

esa INTERNATIONAL SUMMER SCHOOL ON GNSS

INTELLECTUAL PROPERTY RIGHTS IN GNSS ACTIVITIES

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OVERVIEW

- **Introduction in Intellectual Property**
 - **Patents**
 - **Copyright**
- **Practical hints on how to protect your creative work**

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Definition of Intellectual Property

“ Intellectual Property shall include rights relating to:

- 1. literary, artistic, and scientific works;*
- 2. performances of performing artist, phonogram, and broadcast;*
- 3. inventions in all fields of human endeavor;*
- 4. scientific discoveries;*
- 5. industrial design;*
- 6. trademarks, service marks, and commercial names and designations*
- 7. protection against unfair competition;*
- 8. and all other rights resulting from intellectual activity*
In industrial, scientific, literary or artistic fields, “

intellectual property

The constituents of intellectual property as defined above are regrouped under what is called **“Industrial Property”** (items listed under 3,5,6 and 7) and **“Copyright”** (items listed under 1 and 2). **Scientific discoveries** are a special case.

industrial property (1)

Paris Convention for the Protection of Industrial Property (1883)

“ The protection of industrial property has as its object patents, utility models, industrial designs, trademarks, service marks, trade names, indications of source or appellations of origin, and the repression of unfair competition.”

industrial property (2)

The list given in the Paris Convention is not exhaustive since countries members of the Union are free to introduce in their national law additional forms of protection.

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Patents

A patent is an agreement between a State and an inventor, in return for a full disclosure of the invention, the inventor is granted a certain number of exclusive rights for a fixed period of time.

Patent rights

- **The Paris Convention does not define the rights but refers to those existing under national law.**
- **Notwithstanding some differences under national laws there are some basic rights which are granted under all national systems. This includes the most important right the inventor has i.e. the right to exclude others from making, using or selling the invention on the territory of the State which delivered the patent.**

Patents - Inventions (1)

Black’s law dictionary defines an invention as:

“A concept; a thing evolved in the mind; it is not a revelation of something which exists and was unknown, but is creation of something which did not exist before, possessing elements of novelty and utility in-kind and measure different from and greater than what the art might expect from skilled workers” .

Patents - Inventions (2)

Patent law, however, usually defines only patentable inventions rather than the abstract notion of an invention, e.g. the United States Patent Act defines a patentable invention as:

“Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent thereof, subject to the conditions and requirements of this title.”

Patentable invention

Another way of defining a patentable invention is to list a number of conditions that as a minimum it must satisfy to qualify for patent protection. A typical example is found under the Patent Law of the United Kingdom:

“A patent may be granted only for an invention in respect of which the following conditions are satisfied, that is to say:

- a) the invention is new; b) it involves an inventive step; c) it is capable of industrial application;*
- d) the grant of a patent for it is not excluded by...”*

Exclusions

- d) the grant of a patent for it is not excluded by...”***
excluded are in particular; discoveries, scientific methods and mathematical formulas.
- **Other exclusions:**
 - **Laws of nature, natural phenomena, abstract ideas.**
(an idea in itself is not patentable)

Patent rights (1)

- A patent gives **no affirmative rights** to practice the invention it covers only the negative right to exclude others from practising the invention.
- The particularity of patent owners' right to use, to licence or to dispose otherwise of the patented invention is that it is subject at all times to possible conflicting rights of others i.e. the validity can be challenged at any time.

Infringement

- **Once the patent is granted the patent owner has a number of exclusive rights as explained above. Violation of one of these rights is known as “infringement” .**
- **Notwithstanding the fact that the basic rules for infringement are the same all over the world each country has developed its own system in particular through jurisprudence.**

Patent rights (2)

- The basic principle of patent law is that the rights granted are limited in **scope, space and time.**

Scope - Content of Patent

- As a general rule, though the details may be different from one country to another, a patent comprises: (1) an **abstract** of the invention, (2) a **full disclosure** of the invention, and of the manner and process of making and using it, in such full, clear, concise and exact terms as to enable any person skilled in the art to which it pertains to make and use the invention, (3) one or more **Claims** particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Scope

- **The drafting of the claims is extremely important since they will limit the scope of the patent rights. The style is different depending on the national patent system.**

Limitation in Space (1)

- **Rights conferred to the patentee are limited to the territory of the State who granted the patent rights. In principle patent has no extra-territorial effect.**

Limitation in Space (2)

- **On May 3, 1990 the US Patent Act was modified to include specifically inventions made or used in outer space. According to this amendment**
- **"Any invention made, used or sold in outer space on a space object or component thereof under the jurisdiction or control of the United States shall be considered to be made, used or sold within the United States for the purposes of this title."**

Limitation in time

- **The term of the patent i.e. its lifetime is 20 years starting as from the filing date of the patent application (“filing term”). Some years ago in the US, the term was “only” 17 years but started from the date of granting (“granting term”).**

Patent Filing Strategy

- **Patents are very expensive to get and to maintain. The choice where to file a patent application depends on the subject matter of the patent.**
- **The priority granted under the Paris Convention leaves some time to the inventor to make up his mind where to file.**

Choices for Filing

- **National first filing**
- **European first filing (EPO)**
- **International first filing (PCT)**
- **Any combination of the previous**

Overview

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Copyright

- **Copyright deals with the legal protection of “literary and artistic works” it protects, however, only the expression not the ideas underlying it contrary to patent law where the idea is protected and not the expression.**

Sources of copyright

- **The Berne Convention (Paris Act, 1971), the Universal Copyright Convention (as revised in 1971), the Rome Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations of 1961, the Convention for the Protection of Producers of Phonograms Against Unauthorized Duplication of Their Phonograms of 1971; the Convention Relating to the Distribution of Programme-Carrying Signals Transmitted by Satellite of 1974; the Tunis Model Law of 1976; the Model Law of 1974 concerning the protection of neighboring rights and the TRIP Agreement.**

Copyright definition (1)

“The expression 'literary and artistic works' shall include every production in the literary, scientific and artistic domain, whatever may be the mode or form of its expression, such as books, pamphlets and other writings; lectures, addresses, sermons and other works of the same nature; dramatic or dramatico-musical works; choreographic works and entertainments in dumb show; musical compositions with or without words; cinematographic works to which are assimilated works expressed by a process analogous to cinematography;

Copyright definition (2)

- ***works of drawing, painting, architecture, sculpture, engraving and lithography; photographic works, to which are assimilated works expressed by a process analogous to photography; works of applied art; illustrations, maps, plans, sketches and three-dimensional works relative to geography, topography, architecture or science.***

Copyright definition (3)

- ***Translations, adaptations, arrangements of music and other alterations of a literary or artistic work shall be protected as original works without prejudice to the copyright in the original work. Collections of literary or artistic works such as encyclopaedias and anthologies which, by reason of the selection and arrangement of their contents, constitute intellectual creations shall be protected as such, without prejudice to the copyright in each of the works forming part of such collections.***

Rights granted under Copyright

The rights granted under copyright are limited in **scope, space and time.**

As already mentioned copyright only protects the expression not the ideas behind it. Secondly copyright laws are strictly limited to the territory of the country that enacted them. Finally protection does not last forever but is limited in time. The duration of protection may vary for one country to another, the Berne Convention, however, provides that, as a general rule, protection should be not less than 50 years after the death of the author.

Conditions for acquisition of copyright

- The main condition for protection is that the work should be original. In some countries law prescribes that literary and artistic works shall not be protected unless they have been fixed in some material form. This could for example be the case in direct TV broadcasting. A solution to this is to record simultaneously when broadcasting. Another example often quoted is that of choreography which can only be protected once it has been described in a written form or filmed.c

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Practical hints on how to protect your creative work

- Remember that one of the main prerequisites for legal protection of a creative work is novelty! Therefore never publish or present in public any new ideas you might have.
- It could happen that you must prove that you are the creator of a creative work at a given period in time, therefore keep a logbook with numbered pages and dated in which you will document your work. It goes without saying that you must keep this logbook in a safe place!

Practical hints on how to protect your creative work

- **Whenever you wish to protect your creative work it is recommended to follow a number of steps.**
- **The first step is to identify whether your creative work falls under industrial property or copyright.**
- **But what kind of creative work are we talking about?**

Some Examples of GPS related patents

- **Multimode GPS-enabled camera**
- **High sensitivity GPS-assisted time source**
- **Method and apparatus for estimating behaviors of vehicle using GPS signals**
- **GPS synchronization method for mobile wireless networks**
- **GPS munitions/artillery anti-jamming array with multi-band capability**
- **GPS pathfinder cell phone and method**
- **System and method for enhanced data decode in a GPS receiver**
- **Cash dispensing automated banking machine with GPS**
- **GPS triggered narration and recording for drive events**

Some Examples of GPS related patents

- **Golf GPS Device**
- **Antijam protected GPS-based measurement of roll rate and roll angle of spinning platforms**
- **GPS, GSM, and wireless LAN antenna for vehicle applications**
- **GPS assisted vehicular longitudinal velocity determination**
- **Method and system for GPS based navigation and hazard avoidance in a mining environment**
- **Indexing large-scale GPS tracks**
- **GPS power savings using low power sensors**
- **Cross-PRN phase correction for GPS processing**
- **Apparatus for broadcasting real time information to GPS systems**
- **GPS enabled key management system**
- **Fiber optic GPS link**
- **GPS display monitor**
- **Engine idle control using GPS telematics**
- **GPS-based in-vehicle sensor calibration algorithm**

Patent or Copyright ?

- **The question whether to protect your work by patent or copyright is in particular relevant whenever software is part of your original work.**
- **The main advantage of a patent is that a patent owner may prevent all others from making, using, or selling the patented invention but it is expensive. Copyright on the other hand is cheap but it only prevents others of copying the protected work. Moreover copyright protects only the expression not the ideas underlying the expression.**
- **But software is not always patentable.**

Patent or Copyright ?

- **As a general rule software is not patentable unless it has some special features such as part of a process, imbedded in hardware with specific technical functions. Drafting a patent application with software as its main constituent is very difficult for the layman. Recourse to a patent attorney will be necessary but expensive!**

Applying for patent - Is My creative work patentable?

- **Novelty – Make a search to see whether there exist already similar protected work.**
- **The best is to start with: the US Patent Office Database**
- **<http://www.uspto.gov/patents/process/search/>**
- **Thereafter Europe Patent Office Database**
- **http://worldwide.espacenet.com/advancedSearch?locale=en_EP**

Is My creative work patentable?

After having verified that your creative work might be novel the next step is to see whether the work is patentable i.e.

“Whoever invents or discovers any new (verified) and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent thereof..”

Patent Application

- **File a national patent application where you will receive a search report e.g. France. In France you do not need a patent attorney to file an application, the cost are rather limited in the order of 700 €.**
- **During the one year priority look for potential customers.**

Patent application procedure (France)

- **Patent application examined by Defence**
- **After 6 – 9 months preliminary search report**
- **After 18 months publication of application**
- **After 25 months final search report**
- **After 27 months patent grant decision**

Other important issues

- Trademark
- Liability