, *Clysan/Dreizler II*). Decisive is whether or not the claimed invention, starting from the closest prior art, is obvious for a person skilled in the art who wants to solve the objective problem or, in other words, wants to realize the advantageous effect. The presence of unexpected advantageous effects - which are

not merely achieved as a bonus effect in a one-way street situation - may be a secondary indicator for inventive step (see *infra* at question 25).

17. *Must the advantageous effects be disclosed in the as-filed specification?*

As stated *supra* at question 15, for European patent applications Rule 42(1)(c) EPC 2000 provides that "[t]he description shall [...] c) disclose the invention [...] and state any advantageous effects of the invention with reference to the background art [...]". However, as stated at question 16, there is no formal requirement that an invention, to be patentable, must have the advantageous effects as mentioned in the specification. In order to rely on advantageous effects, the skilled person must be able to recognize them as implied by or related to the disclosure of the application as filed.

18. *Is it possible to have later-submitted data considered by the Examiner?*

While European patents are only granted after examination by the EPO Examiner on novelty and inventive step, Dutch patents filed after 1 April 1995 are granted after issue by an NPO or EPO examiner of a search report with an opinion on novelty and inventive step (see our answers to questions 1 and 3). However, the requirements for Dutch patents, -which can be invalidated in court after the NPO has issued an opinion on its validity- and European patents with respect to inventive step are the same. The person skilled in the art must be able to derive the effect of the invention from the application as filed. It must be clear that problem has been solved by the subject-matter of the claims. The application should make plausible that the alleged advantages are realized over the whole area claimed. A new advantageous effect can not be added afterwards. Supplementary post-published evidence that the alleged advantage is indeed realized by the claimed invention may be taken into consideration. Supplementary post-published evidence may not serve as the sole basis to establish that the application indeed solves the problem it purports to solve (T 1329/04, T 1336/04).

19. *How "real" must the advantageous effects be? Are paper or hypothetical examples sufficient?*

Paper or hypothetical examples can be sufficient to rely on. However, in such cases the burden of proof lies on the applicant/patent proprietor (T 792/00). There is no requirement, neither in the DPA nor in the EPC 2000, that the specification must demonstrate by experiment that and why the invention has advantageous effects (e.g. District Court The Hague 17 January 2007, *Conor/Angiotech*). Even a hypothetical experimental protocol can be relied on (T 792/00). However, a party carries the burden of proof for the facts it alleges (e.g. District Court The Hague 31 December 2008, *Kruidvat/Nutricia*, or T 792/00). If contested, alleged advantageous effects to which the applicant/patent proprietor merely refers, without offering sufficient evidence cannot be taken into consideration in assessing inventive step (e.g. T 20/81, T 124/84). The advantageous effect must be demonstrated with sufficiently comprehensive supporting evidence that it can reasonably be extrapolated over the whole scope of the claim (e.g. T 134/00, District Court The Hague 12 May 2010, *Great Lengths/Euro Hair*). In our view, the same principles are applied by the NPO.

20. *Do the answers to any of the questions above differ during examination versus during litigation?*

We have not seen any relevant difference in the decisions of the EPO, NPO and Netherlands courts.

Teaching away

21. *Does your jurisdiction recognize teaching away as a factor in favor of inventive step / non-obviousness?*

In the Netherlands, teaching away is recognized as a factor in favor of (lack of) inventive step. Many examples can be found in case law where a patent holder successfully argued that a certain prior art document teaches away from the patented invention and that the prior art document does therefore not deprive the patent from inventive step, or that the prior art document can therefore not be used in combination with an other prior art document. See, for example, District Court The Hague 16 November 2005, *Trespa/HDM*. This case concerned a patent for a decorative matt sheet with a certain strength, made mainly from unsaturated acrylates and methacrylates. One of the prior art documents disclosed a sheet with the right strength and mattness, but acrylates only formed a minor part of the composition. It was argued that the skilled person would increase the amount of acrylates because he knew that doing so would lead to an even stronger sheet. However, the court ruled that because the document already disclosed a strong plate, the skilled person would not increase the amount of acrylates. Since the document disclosed other components besides acrylates and since the skilled person knew that increasing the acrylates would increase the shininess of the sheet (thus not resulting in a matt sheet), the document was found to teach away from the patented invention. However, the fact that one single prior art document teaches away from the invention may be overruled by the finding that the general knowledge and other document do give strong pointers in the direction of the invention. Certain teachings of another document may then be adopted as a basis for the finding that the invention is obvious, notwithstanding the fact that another document as a whole might teach away (e.g. President of District Court The Hague 25 April 2005, *MSD/Teva*). The EPO also recognizes the concept of teaching away. According to the Technical Boards of appeal, "a piece of prior art is to be considered as teaching away from the claimed subject matter if it contains an indication which suggests to the person skilled in the art to take a different direction from that leading to the claimed solution. Such a finding may reinforce the credibility that the claimed subject-matter is not obvious over the prior art cited." (T 378/03).

Must the teaching be explicit?

It can be concluded that it is possible to run arguments saying that prior art teaches away from the patented invention. The case law does not indicate that such teaching must be explicit. The evaluation of whether a document is teaching away is based on how the skilled person will understand the teaching of the prior art document. This will depend on the circumstances of the case. The evaluation of teaching away may in some case be closely related to the evaluation of whether a document contains 'pointers' in the direction of the patented invention.

22. *Among the other factors supporting inventive step / non-obviousness, how important is teaching away?*

If it can be proven that a prior art document is teaching away, that document cannot be used as the basis for a finding obviousness. In that sense teaching away can be an important argument in the assessment of inventive step. However, there is no statutory provision or case law indicating that it is of more or less importance than other factors in the assessment of inventive step. Thus the fact that a prior art document teaches away does not prevent that an invention can be considered obvious on the basis of other prior art documents.

23. *Is there any difference in how teaching away is applied during examination versus in litigation?*

There is no difference in how teaching away is applied during examination versus in litigation. In principle, the Netherlands courts and the NPO will apply the same principles as the EPO in this matter. In practice, it will mainly depend on an evaluation of all relevant circumstances of the case whether a teaching away will be accepted or not and whether such teaching away will prevail over other arguments.

Secondary considerations

24. *Are secondary considerations recognized in your jurisdiction?*

Secondary considerations become relevant when the initial assessment of inventive step vis-à-vis the state of the art, e.g. by applying the problem-solution approach, leaves doubts about the presence of an inventive step (e.g. NPO cases 1017056, 1034946). Such considerations are recognized in the Netherlands. Courts and the NPO often refer to factual indicators which add to the inventiveness conclusion.

25. *If yes, what are the accepted secondary considerations? How and to what degree must they be proven? Is a close connection between the claimed invention and the secondary considerations required?*

The main indicators, which not in itself but often in combination with other factors, have been held relevant are:

- *Satisfaction of a long-felt need or want*
It must be shown that a need to solve the problem already existed for a long period of time. Repeated (though unsuccessful) attempts should have been undertaken to solve the problem. This circumstance may be proven by publications dated after the application/priority date (e.g. District Court The Hague 2 July 2003, *Bornemann/Houttuin*).
- *Lapse of time*
A long period of time between the date the problem arose and the priority date of the patent can be an indication for inventive step, provided that during this period a constant need existed to solve the problem and technical difficulties (eventually solved by the invention) being the reason for not solving the problem for a long time (e.g. Court of Appeal The Hague 30 September 1999, *Tetra/Meyn*).
- *Surprising/unexpected effect*
The existence of an unexpected effect must be proven by the patent holder. A combination of technical features may constitute an unexpected effect if the person skilled in the art would not have expected such an effect and therefore not have tried the combination (e.g. District Court the Hague 25 April 2007, *3M/Avery*). The fact that an effect was not expected in its full size or that an additional effect occurs, does not point to an inventive step. These are bonus effects. An invention can be obvious to a person skilled in the art in spite of the occurrence of an unexpected effect.
- *Prejudice: overcoming a widely held but incorrect opinion on a technical question*
It has been held that this circumstance can only be established by proving (by the patent holder) that a deep-rooted but wrong opinion concerning some technical fact existed among the skilled workers in the relevant field before the priority date (e.g. NPO case 1012059). Their opinion should have led the skilled person away from the claimed invention. A single statement in a patent

specification or other type of publication is not sufficient to assume the existence of a prejudice (e.g. District Court The Hague 2 May 1990, *Imperial Chemical Industries/Interlogim* or NPO case 1034946), although it might still be argued in such a case that this publication teaches away. The existence of a prejudice can, for example, be proven by reference to a standard work in the technical field concerned.

- *Commercial success*

This circumstance can not point to the presence of an inventive step on its own. However, it can become relevant in combination with the presence of a long felt need, a prejudice or a significant lapse of time between the publication date of the state of the art and the priority date of the patent. It must be shown that the success originates from the claimed invention and not from other circumstances such as advertising and other marketing efforts (e.g. Court of Appeal The Hague 28 February 2008, *Warner-Lambert/Ranbaxy*).

The secondary considerations are not limited to those listed above. Other, less frequently applied secondary indicators for the presence of inventive step could be, for example, the simplicity of a solution, the efforts by others to obtain licenses, the imitation of the invention by others, public interest, or the fact that a new area of technology has been revealed, provided that these circumstances are directly connected to the inventive step as claimed.

If contested, the applicant/patent owner must show the existence of such circumstances. These circumstances must be tied to the claimed invention and may not result from other unrelated factors.

26. *Do the answers to any of the questions above differ during examination versus during litigation?*

We have seen no difference. The indicators such as mentioned above are also taken into account by the NPO and the EPO when assessing inventive step.

Other considerations

27. *In addition to the subjects discussed in questions 4 - 26 above, are there other issues, tests, or factors that are taken into consideration in determining inventive step / non-obviousness in your jurisdiction? If yes, please describe these issues, tests, or factors.*

It should be noted that, although the problem-solution approach is generally used both during examination and litigation, other methods to assess inventive step are not excluded. Especially in those cases showing a significant distance between the closest prior art and the claimed invention (pioneer invention), applying the problem-solution approach may be considered as superfluous, the invention evidently being patentable.

We note that no specific question has been addressed to circumstances that point to obviousness, whether or not in the context of the problem-solution approach. In the Netherlands, it has been held that, for example, the following circumstances in itself *cannot* result in an inventive step conclusion or even suggest that the claimed invention is obvious for a person skilled in the art:

- *routine work*, matters of ordinary skilled designing
- *routine experiments*, normal amount of trial and error
- *change of dimensions*
- *optimization*, mere simplification

- reversal of procedural steps
- exchange of material, use of equivalents, which fulfil the same function with regard to the same result in the same way
- selection of appropriate material, analogous use
- automation
- one-way-street, no alternatives
- (unexpected) bonus effects of an obvious solution
- reasonable expectation of success
- marketing means/views
- multiple invention: the invention was "in the air".

28. *What is the specific statement of the test for inventive step/non-obviousness in your jurisdiction? Is there jurisprudence or other authoritative literature interpreting the meaning of such test and, if so, provide a brief summary of such interpretation.*

The test for inventive step most commonly used is the problem-solution approach, as described in our answer to question 14. The *Netherlands Supreme Court*, in its decision of 15 February 2008 in *Rockwool/Isover*, held that the Court of Appeal The Hague, which had applied the problem-solution approach to a Dutch method patent (with priority date 25 November 1969), had correctly assessed inventive step. The Supreme Court considered that when assessing inventive step, the court must examine whether the average skilled person would have recognized the problem solved by the patented method and, in solving that problem, whether he would have examined the prior art publications selected in the decision by the Court of Appeal and then would (not could) have derived also this solution as an obvious solution from the prior art at the time, using his common general knowledge. With respect to the lower courts, the *District Court* The Hague (first instance court) has clearly indicated that the problem-solution approach is the *primary* approach for assessing inventive step. For example, in its decision of 15 April 2003, *Geotechnics/Meeuwissen*, this court stated that "other than sometimes is assumed, the problem-solution approach is not merely one of the possibilities to assess inventive step, but the most useful (and also customary at the EPO) method and, therefore, there must be clear reasons not to use this method". However, the District Court, also stresses that the problem-solution approach must be applied with great caution, on the one hand since it takes the alleged invention as a departure point - which creates the danger of "hindsight" - but also because a certain artificiality is connected to this approach. The *Court of Appeal*, in its decision of 4 July 1996 in *Lucas/Lintech*, considered that the problem-solution approach "can be of good service" since it avoids that something is found obvious on the basis of a combination of documents that the skilled person in reality would have never combined, but the court also warned that this approach runs the risk of being tainted by hindsight. In some decisions, the Court of Appeal has applied a more factual analysis of the most relevant prior art documents, taking into account all circumstances of the case, without explicitly applying the problem-solution approach. However, in other decisions, the Court of Appeal has explicitly applied the problem-solution approach (e.g. Court of Appeal The Hague 3 July 2008, *Novogen Research/Care for Women*)

29. *Does such test differ during examination versus during litigation?*

No, both the Netherlands courts and the NPO and EPO do apply the problem-solution approach. However, as stated before, we feel that the Netherlands courts may be less formalistic than the EPO/NPO. Especially if it comes to requiring evidence that a prior art reference is part of the common general knowledge, the courts seem less critical and willing to use their own common sense.

Patent granting authorities versus courts

30. *If there are areas not already described above where the approach to inventive step / non-obviousness taken during examination diverges from that taken by courts, please describe these areas.*

No, we did not find *other* areas where the approach to inventive step taken during examination diverges from that taken by the Netherlands courts.

31. *Is divergence in approach to inventive step / non-obviousness between the courts and the patent granting authority in your jurisdiction problematic?*

Although the Netherlands courts do not always apply the problem-solution approach (see supra at question 28), in those cases where it is applied, it is often applied in a less structured way than the EPO (cf. supra at questions 13, 29 and infra at question 37). Although we do not view this as problematic, we think that under a more structured approach, the outcome of the court proceedings could become more predictable.

Regional and national patent granting authorities

32. *If you have two patent granting authorities covering your jurisdiction, do they diverge in their approach to inventive step / non-obviousness?*

No.

33. *If yes, is this problematic?*

Not applicable.

II. Proposals for harmonization

34. *Is harmonization of inventive step / non-obviousness desirable?*

Yes. While the standard in Europe with respect to inventive step is harmonized (see supra at question 1), we agree that a further harmonization at a world-scale would be desirable. Further, we note that the European standard is not applied in the same way to European patents in all European countries, and that it is desirable that all countries do apply the standard according to the same approach to the same degree. See further at question 37.

35. *Is it possible to find a standard for inventive step / non-obviousness that would be universally acceptable?*

Yes. However, we note that there must be universal agreement about the purpose of the inventive step test. In our view, the purpose of inventive step as a requirement for patent protection in the end is to find the right balance between promoting and rewarding real inventions on the one hand and avoiding economically undesirable patent protection, which stifles natural development and freedom of trade, on the other hand. We note that a universal "standard" may still be applied in different countries in different ways. See further our answer to question 37.

36. *Please propose a definition for inventive step / non-obviousness that you would consider to be broadly acceptable.*

An invention shall be considered as involving an inventive step if, having regard to the state of the art, it is not obvious to a person skilled in the art.

37. *Please propose an approach to the application of this definition that could be used by examiners and by courts in determining inventive step / non-obviousness.*

We note that specific area's, such as selection inventions in the chemical field or problem inventions, are excluded from this questionnaire. In our view, in the non-excluded area's, the problem-solution approach, if correctly applied (see below), should be used for assessing inventive step in an objective manner. The main stages of this approach in a structured way (cf. Case Law of the Boards of Appeal of the EPO, 6th ed. 2010, Chapter I.D. par. 2; EPO Guidelines C-IV 11.5.1-3, 11.6 and 11.8) are

- 1) Identify the "closest prior art":
 - The closest prior art is normally a prior art document disclosing subject-matter that is in the first place directed to the same purpose or effect as the invention, or to the same or similar technical problem, or at least to the same or closely related technical field as the invention. Where several documents all belong to the same technical field and relate to the same purpose or effect as the claimed invention, the closest prior art is the one which would most easily have enabled the skilled person to make the invention, i.e. which discloses the combination of features which constitutes the most promising springboard towards the invention.
 - It must be assessed from the skilled person's point of view on the day before the filing or priority date valid for the claimed invention.
- 2) Assess the technical results (or effects) achieved by the claimed invention when compared with the "closest state of the art" established:
 - Determine the distinguishing features of the claimed invention.
 - Determine the effect of these distinguishing features.
- 3) Define the objective technical problem to be solved as the object of the invention:
 - Define the objective technical problem, which is defined as "the aim and task of modifying or adapting the closest prior art to provide the technical effects that the invention provides over the closest prior art".
 - We stress that the objective technical problem must be so formulated as not to contain pointers to the technical solution.
- 4) Decide whether or not a skilled person, having regard to the closest state of the art, would have suggested the claimed technical features in order to obtain the results achieved by the claimed invention:
 - Determine without hindsight if the skilled person would find and read the secondary prior art document for the same or general technical field (or from a remote technical field if there is an incentive to search in this technical field for a solution to the objective technical problem).
 - Determine the technical teaching and its technical effect of the secondary prior art document (a teaching implies a certain set of cooperating features having a combined technical effect).
 - Determine if the technical teaching and its technical effect of the secondary prior art document indeed solves the objective technical problem.
 - Determine if there is an incentive to apply the teaching of the secondary prior art document to the closest prior art (i.e. to combine the secondary document with the closest prior art). An incentive is anything that would prompt the skilled person to amend, adapt, modify the closest prior art or combine teachings in order to solve the objective technical problem.

- Examples of such incentives are that the technical effect of the features in the secondary prior art document is related to the objective technical problem, or that the secondary prior art document explicitly mentions the objective technical (or a related) problem, and
- Normally, no incentive exists, if the two disclosures considered as a whole could not in practice be readily combined because of inherent incompatibility in the disclosed features essential to the invention.
- Determine whether the result of the combination falls within the terms (scope) of the claim.

The Court of Appeal The Hague (see answer to question 28) warned that the problem-solution approach runs the risk of being "tainted by hindsight". This is true. However, compared to other approaches, it is our view that a correct and structured application of the problem-solution approach (in which the objective technical problem is formulated without any pointers to the technical solution) is a very suitable objective tool to assess inventive step and *to avoid hindsight*. It is true that steps 1) - 3) involve knowledge of the invention. However, these steps do reduce bias due to hindsight, because they focus on the prior art and the technical problem to be solved, rather than concentrating on the invention, and therefore places the decision-maker in a more analogous context to the inventor prior to invention. Further, we stress that step 4) must be taken without any knowledge of the invention: the application of any hindsight is forbidden.

We realize that there will always remain an inherently subjective element in weighing the concrete facts of each particular case, such as deciding in step 4) whether or not the skilled person would have suggested the claimed technical features in order to obtain the results achieved by the claimed invention. However, with reference to our answer at question 31, it is our opinion that under a more structured application of all (sub)steps of the problem-solution approach, the outcome of prosecution and court proceedings would become more predictable, while doing justice to a wide variety of situations, because inventiveness centers around the solution of problems in a hitherto unknown manner. A correct and structured application of the problem-solution approach avoids an inadmissible *ex post facto* analysis which draws on knowledge of the invention. In addition to a more structured application there should also be strict rules for deciding what can be considered common general knowledge and how prior documents and common general knowledge can be combined. In order to prevent obviousness arguments based upon an *ex post facto* analysis, in our opinion, the following features of the problem-solution approach are of importance:

1. The formulation of the technical problem should not contain pointers to the solution or partially anticipate the solution.
2. The technical problem underlying the invention should be realistic from the skilled person's point of view.
3. The closest prior art should be a realistic starting point in the sense that it is directed to the same purpose or effect as the invention, or to the same or similar technical problem, or at least to the same or closely related technical field as the invention.
4. For obviousness to be applicable, it must be shown that the invention is obvious, that in view of general knowledge and, where relevant, secondary prior art, the skilled person would (not could) recognize the claimed solution to the stated problem.