L'invention brevetable (l'exclusions)
La pratique de l'OEB

The patentable invention (exclusions)
The practice of the EPO

Boards of Appeal

Overview

- Article 52 EPC and its interpretation
  − Inventions and technology

- Examining what is technical
  − Technical character
  − Technical contribution
  − Technical effects

- Summary

Patentable inventions – Article 52 EPC

(1) 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 application.

(2) The following in particular shall not be regarded as inventions within the meaning of paragraph 1:

(a) discoveries, scientific theories and 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.

(3) Paragraph 2 shall exclude the patentability of the subject-matter or activities referred to therein only to the extent to which a European patent application or European patent relates to such subject-matter or activities as such.

Invention

1. The EPC does not define "invention" in positive terms
   - Art. 52(1) EPC: That which is not in a field of technology is not a patentable invention
   - Art. 52(2) EPC lists examples for what is **not regarded** as an invention, under the proviso of Art. 52(3)EPC
   - R. 42(1)(c) EPC: An invention must be the solution to a technical problem

2. The EPC does not define "technical" either
   - Generally, the exclusions under Art. 52(2) EPC are considered to exemplify abstract, non-technical matter (see, eg, T 258/03 Hitachi, T 930/05, etc.) …
   - … but only if claimed as such (i.e. "as such" = non-technical)

3. Established interpretation: An invention is any creation in a field of technology (domaine technologique, Gebiet der Technik), **as illustrated by counter-example in** Art. 52(2) EPC

In all fields of technology

1. EPC 1973: Having technical character is an implicit requisite of an "invention" within the meaning of Art. 52(1) EPC (requirement of "technicality"), based on the case law on Art. 52(2)(3) EPC (see T 1173/97; T 931/95; T 154/04)
2. EPC 2000: Art. 52(1) EPC amended for conformity with Art. 27(1) TRIPS ("Patentable Subject Matter"), first sentence
3. It was discussed whether, hence, in the EPC 2000, Art. 52(2)(3) EPC was still needed at all, or should be moved to the Rules, but was ultimately kept
4. The EPC 2000 revision act expressed the intention that the amendment should not change the "EPO practice and case law" w.r.t. Art. 52 EPC.
5. And it did not

Examples for non-inventions

Business methods

- What to do if mail piece is undeliverable (T 388/04)
- Controlling a process network (T 930/05)

Mathematical methods

- Solving multidimensional optimization problems (T 2085/17)

Mental acts

- Manipulating linguistic expressions (T 38/86)
- Designing or determining a semiconductor chip (T 453/91; but see T 1227/05), a core loading arrangement (T 914/02), an optical system (T 471/05), a vehicle drive (T 95/15), …
- (NB: watch application of G1/19)

Scientific theories/discoveries

- New "magnetic" force (T 1538/05)

Patentability of computer programs – T 1173/97 IBM

1. Case law assumption: Computer programs must be considered as patentable inventions when they have a technical character
2. The execution of any computer program has physical and electrical effects on the computer hardware. Is this not already "technical"? Yes.
3. Not all computer programs can be "inventions" (Art. 52(3) EPC, "as such")
4. Hence, a "further" technical effect is required which
   - may be known in the art
   - can be internal or external
   - is only "potential": occurs when the program is run "on a computer"

(7. But must occur on *any* suitable computer, T 1125/17; also GL F-IV, 3.9.2)

8. Issued in 1998 and not challenged since (see also G3/08, e.g. r.10.13.2)

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- Manipulating linguistic expressions (T 38/86)

Computer programs which, when executed, produce no "further" technical effect

Signals and data structures ("computing products")

Colour television signal (T 163/85)

- "information per se" (e.g. moving pictures) vs. information inherently comprising the technical features of the system in which it occurs

Record carrier/data structure with cognitive content vs functional data (T 1194/97)

- Functional data = representing technical features of the system to be controlled
- Cognitive content = presentation to users, no impact on the function of the system

Record carrier with only non-technical content

- Declarative program code (T 2049/12)
- Business content (T 1755/10)

Printer control items (T 110/90, following T 163/85)

Sequence of defibrillation pulses (T 533/09)

Database index file (T 1351/04)

Data generated (merely) to gain scientific knowledge (G 1/19)

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Mental acts

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Computer programs which, when executed, show no "further" technical effect

Data structure comprising only cognitive or otherwise non-technical data (T 2049/12)

In particular = and possibly others

- Administrative, organisational, legal methods (analogous to business methods)
  - − T 1866/08, T 632/10
- Modelling (is a mental act)
  - − (Information) modelling (T 49/99, T 930/05, T 354/07, T 1171/06, …)
- Computer programming ("coding")
  - − Programming language (T 1539/09)
  - − Software structure (T 1755/10)
  - − Programming language construct (T 790/14)
- Human perception
  - − Aesthetic judgment based on perceptual processes (T 619/02)
- Mathematical entities (personal view)
  - − The number π
  - − An abstract geometric object (T 610/13).
  - − A digital filter (an array of numbers, a mathematical formula)?
  - − A fixpoint operator (a neural network, training data)?

Examining what is technical

Technical character ("first hurdle")

- Art. 52 EPC

Technical contribution ("second hurdle")

- Art. 56 EPC

Technical character

- "Any technical means" approach

  - … replacing the "contribution" approach applied before

- Not excluded are/technical character have

  - Apparatus (T 931/95 PBS, headnote 3)
  - Methods involving technical means (T 258/03 Hitachi, headnote 1)
  - … computer; sensors; pen and paper (see e.g. T 258/03)
  - … lab equipment/DNA samples (T 2050/07)
  - Computer-readable media (T 424/03 Microsoft, catchword 2)

- But: The mere possibility of using technical means is not sufficient

  - T 388/04, T 619/02, T 930/05

- Nor is the "analogy" to biology or technology (e.g. T 1565/17)

- Assessment without reference to prior art

Technical contribution

Article 56 EPC

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.

T 641/00 COMVIK

I. An invention […] as a whole is to be assessed with respect to the requirement of inventive step by taking account of all those features which contribute to [the] technical character whereas features making no such contribution cannot support the presence of inventive step.

Technical contribution

- Mixture of technical and non-technical features

- Patents are limited to creations solving a technical problem with technical means (and only to the extent they do)

- Features which contribute to a technical effect over the whole scope of the claim contribute to technical character of the claimed subject matter

- Features which do not so contribute cannot support inventive step

COMVIK vs TRIPS

TRIPS member states are free to adopt different standards for the patentability requirements (T 528/07)

Especially that of inventive step for inventions in a field of technology

The practice

- Most cases are decided on Art. 56 EPC rather than Art. 52 EPC…

  – … because in most cases the claimed invention is – or can easily amended to be – "technical" (often: by adding "computer" or "computer-implemented")

- Determination of technical effects (over the whole claim, vis-à-vis the CPA)

- Inventive step turns on obviousness of how the(se) technical effect(s) are achieved

- Art. 52 EPC is often not addressed, even if it could be

  – If an invention is found to involve an inventive step, there must be a "further" technical effect

  – If an invention is found not to involve an inventive step, existence of "further" technical effect may be left open

Technical effects: examples and counter-examples

GUI credibly assisting a user in performing a technical task by means of a continued and/or guided human-machine interaction process (≠ pres. of information) (T 336/14, T 2630/17, T 2004/17, etc. but see also T 2035/11, T 862/10 etc.)

Amusement and diversion in video games (T 1259/08, T 1281/10 ≠ T 717/05)

Protection against power attacks via masking a private key (T 556/14)

Aesthetic or emotional effect T 619/02

Effects depending on human physiology ≠ psychology (T 862/10)

"Administrative accuracy" (T 755/18)

Simulations, if claim is limited to a technical purpose or use (G 1/19)

Complexity of an algorithm or speed of a program (T 1227/05, T 1370/11 and others)

Direct link to physical reality not needed (G 1/19)

Summary

- "First hurdle" (Art. 52 EPC technical character) easy to overcome

- "Any technical means" approach

- "Second hurdle" (Art. 56 EPC inventive step) more difficult to overcome

- Features w/o technical effect cannot support an inventive step ("COMVIK")

- Main discussion at the EPO

  not "is this a patentable invention?"

  but "which technical effects does the claimed matter have?"

  and "does this feature have a technical effect within the claimed subject-matter?"

Merci pour votre attention !

Thank you for your attention!

Europäisches Patentamt
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Office européen des brevets

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