



# SSM





# AGENDA

A – INTRODUCTION

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B – PROBLEM-SOLUTION APPROACH

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C – COMBINATION VS. JUXTAPOSITION OR AGGREGATION

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D – "EX POST FACTO" ANALYSIS

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E – UNEXPECTED TECHNICAL EFFECT; BONUS EFFECT

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F – CLARITY

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G – SUMMARY

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# DIFFERENCES WITH OTHER PATENT OFFICES



The assessment regarding the inventive step before the European Patent Office is different from that before other Patent Offices.

Main differences:

1. Problem solution approach
2. Strict clarity requirements affect inventive step assessment

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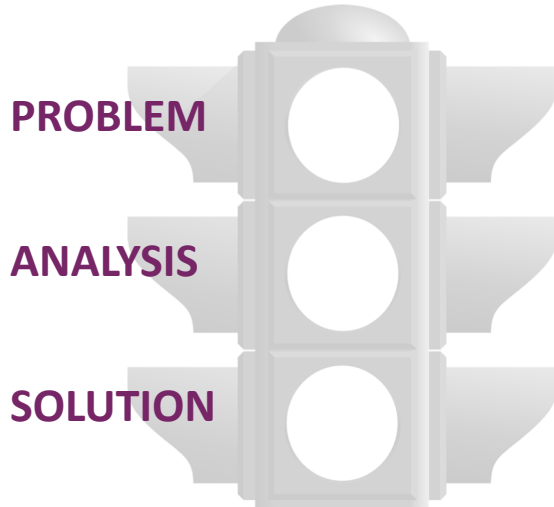
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# I. MAIN STAGES

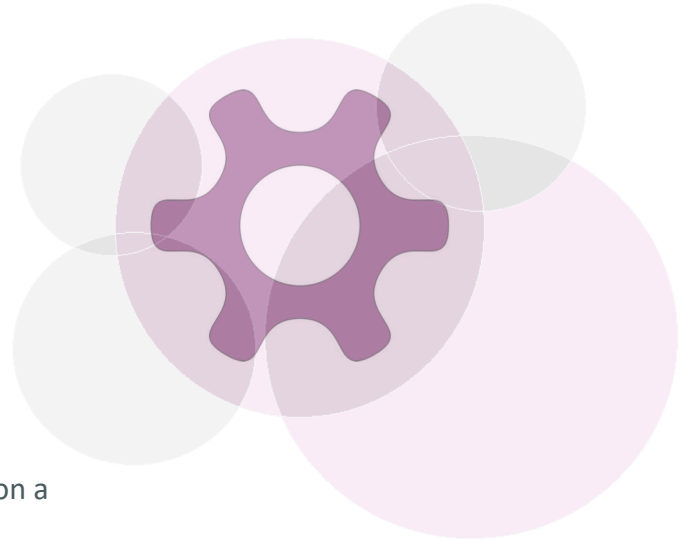


In the problem-solution approach, there are three main stages:

- a) Determining the "closest prior art",
- b) Establishing the "objective technical problem" to be solved, and
- c) Considering whether or not the claimed invention, starting from the closest prior art and the objective technical problem, would have been obvious to the skilled person.

## II. THE CLOSEST PRIOR ART

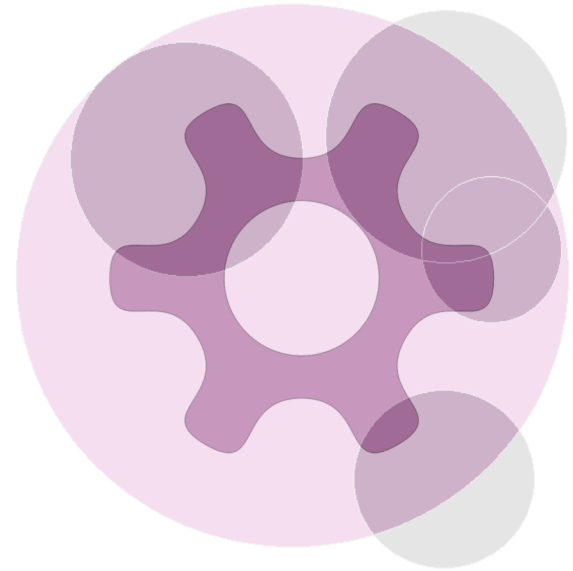
- The Examiner has to look for **the closest prior art document** among the found prior art documents:
  - **It** is usually the document which discloses the most features of the independent claims and is directed to the same technical field.
- The Examiner usually takes into account the generic expression classifying the subject-matter of the independent claim of the patent application:
  - Broad generic expression could result in prior art documents which are on a different technical field but are nevertheless covered by the generic expression.





## II. THE CLOSEST PRIOR ART

- Accordingly, it is preferable to study beforehand whether a generic term used in an independent claim is necessary to cover all intended aspects of an invention or whether the generic term is too broad
- If those features which make the difference between the claimed invention and the closest prior art do not serve the same problem, then it may be appropriate to choose another prior art document as closest prior art.

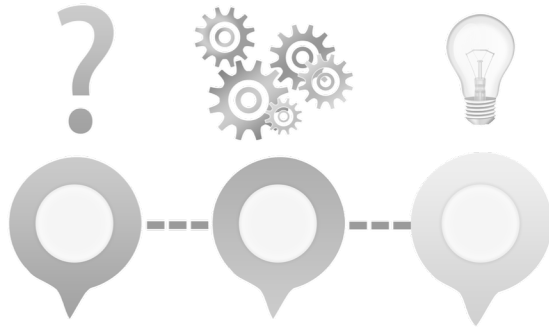


# III. THE OBJEKTIVE TECHNICAL PROBLEM

Establish, in an objective way, the **technical problem** to be solved.

- For this reason, study:
  1. The application (or the patent)
  2. The closest prior art and
  3. The difference in terms of features (structural or functional) between the claimed invention and the closest prior art
    - the **distinguishing feature(s)**
- Identify the technical effect resulting from the distinguishing features, and then formulate the technical problem:
  - Features which make no contribution to the technical character of an invention cannot support the presence of an inventive step.
  - In the field of Computer-Implemented-Invention CII, therefore only mention technical advantages for CII-features in the specification!

# III. THE OBJEKTIVE TECHNICAL PROBLEM



Please note:

- The **objective technical problem** may not be what the applicant presented as "the problem" in his application.
  - requires reformulation
- Any effect provided by the invention may be used as a basis for the reformulation of the technical problem
  - This effect has to be derivable from the application as filed
  - Relying on new effects is possible, provided that these effects are implied by or related to the technical problem initially suggested

# III. THE OBJEKTIVE TECHNICAL PROBLEM



- The objective technical problem must be so formulated as **not** to contain pointers to the technical solution
  - otherwise, this results in an **ex post facto** view
- The expression "**technical problem**" is interpreted broadly
  - the technical solution does not have to be an improvement to the prior art
  - the problem could be simply to seek an alternative to a known device or process

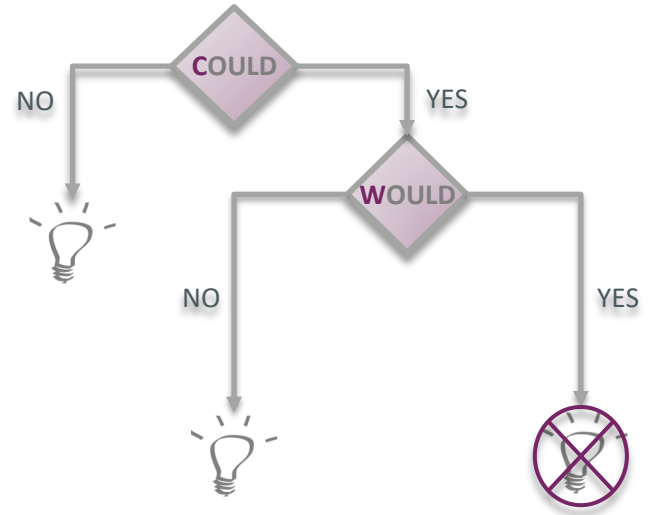
## IV. COULD-WOULD APPROACH

**Could** the skilled person have arrived at the invention?

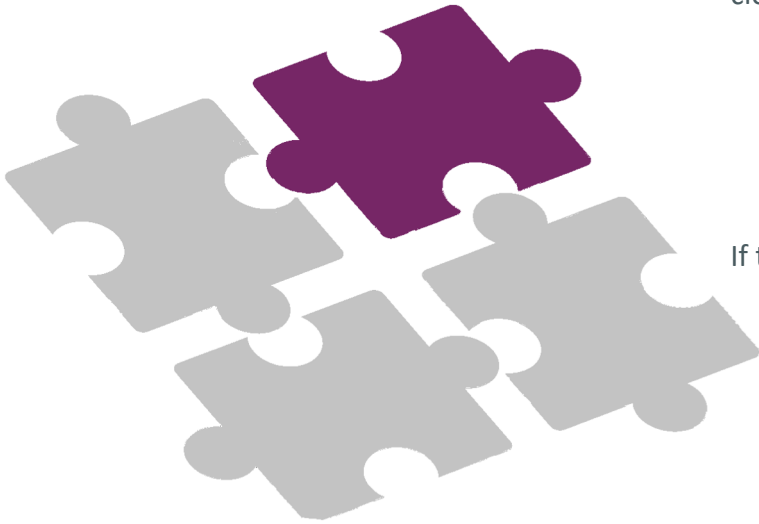
- By adapting or modifying the closest prior art

**Would** the skilled person have done so?

- Because the prior art incited him to do so
- Even an implicit prompting or implicitly recognizable incentive is sufficient



## V. COMBINING PIECES OF PRIOR ART



It is permissible to combine the disclosure of one or more documents with the closest prior art:

- The combination of more than one disclosure may be an indication of the presence of an inventive step

If the invention is a solution to a plurality of independent "partial problems":

- Assessment of each partial problem, i.e. of each partial feature combination is necessary
- A different document can be combined with the closest prior art for each partial problem, i.e. for each partial feature combination

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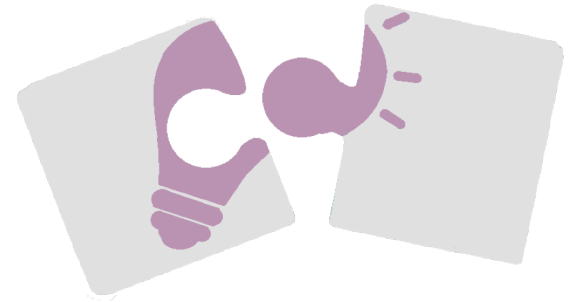
F – CLARITY

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# SYNERGISTIC EFFECT

The invention claimed must normally be considered as a whole:

- Individual features of the **combination** are known or obvious
  - Does not mean that the whole subject-matter claimed is obvious
- However, if the claim is an **aggregation or juxtaposition** of features
  - it is enough to show that the individual features are obvious to prove that the aggregation of features does not involve an inventive step
- **Combination of features:** the functional interaction between the features achieves **a combined technical effect** which is different from the sum of the technical effects of the individual features.
  - The interactions of the individual features must produce **a synergistic effect**. If no such synergistic effect exists, there is no more than a mere aggregation of features.
  - **Advise:** If possible, disclose **a synergistic effect** in the application text.





# EXAMPLE FOR AGGREGATION OF FEATURES

Claim 1:

Printer comprising:

- a) a paper transport mechanism A
- b) an ink ejector B;

characterized in that

- c) the paper transport mechanism A comprises new feature C
- d) the ink ejector B comprises new feature D.

- Effect of feature C: more steady transport speed  
→ partial problem 1: make transport speed more steady
- Effect of feature D: less ink is needed  
→ partial problem 2: reduce of ink consumption

Prior Art D1 discloses: A, B and C for solving partial problem 1

Prior Art D2 discloses: A, B and D for solving partial problem 2

Thus the combination of features C and D is only **aggregation** of features which have no synergistic effect.

Thus **no** inventive step!

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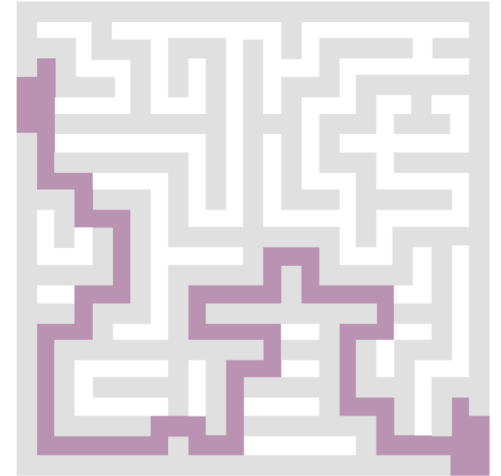
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# FOREKNOWLEDGE

- An invention which at first sight appears obvious might in fact involve an inventive step
- Once a new idea has been formulated, it can often be shown theoretically how it might be arrived at, starting from something known, by a series of apparently easy steps.
  - This is called an **ex post facto** analysis
- Such an analysis is not admissible for the assessment of inventive step



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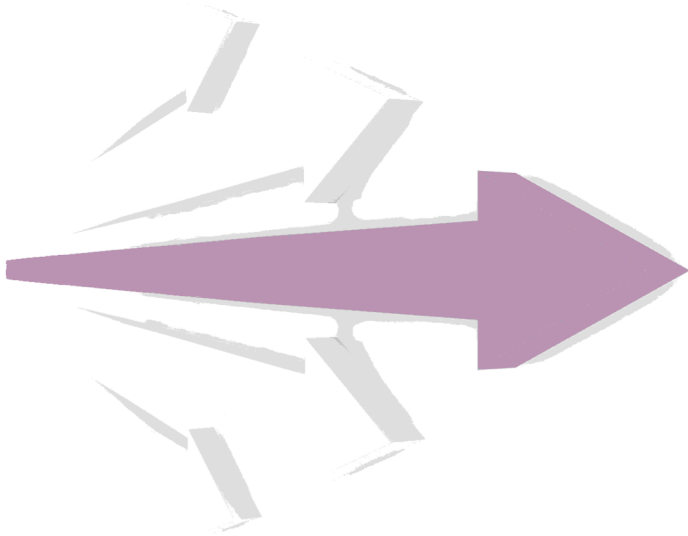
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# BONUS EFFECT



- An unexpected technical effect may be regarded as an indication of inventive step.
- If it would have been obvious for a skilled person to arrive at something falling within the terms of a claim,
  - for example due to a lack of alternatives thereby creating a "one-way street" situation,

the unexpected effect is merely a **bonus effect** which does not confer inventiveness on the claimed subject-matter

# EXAMPLE FOR BONUS EFFECT



Claim 1:

Printer comprising:

- a) an ink ejector for ejecting ink on paper;
- b) a paper transport **mechanism B**;

characterized in that

- c) the paper transport **mechanism B** comprises new **feature C**.

Advantage disclosed for new **feature C** in application text:

- less energy consumption.

# EXAMPLE FOR BONUS EFFECT

Prior Art D1 discloses:

Printer comprising:

- a) an ink ejector for ejecting ink on paper;
- b) a paper transport **mechanism B**.

Prior Art D2 discloses:

Printer comprising:

- a) a toner transfer mechanism for transferring toner on paper;
- b) a paper transport mechanism B having **feature C**:

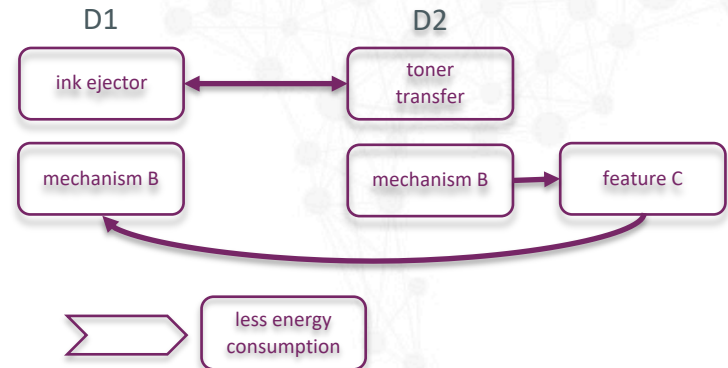
Prior Art D2 discloses that **feature C** makes paper transport more steady but is silent about that **feature C** results in less energy consumption.

Skilled person arrives at subject-matter of claim 1 without inventive effort

→ by combining Prior Art D1 and D2.

The decrease of energy consumption is a mere **bonus effect** which is achieved anyway by combining D1 and D2.

Thus, the advantage of D2 can differ from the advantage of the application. Different problem solved!



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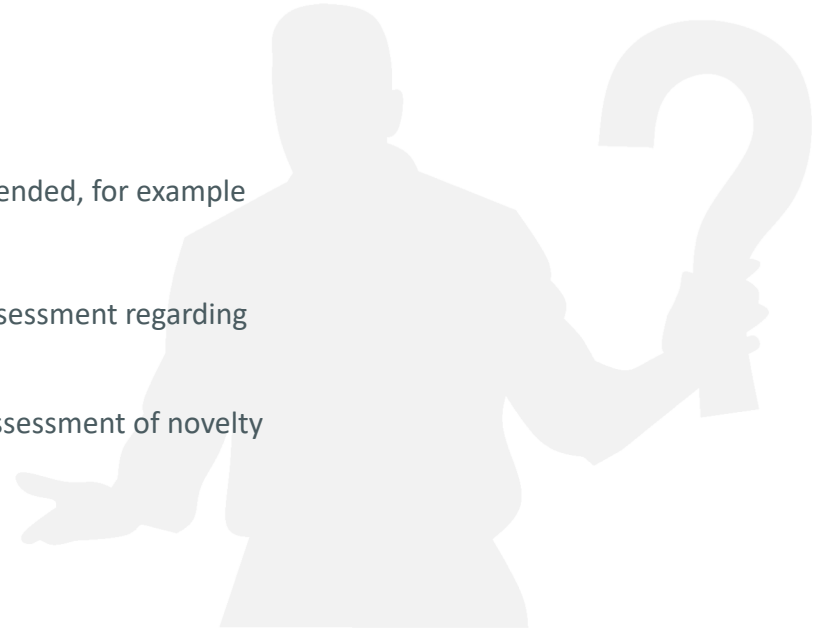
# THE EFFECT OF LACK OF CLARITY

According to [Art. 84 EPC](#), the claims shall be clear and concise

- unclear features are given a very broad interpretation
  - even though the specification is suitable to understand the real (intended, for example narrower) meaning of such features
- Examiners do not take into account allegedly unclear features for the assessment regarding the requirements of novelty and inventive step
- Examiners sometimes only declare that claims are so unclear that the assessment of novelty and inventive step is not possible

Advise:

- Claims should always be worded using clear terms
- Japan style claims better than US-style claims



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- The assessment of inventive step at the EPO follows the so called “problem and solution approach”.
  - Key to this approach is the proper wording of the problem.
- Besides this, other factors influence the determination of inventive step like
  - “could-would approach”,
  - feature aggregation,
  - bonus effect,
  - ex post facto analysis,and, indirectly,
  - the strict clarity requirement at the EPO.



