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## Requirements to a patentable invention

- A **technical solution** to a **technical problem**  
i.e. the invention must have **technical character**
- **New** – Never been made available to the public in any way,  
anywhere in the world, before the date on which an application for a  
patent is filed
- **Inventive step** – having regard to the state of the art the invention  
must not be obvious to the person skilled in the art
- **Industrially applicable** within any field of technology - US: Useful

In Europe *diagnostic methods* and *methods for treatment by surgery or therapy* practised on the human or animal body are excluded from patent protection

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## Patentable inventions include

- Products (tool, shoe, toy, building material etc)
- Compositions (chemical compound, drug, alloy etc)
- Machines, instruments, apparatuses, systems
- Processes, methods
- Use of a product, composition or apparatus for a specific purpose

## An invention is NOT patentable if it lacks technical character, in particular if it is

- A discovery, e.g. of a natural phenomenon
- A scientific theory or a mathematical method
- An aesthetic creation, literary, dramatic or artistic work
- A scheme or method for performing a mental act, playing a game or doing business
- A presentation of information
- A computer program. *Computer-implemented inventions* having technical character are *not* excluded from patent protection

But only to the extent the invention relates to such subject-matter or activities **as such**

The exclusions have a *narrow definition*

## Patents for software, Computer-Implemented Inventions

- In Europe, controlling or carrying out a technical process is not excluded from patentability, irrespective of whether it is implemented by hardware or by software. Patent protection should not be denied on the grounds that a computer program is involved.

## Information in a patent or patent application

- Front page with useful bibliographic details
- See Anatomy of a US patent.pdf

## Information in a patent or patent application

- **Bibliographic data:** title, inventor, owner, filing date etc. (INID codes)
- Relevant **background art.** A problem in the prior art may be identified
- **Disclosure of the invention** with description and drawings
- **Claims** defining what is (sought to be) protected
- **Abstract** giving a brief overview of the invention
- **Prior art** of relevance to the invention

## Disclosure of the invention

- The patent application must disclose the invention in a manner sufficiently *clear* and *complete* for it to be *carried out* by a person skilled in the art
- The invention must be described in such terms that the technical *problem* and its *solution* can be understood
- The disclosure includes a **written description** and, if relevant, **drawings**

## Claims

- The claims define, in **technical** terms,
  - the protection conferred by a granted patent, or
  - the protection sought by a patent application
- Before grant of the patent the claims are carefully **examined** by one or more examiners in the patent office in order to ensure that the claimed invention meets the criteria for patentability, in particular novelty and inventive step

## Claims

- **Independent** claims are claims which stand on their own.
- Independent claims define the **broadest protection** and are also called **main claims**
- **Dependent** claims (sub-claims) depend on one or more claims and generally express particular and more specific embodiments of the invention

## Rights conferred by a patent or a patent application

- A patent gives its owner a right to *preclude others* from **making, using, selling or offering for sale** the subject matter defined by the claims, but only in countries where the patent is in force
- A patent application confers, from the date of its publication, *provisionally* the same right as a granted patent, and after grant the patent can be enforced retroactively
- Only *commercial use* is covered by patent rights. Private use and experimental use is not covered

## Patent vs. patent application

### Patents

- Have been *examined* and represent a right that *can be enforced*
- Have limited geographical coverage in one or more countries
- Patents in a patent family may have different claims in different countries
- Can be enforced against infringing activities

## Patent vs. patent application

### Pending patent applications

- Represent *potential* rights applied for
- Claims may be amended and limited during prosecution
- Give provisional protection from the date of publication
- Can (usually) *not* be enforced until after grant
- Should be **watched** if a *conflict of interest* can be foreseen, and relevant prior art should be identified for use in a possible attack

## A patent specification does NOT contain any of the following information

- The life of the patent after grant
- Is the patent in force, i.e. have renewal/maintenance fees been paid
- Has the patent been transferred to a new owner
- Are other patents dominating, i.e. is working of the patented invention dependent on other patents
- Are licenses available
- Have licenses been given
- Is the invention being worked, i.e. are products incorporating the invention available on the market
- Has the patent been litigated
- Possible patent family members in other countries and their status

## Is the patent valid?

- Relevant prior art may exist that has not been considered in the prosecution of the application.

If so:

- In some countries *opposition* may be filed usually within a time limit
- In some countries *re-examination* is possible

## A published patent application does NOT contain any of the following information

- Status of the application:
  - Is the application pending
  - Has the application been withdrawn or refused
  - Has the application been examined
  - Has the applicant filed amended claims
  - Has a patent been granted, or will a patent be granted
  - Are there patent family members in other countries
  - Have divisional applications been filed

Status information can be obtained through (online) file inspection in the relevant patent office



## Duration of a granted patent

A patent will expire/lapse

- 20 years after its filing date at the latest, or
- If renewal/maintenance fees are not paid, or
- If revoked in opposition/re-examination proceedings, or
- If revoked by the court in invalidity proceedings

Expired and revoked patents no longer represent any right that can be enforced

Status can be checked in databases and at the relevant patent offices

## Patents and patent applications are

- **Technical documents** disclosing a technical invention
- A source of **technical information**
- **Legal documents** defining **intellectual property rights** associated with the invention. The owner may enforce his rights against unlawful acts by others
- **Assets** representing a value that can be traded and licensed.
- Patents can have a vital influence on the **commercial value** of an organisation, e.g. in mergers and acquisitions

## Business use of patent information

- Patent information is interesting not only because of its *legal* and *technical* relevance, but increasingly because of its importance in a *business context*.
- Patent information provides a wealth of information for many people involved in business, especially corporate decision makers, investors, managers and innovators working in research and development

## Business use of patent information

Patent information can help you to:

- Monitor *trends in technology* which may influence your products and business
- Identify competitors' activities
- See which markets your *competitors* are active in
- Identify *business opportunities*, and
- Co-ordinate your *business decisions*

## Business use of patent information

Patent information can be analysed to show

- Changes in patent activity in certain technical fields and firms
- Fields in which your competitors' patents are clustered
- The geographical distribution of patents over time

## How can a patent application or a granted patent influence my activities?

1. Is the invention and the technology of the patent *relevant* to me?
2. Will the patent **restrict my freedom to operate**? If so,
  - Is a *license desirable*?
  - Is a *license available*?
  - Can I *design around* the patent?
  - Can I *attack the patent* and have it restricted or revoked?
  - Seek professional counsel

## How can a patent application or a granted patent influence my activities?

### 3. An **inspiration and a starting point** for further development

- Will my further development be covered by the patent? If so,
  - consider obtaining a license
  - or design around, see the previous slide
- Can my further development be patented?
- Will the patent owner be interested in my further development?
  - Consider cross licensing

Inspiration from patent literature may prevent duplication of work

## How do I find relevant patent documents?

- **Search in databases**, e.g. <http://worldwide.espacenet.com/>
- **Establish a watch** for patent activity
  - Within a relevant technical field
  - Of certain firms, e.g. competitors or technology leaders

Relevant patents document may also be received with a warning letter from a competitor

## **When a dominating granted patent has been identified**

If in force you may:

- Perform search for relevant prior art
- Obtain professional opinion on validity and infringement
- Design around if possible
- Obtain license
- Attack the patent

## **When a (potentially) dominating patent application has been identified**

If still pending:

- Establish a watch of the application
- Study search report
- Perform search for relevant further prior art
- Obtain a professional opinion on strength of prior art
- Design around if possible
- Attack the application
- Prepare attack on patent if/when granted