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# Computer-implemented inventions: problem-solution approach

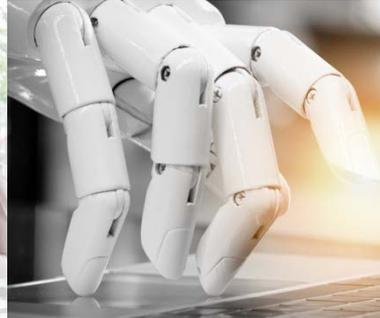
## Guidelines G-VII, 5.4



CII GL Working Group



EPO



v. 0.1

## Patentable subject-matter: Legal Basis, Art.52

**Article 52(1) EPC:** European patents shall be granted for **any inventions, in all fields of technology**, provided that they are **new**, involve an **inventive step** and are susceptible of **industrial applications**.

**Article 52(2) EPC:** The following **in particular** shall **not** be regarded as **inventions**:

- (a) Discoveries, scientific theories, **mathematical methods**;
- (b) Aesthetic creations;
- (c) Schemes, rules and **methods for** performing mental acts, playing games or **doing business**, and **programs for computers**;
- (d) **Presentations of information**.

**Article 52(3) EPC:** [(a)-(d) excluded from patentability] ... **only ... as such**

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## G-VII, 5.4 Inventive step and claims with technical and non-technical features

- Mix of **technical** and **non-technical features** is allowed
- The presence of an inventive step requires a non-obvious technical solution to a technical problem
- For the assessment of inventive step all features contributing to the technical character are taken into account (T641/00 Comvik, headnote 1)
  - including features appearing non-technical in isolation, but which in context of the invention contribute to produce a technical effect serving a technical purpose
- Features not contributing to the technical character cannot support the presence of an inventive step

## G-VII, 5.4 Problem-solution approach for mixed-type inventions

- Inventive step **cannot** be based on **features not contributing to the technical character** of the invention
- All **features contributing to the technical character** **must** be identified and taken into account in the assessment
- An aim to be achieved in a non-technical field, formulated in a claim, may appear in the formulation of the objective technical problem (Comvik, headnote 2)

# G-VII, 5.4 PSA for mixed-type inventions (1)

Steps of the PSA applied to mixed-type inventions (G-VII, 5.4):

- i. Determine the **features contributing to the technical character** of the claim, on the basis of the technical effect(s) achieved;
- ii. Determine the **closest prior art** considering this/these feature(s);
- iii. Determine the **difference(s)** with respect to the closest prior art;
  - ▶ If no differences (at all) then lack of novelty (Art. 54 EPC)

*Else:*

- Determine their **technical effect(s)** in view of the whole claim
- Identify from this/these difference(s) the **features making a technical contribution and those which do not;**

## G-VII, 5.4 PSA for mixed-type inventions (2)

- ▶ If no technical contribution then lack of inventive step (Art. 56 EPC)
- ▶ If differences include features making a **technical contribution**:
  - Formulate **objective technical problem (OTP)** on the basis of the technical effect(s) achieved by this/these feature(s). If differences include also **features making no technical contribution**, this/these features and any **non-technical effect(s)** achieved by the invention may be used in the formulation of the OTP as a constraint to be met (Comvik, G-VII, 5.4.1).
  - Determine if claimed solution to OTP is obvious to skilled person; i.e. decide on inventive step (Art. 56 EPC).

## G-VII, 5.4 Analysis of features contributing to the technical character

- Normally, the determination in step (i) is on a first-glance basis only.
- At the beginning of step (iii) the analysis is performed in a more detailed manner.
- This analysis may reveal that some features considered in step (i) as not contributing to the technical character of the invention do, on closer inspection, make such a contribution. The reverse situation is also possible.
- In such cases, the selection of the closest prior art in step (ii) might need to be revised.

## G-VII, 5.4.1 Objective technical problem (1)

- The OTP is a technical problem which the skilled person in the particular technical field was asked to solve at the claim's priority date.
- The OTP must not refer to features of which the skilled person would only have become aware by knowledge of the solution claimed (G-VII, 5.2). This however applies **only** to the features of the claimed subject-matter which contribute to the technical character of the invention.

## G-VII, 5.4.1 Objective technical problem (2)

- A mere appearance of a feature in the claim does not automatically exclude it from appearing in the problem formulation (e.g. an aim to be achieved in a non-technical field may appear in the problem formulation – Comvik, headnote 2)

## G-VII, 5.4.1 Objective technical problem (3)

- **The formulation of the OTP** may refer to
  - **features which do not make any technical contribution** and/or to
  - **any non-technical effect achieved by the invention**as a given framework within which the technical problem is posed, e.g. in the form of **requirements specification** provided to the **person skilled in a technical field**
- Formulating the technical problem in accordance with these principles aims at ensuring that **inventive step is acknowledged only on the basis of features which contribute to the technical character** of the invention.

## G-VII, 5.4.1 Technical effects (1)

- The **technical effects** used for formulating the objective technical problem have to be **derivable** from the application as filed when considered in the light of the closest prior art (G-VII, 5.2).
- Claims directed to a **computer-implementation of a non-technical method or scheme**, in particular **business method or game rules**
  - A modification to the underlying non-technical method or scheme aimed at **circumventing a technical problem** rather than addressing this problem in an inherently technical way, is **not considered to make a technical contribution** (T 258/03 Hitachi, T 414/12).

## G-VII, 5.4.1 Technical effects (2)

- Consideration should be given to any **further technical advantages or effects** associated with the specific features of its implementation **over and above** the effects and advantages **inherent** in the underlying non-technical method or scheme. The latter do not qualify as **technical effects** for the purpose of defining the OTP.