

# Learning path for patent examiners

## Novelty: Intermediate level

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## Introduction

This publication, "Novelty, Intermediate level", is part of the "Learning path for patent examiners" series edited and published by the European Patent Academy. The series is intended for patent examiners at national patent offices who are taking part in training organised by the European Patent Office (EPO). It is also freely available to the public for independent learning.

Topics covered include novelty, inventive step, clarity, unity of invention, sufficiency of disclosure, amendments and search. Also addressed are patenting issues specific to certain technical fields:

- patentability exceptions and exclusions in biotechnology
- assessment of novelty, inventive step, clarity, sufficiency of disclosure and unity of invention for chemical inventions
- the patentability of computer-implemented inventions, business methods, game rules, mathematics and its applications, presentations of information, graphical user interfaces and programs for computers
- claim formulation for computer-implemented inventions

Each publication focuses on one topic at entry, intermediate or advanced level. The explanations and examples are based on the European Patent Convention, the Guidelines for Examination in the EPO and selected decisions of the EPO's boards of appeal. References are made to the Patent Cooperation Treaty and its Regulations whenever appropriate.

The series will be revised annually to ensure it remains up to date.

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All references to natural persons are to be understood as applying to all genders.

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## 1. Learning objectives

Participants to this course will learn:

- The concept of prior art pursuant to Art. 54(3) EPC and how they are treated at the EPO
- What are implicit features and their relevance for novelty
- Non prejudicial disclosure at some international exhibitions or in case of abuse
- Specific cases about assessing novelty for functional features, product-by-process and parameters, and internet documents

## 2. Prior art under Article 54(3) EPC

Under Article 54(3) EPC, the state of the art when assessing novelty should include European patent applications that were filed (or claim a priority) before the filing date of the application being examined but are published on or after that date. In particular, European applications filed before the filing/priority date but **not yet** published or available to the public at that time become part of the state of the art once they are published. Therefore, when examining an invention for novelty, it is necessary to consider not only the documents forming the state of the art under Article 54(2) EPC, but also those covered by the definition as per Article 54(3) EPC.

The fact that Article 54(3) EPC exists is inextricably linked to the first-to-file principle and ensures that **the first person to file** a patent application gets the patent rights.

Once a document is part of the state of the art under Article 54(3) EPC, the novelty assessment of an invention against any such document follows exactly the same procedure as that for documents forming part of the state of the art under Article 54(1) and (2) EPC.

Applications filed on the **same date** do not form part of the state of the art for each other.

### Examples

1. European patent application I (EP-I) filed on 10 June 2018; no priority claimed.
  - a. European patent application II (EP-II) filed on 8 June 2018 and published 18 months later. Is EP-II state of the art for EP-I? Under Article 54(3) EPC: yes.
  - b. European patent application III (EP-III) filed on 12 June 2018, validly claiming priority of 12 June 2017, and published 18 months later. Is EP-III prior art for EP-I? Under Article 54(3) EPC: yes.
  - c. European patent application IV (EP-IV) filed on 10 June 2019, validly claiming priority of 10 June 2018. Is EP-IV prior art for EP-I? No – applications filed or having a valid priority on the same date should be dealt with as not affecting each other in any way.

### Legal references:

Art. 54 (2), (3) EPC, Art. 89 EPC, GL G-IV, 3, GL G-IV, 5.1, GL G-IV, 5.4, GL G-VII, 2

## 3. Implicit features of the prior art

When assessing novelty, the features that are **directly and unambiguously derivable from a prior-art document** must also be considered. Some features might not be explicitly mentioned in a document but are actually disclosed because they are inevitable from the nature of the invention disclosed. Such features are called “implicit features” of said invention.

Furthermore, the invention is sometimes defined in terms of parameters. In such case care must be taken when assessing novelty. For example, if the claimed and known products are the same in all other respects, e.g. made in exactly the same way, and the claimed invention further specifies that specific parameters for an element are selected, an objection of lack of novelty is raised in the first instance. The burden of proof then rests with the applicant to present arguments demonstrating that the invention is novel.

### Examples

The invention claims that a certain element is flexible and the prior-art document discloses that this kind of element is made of rubber. In this case, the application is not novel because the property of flexibility follows directly and unambiguously from the fact that the element is made of rubber (flexibility is generally known feature of the rubber), even if the prior-art document does not mention flexibility at all.

The invention claims a fork made of steel and with a thermal conductivity of 60 W/mK. The prior art discloses a fork made of steel but is silent about thermal conductivity; the standard thermal conductivity of steel is 45 W/mK.

An objection for lack of novelty must be raised in the first instance. The applicant must then demonstrate that the invention is novel, e.g. by adding further features for making the fork having that thermal conductivity. Otherwise, without any further details, the steel must be deemed to have the usual thermal conductivity.

### Legal references:

GL G-VI, 2; GL G-VI, 5

## 4. Non-prejudicial disclosures

Article 55 EPC sets out two cases under which a disclosure **prior to an application's filing date** should **not** be considered part of the state of the art.

The first is "**evident abuse**", for example if someone was informed about an invention in confidence, perhaps after signing a non-disclosure agreement, and then either disclosed the invention or applied for a patent for it.

The second is if an invention was disclosed at a recognised exhibition as listed in the EPO Official Journal.

In both cases, the abusive application and/or the disclosure at a recognised exhibition must occur **no earlier than six months before the filing date**. In other words, for both abuse and exhibition at a recognised event, the inventor **must** file a patent application **no later** than six months after the application was "abusively" filed or the exhibition took place, to ensure that the exceptions envisaged by Article 55 EPC can be invoked.

In the case of disclosure at a recognised exhibition, within four months of the application being filed the EPO must be provided with a certificate issued by the authority in charge of the exhibition confirming that the invention was indeed displayed at the exhibition, as specified by Rule 25 EPC.

In the two cases above, the disclosures in question are excepted from the state of the art and **not considered** when assessing the novelty of an invention.

As prior-art documents potentially falling under the exceptions of Article 55 EPC typically manifest themselves once the search report has been issued, their pertinence is assessed by the examining division, which must then decide whether the conditions set out in Article 55 EPC have been duly met and the prior-art document(s) should be disregarded when assessing novelty.

### Examples

An inventor disclosed their invention after signing a non-disclosure agreement with a potential investor. The investor broke confidentiality and disclosed the invention to a competitor, who then filed a patent application (A1) disclosing the invention on 18 June 2018.

If the original inventor filed a patent application (A2) for the same invention on or before 18 December 2018, then application A1 would **not** be part of the state of the art as it stems from an evident abuse as per Article 55 EPC. However, if application A2 were filed **after** 18 December 2018, then A1 would be part of the state of the art **despite the abuse**.

### Legal references:

Art. 55 EPC, R. 25 EPC, GL G-V

## 5. Examining internet disclosures

Internet publications also form part of the state of the art and are becoming increasingly prevalent and significant. The issue of establishing the correct internet publication date is often crucial and, unlike for patents and technical publications, not always clear. The transient nature of the internet can make it difficult to establish the actual date on which information was made available to the public. For instance, not all web pages mention when they were published.

There are several search engines, such as Wayback machines (see <https://archive.org/web/>), that can help.

As a rule, unless there are specific reasons to believe otherwise, the actual stated publication date of an internet site should be considered correct for the purpose of assessing novelty, and the internet publication in question forms part of the state of the art from the stated publication date.

Even if a web page restricts access to a limited circle of people (e.g. by password protection) or requires payment for access (like purchasing a book or subscribing to a journal), it can still form part of the state of the art. It is sufficient if the web page is in principle available to the public without any bar of confidentiality.

As a general principle, the burden of proof lies initially with the examiner when raising an objection. This means that the objection must be reasoned and substantiated, demonstrating that the objection is well founded on the balance of probabilities. It is then up to the applicant to demonstrate otherwise, i.e. the burden of proof shifts to the applicant.

If an applicant provides reasons questioning the alleged publication date of an internet disclosure, the examiner will have to take these into account. If the examiner is no longer convinced that the disclosure forms part of the state of the art, they will have to either present further evidence for

maintaining the disputed publication date or stop using this disclosure as prior art against the application.

**Legal references:**

GL G-IV, 7.5.1; GL G-IV, 7.5.6

## 6. Novelty of functional features

The claims must be drafted in terms of the "technical features of the invention". However, as an exception, an invention can be claimed in terms of functional features, i.e. by claiming what effect the invention has. This should be seen as an exception and allowed **only** when no other formulation is possible or when any such alternative formulation would unduly restrict the scope of protection, thereby placing the applicant in an unfair position. A typical example could be when the applicant finds a general strategy to obtain a desired result and describes several different options to achieve it. Forcing the applicant to recite one or more of the options in the claims would be seen as an unfair limitation that does not reflect the actual nature of the invention.

**Examples**

1. The invention may relate to an ashtray in which a smouldering cigarette end will be automatically extinguished due to the shape and relative dimensions of the ashtray. The ashtray may vary considerably in a manner difficult to define while still providing the desired effect. As long as the claim specifies the construction and shape of the ashtray as clearly as possible, it may define the relative dimensions by reference to the result to be achieved, provided that the specification includes adequate directions to enable the skilled person to determine the required dimensions.
2. Claims where the invention is merely defined in terms of the desired results are **not** allowed, for example: "a car with a four-stroke petrol engine capable of running for 150 km on a litre of petrol". In this case, the technical features of the claim are those of a car with a four-stroke petrol engine. The result of a yield of 150 km per litre of petrol is not admissible, unless the applicant discloses several ways of obtaining that result in the application and forcing the applicant to insert each of them into the claim would constitute an undue restriction.
3. On the other hand, a claim such as "a fork having three prongs made of steel that is subjected to a thermal anneal in a nitrogen atmosphere so that the thermal conductivity of steel becomes 50 W/mK" might be allowed if the description discloses several different annealing processes, e.g. 1 hour at 300°C, followed by 4 hours at 250°C, or 1 hour at 350°C followed by 3 hours at 280°C, and so on, all of them yielding the desired result. Forcing the applicant to recite a specific annealing procedure in the claim would be seen as unduly restrictive.

**Legal references:**

GL F-IV, 2.1; GL F-IV, 4.10; GL F-IV, 4.13.2; GL F-IV, 6.5

## 7. Novelty of "product-by-process" features

A claim defining a product in terms of a process is to be construed as a claim to the product as such. The technical content of the invention lies not in the process *per se*, but rather in the technical properties imparted **on** the product **by** the process.

Claims for products defined in terms of a manufacturing process are allowable **only** if the products as such fulfil the requirements for patentability, i.e. *inter alia* that they are new and inventive, and it is impossible to define the claimed product other than in terms of a manufacturing process. A product is not rendered novel merely by the fact that it is produced by means of a new process.

As regards novelty, when a product is defined by its manufacturing method, the question is whether the product under consideration is identical to known products. The burden of proof for an allegedly distinguishing product-by-process feature lies with the applicant, who must provide evidence that the modification of the process parameters results in another product, for example by showing that there are differences in the products' properties.

### Examples

A claim such as "a fork made of steel having undergone an annealing process for 2 hours at 300°C, followed by 4 hours at 500°C so that the thermal conductivity of the steel is 60 W/mK" is allowable if the claimed thermal conductivity is not known from the prior art and stems directly from the process recited in the claim.

#### Legal references:

GL F-IV, 4.12, GL F-IV, 4.12.1

## 8. Novelty of parameters

In general, when an invention is defined in terms of one or more parameters, e.g. the width of a specific mechanical element falls within a certain range, the general considerations of genus and species apply. Specifically, if the state of the art discloses an apparatus or method possessing even a single value overlapping with the range claimed by the invention, the invention is not novel.

### Examples

The invention claims: "A fork with three prongs made of steel of a length of between 4 and 7 cm". The prior art discloses a fork with four prongs made of steel of length 5.5 cm. Is the claim novel?

**No**, as the prior art discloses a fork with parameters falling within the scope of the claim.

#### Legal references:

GL G-VI, 5

## 9. Other specific claim formulation cases

The following are some specific issues that characterise EPO practice regarding novelty.

1. Optional features are admissible but must not cause confusion or contradiction. For example, the expression "made of metal, preferably steel" is admissible **but** does not constitute a further limitation of the claim. On the other hand, the expression "made of metal, preferably plastic" is not admissible because it is contradictory and leads to uncertainty about the subject-matter for which patent protection is sought. In any case, the optional features **play no role whatsoever** in the assessment of novelty, so the claimed subject-matter in the case above lacks novelty if a document discloses the same element made of metal and the metal is copper.



2. The wording "a switch for a kettle" limits the scope of the claim to switches specified to be used for kettles **only if the claim is directly and undoubtedly directed to the combination** of the switch and the kettle. Wording such as "a kettle with a switch" would be a better option to ensure that the features of the kettle are limiting for the claim. Again, when assessing novelty, "for" means "suitable for", so a document disclosing the same switch that could be used in a kettle would destroy the novelty of the invention. By the same token, a switch not usable in a kettle, i.e. not working close to water or steam, would not.
3. When a claim lists several features, attention must be paid as to whether the claim recites "**comprises**" or "**consists of**". "Comprises" means that the features listed are present but other features might also be included, whereas "consists of" means that the listed features – and **only** the listed features – are present. In other words, "consists of" renders the subsequent list of features exclusive. The consequences when assessing novelty are clear – if a document discloses an apparatus with all the elements listed in a claim plus others, a claim to an apparatus **comprising** those elements is not novel but a claim to an apparatus **consisting of** them is. In other words, in European patent practice, the words "consist of" and "comprise" are not in any way synonymous.

**Legal references:**

GL F-IV, 4.9; GL F-IV, 4.13.1; GL F-IV, 4.14; GL F-IV, 4.20

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Responsible for the content  
European Patent Academy  
[academy@epo.org](mailto:academy@epo.org)