COMPUTER-IMPLEMENTED INVENTIONS

Strategies for a successful protection of software-related inventions in Europe

Ing. Sandro SANDRI

Ing. Marco LISSANDRINI

European Patent Attorneys
Topics

✓ Legal Aspects
  ✓ Abstract Ideas Vs. Technicality. How the US Patent Law is "moving" towards the EPC
  ✓ US Vs. EP practice

✓ Computer-Implemented Inventions in Europe
  ✓ Basic information
  ✓ What is a "Technical Character"?
  ✓ General approach at the EPO
  ✓ Allowed Claim Categories
  ✓ Product claims Vs. Process claims - Direct and Indirect Infringement

✓ Drafting a "Europe-ready" software patent set of claims
  ✓ How to keep the number of claims below 15 with a good protection
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• Since 2007 several FC and Supreme Court decisions, as:
  – KSR, Comiskey, Bilski, Alice

• Supreme Court applied two-step test from Mayo on software patents:
  1. abstract idea?
  2. applying abstract idea to generic computer? Limiting use of abstract idea to particular technological environment?
Important «after-Alice» decisions (step 1)

- *Enfish* v. *Microsoft* discloses «self-referential» database having table structure allowing information that would normally appear in different tables to be stored in a single table thereby *speeding up database access*.

CAFC: this is *not* an *abstract* idea, as *improving the functioning* of the computer.
Important «after-Alice» decisions (step 2)

- **DDR Holdings v. Hotels.com** - Auto-generating a hybrid website of website/affiliate when a visitor of a site leaves the site after clicking on affiliate advertisement

CAFC: this is a *technical* problem with a *technical* solution

In spite of the business-related nature of the claims (retaining or increasing website traffic) and the fact that they could be implemented on a generic computer, the court highlighted that the claims did not simply take an abstract business method from the pre-internet world and implement it on a computer. Instead, the claims addressed a technological problem "particular to the internet" by implementing a solution specific to that technological environment and different from the manner suggested by routine or conventional use within the field.

SIMILAR CONCLUSIONS in the Bascom Global Internet Services case
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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 application.

There is no «positive» definition of the term «invention»
→ no «statutory categories»

EPC gives a «negative» definition of term «invention», whereby it should (!) be known what is not an «invention»
Non-inventions: a narrow interpretation

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

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.

..., But

only to the extent to which the claims relate to the afore-mentioned subject-matter or activities AS SUCH

Take away: in principle, any invention is patentable before EPO
An invention must be of «TECHNICAL CHARACTER» to the extent that it:

• must relate to a *technical* field
• must concern a *technical* problem
• must have *technical* features in terms of which the matter for which the protection is sought can be defined in the claim
• must result in a *technical* effect

The patent monopoly must be justified by the *technical* contribution to the art
Guidance for «technical»

Unfortunately, no definition of «technical» exists. Probably, EPO defines «technical» when the USPTO defines «abstract»!

Case-law determined sufficient conditions for «technical»:

a) The invention includes physical features. Device/product/industrial process: OK! → technical character *per se*

or (if w/o physical features)

b) The invention has a practical purpose, i.e. impact on the physical world. (no «practical» if impact is on the human mind or in administration/finance)
While "programs for computers" are included among the non-inventions, if the claimed subject-matter has a technical character it is not excluded from patentability by the provisions of Art. 52(2) and (3) EPC.

**Q:** What is «technical character» for a software?

**A:** The ability to produce perceivable, causal effects on physical entities or activities (further technical effect)

Hence, the test is:

Does SW have a practical purpose, i.e. does it impact on the physical world?
Two steps in EP
(Enl. Board of Appeals G3/08)

1) Art. 52(1), (2) and (3) EPC (eligibility)
   • Claimed invention MUST have technical character
   • Excluded: computer programs (and discoveries, scientific theories, mathematical methods, aesthetich creations, schemes, rules and methods for doing business) AS SUCH

2) Art. 56 EPC (inventive step)
   • Inventive step supported ONLY by features offering a technical solution to a technical problem → i.e. by the technical features
   • Technical contribution must be non-obvious
   • Non-technical aspects may be part of the technical problem (e.g. as constraints or framework)
What if the invention is a mixture of technical and non-technical features?

• Milestone decision 1) COMVIK T641/00:

An invention consisting of a mixture of technical and non-technical features and having a technical character is to be assessed with respect to 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.
Comvik case: a SIM-Card with double identity

A) On a single SIM at least two identities (business, private)
B) The identities can be used selectively (implementation on GSM system, technical)
C) Costs are determined by the selected use (financial and administrative concept, non-technical)

Technicality? YES  Inventive step? NO
What if the invention is a mixture of technical and non-technical features?

- **Milestone decision 2) HITACHI T258/03:**

A method involving any technical means whatsoever is technical, thus an invention

(The inclusion of a computer, network, a readable medium carrying a program in a claim lends technical character to the claimed subject-matter)
The Hitachi case (T 258/03)

An auction method carried out over the internet, characterized by the auction rules

Technicality? YES

Inventive step? NO
Statutory category?

Judicially recognized exception (abstract ideas, natural phenomena, laws of nature)?

Additional elements amounting significantly more?

INELIGIBLE
35 U.S.C. 101

NO

YES

NO

YES

NO

YES

ELIGIBLE
35 U.S.C. 101

U.S. Claims
Art. 52(2) Exclusion NON-INVENTION

**European Claims**

**TECHNICAL ???**

- YES («eligible»)

**Differences formed by non-technical features?**

- YES
- NO

- NO

**Do technical features provide inventive differences?**

- YES
- NO

**Non Inventive Art. 56 Rejection**

**OK !**
Claim categories (1)

- **Method / Process / Use Claims**

  DIRECTLY infringed by using the claimed process, or by offering the process for use within a given Territory (see e.g. UPC Agreement Art. 25: «right to prevent a third party from making, offering, placing on the market or using a claimed product, or storing or importing said product»)

But: who’s normally the potential infringer of a process implemented by SW? The competitor’s customers, not the actual competitor who sells the SW!
B

Claim categories (2)

• On the other hand, we have an INDIRECT infringement of a process claim by providing a device or a program for carrying out said process (see e.g. UPC Agreement Art. 26(1): “right to prevent the indirect use of the invention supplying or offering to supply … with means, relating to an essential element of the invention, for putting it into effect, when the third party knows that those means are suitable an intended for putting the invention into effect”)

• Hard to prove the infringer’s intent to carry out the claimed method
• Does not prevent exports
Claim categories (3)

- Product Claims

*Apparatus / System / Device / Computer program product:*

DIRECTLY infringed by mailing, offering, placing on the market or using the claimed product, or importing or storing the product within a given Territory (see e.g. UPC Agreement Art. 25)

HOWEVER: European Patent Laws are not 100% harmonized
Method claims

A computer program performs an *algorithm*, thus a software patent «naturally» discloses a «technical» process comprising several steps.

The presence of at least a **piece of hardware** is suggested, because it automatically confers the claim the necessary **TECHNICALITY**.
Business method claims

Generally considered as a **NON-INVENTION** (Art. 52(2) exclusion). However …

What if the business method is implemented through technical means such as a computer or a computer network? Are these claims **«eligible»**?

If the claims comprise a mix of technical and non-technical features, where the technical features are directed to a computer or similar device, then the claim will be examined as a **«computer-implemented invention»**.
Computer program product claims

- Apparatus / Device / System

- Data storage medium (data carrier)

- Data stream/signal

- Data retrieval, format, structure
• A data processing apparatus/device/system comprising means for carrying out [the steps of] the method of claim 1.

• A data processing apparatus/device/system comprising means for carrying out step A, means for carrying out step B, ...

• A data processing apparatus/device/system comprising a processor adapted to/configured to perform [the steps of] the method of claim 1.
MEANS FOR?

• In the U.S.A., the wording «means for» + a function claim provides a very **NARROW** claim scope.

• In Europe, «means for» + function claim provides a very **BROAD** claim scope.
Data retrieval, format, structure

- A computer-implemented data structure or a computer-implemented data format embodied on a medium or as an electromagnetic carrier wave has technical character (because the storage medium is a technical artefact) and thus is an invention in the sense of Art. 52(1) EPC. Such data structures or formats may comprise a mixture of cognitive content and functional data.

- Technical effects associated with data structures or formats when using said data structure or format during the operation of a computer system could give rise to efficient data processing, efficient data storage, enhanced security. On the other hand, features merely describing data collections on a logical level do not provide a technical effect, even if such a description might involve a particular modelling of the described data.
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Drafting a "Europe-ready" software patent set of claims (1)

ALWAYS REMEMBER:
Filing a number of claims in excess of 15 is expensive:

EUR 235 / US$ 280 for each claim from #16 to #50

EUR 585 / US$ 700 for each claim over #50
A good set of claims will always include:

- a **METHOD** claim describing a **process** that may be **carried out** by a possible infringer;

- at least one **PRODUCT** claim (apparatus / device / system claim) describing an **object that can be distributed** by a possible infringer;

- at least one **SOFTWARE** claim (computer program / data storage / data stream claim) because **software can be distributed independently of the hardware**.
Claim 1 should be a **method claim**, since a computer program carries out a **process**.

The requirement of **TECHNICALITY** suggests the presence of a **hardware piece** in the method claim to avoid a basic Art. 52 EPC rejections.
• Often 3 independent claims are needed for protecting a method (a server, a client and a system method claims)

• Furthermore, we can add 1 independent computer program claim and 1 independent apparatus claim

• Still room enough for 10 dependent claims without paying extra fees

• If you need more dependent claims, provisionally include them in the description! They can also be useful for possible divisionals
Drafting a "Europe-ready" software patent set of claims (5)

ALWAYS REMEMBER:

- Multiple dependency is allowed under the EPC

- EPC allows an independent claim containing a reference to a claim of another category

- Dependent claims must be supported by the examples in the description to avoid Art 123(2) objections
Example:

1. A **method** for displaying an image comprising a first step where ..., a second step where ... *(always insert technical means)*

2. A method according to claim 1, wherein ...

3. A method according to any one of claims 1 and 2 wherein ...

4. A method according to any one of the preceding claims wherein ...

5. A **computer program** having instructions .... executed by a processing device ... **performing a method according to anyone of claims 1 to 4**

6. A **device** or **system** for displaying an image ... comprising means for **performing a method according to any one of claims 1 to 4**
Final hint (not only for software patents!)

If you seek quick allowance in Europe, consider filing a European Patent Application as 1st filing without claiming the US priority, as soon as you can get a Foreign Filing License.

Advantages:

- Search report within 3 - 4 months
- Good prior art, usable for subsequent filings
- Excellent and established case law
- Problem/solution approach providing predictable examination results in Europe
Thanks a lot!

Marco Lissandrini
lissandrini@bugnion.it

Sandro Sandri
sandri@bugnion.it

MORE INFO AT WWW.BUGNION.EU
Marco Lissandrini

• Aerospace Engineer, graduated at the Polytechnic University of Milan
• European and Italian Patent, Trademark and Design Attorney
• Managing Partner of Verona Office and Member of the Bugnion’s Board of Directors
• 17-years experience in I.P. prosecution, counseling, opinions and litigation support
• Expert in aerospace, mechanical, medical equipment and devices, packaging machines, locking systems, computer software
• Hundreds of patent applications drafted and prosecuted, both before the Italian PTO and the EPO
Sandro Sandri

- Electrical Engineer, graduated at the University of Bologna (1979)
- European and Italian Patent, Trademark and Design Attorney
- 38-years experience in I.P.: Former search and substantive Examiner, as well as assistant in the Board of Appeal "Electricity" at the European Patent Office, The Hague and Munich; Founder and Managing Partner of Europatent-Euromark Srl, which merged into Bugnion in 2014.
- Expert in electronic, electrical, mechanical and software patents, fluently speaks English, German, French, Dutch and Italian.
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