STARS EU

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STARS EU INTELLECTUAL PROPERTY RIGHTS GUIDE

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Preface

The guidelines for intellectual property management at the STARS EU level are a complement to the TTO Guide, aimed at increasing commercialization, strengthen collaborative networks, manage intellectual property effectively, and ultimately contribute to a more innovative and competitive Europe. Much of the knowledge generated by European researchers, particularly by universities and research institutions, remains commercially unexploited, with only about one-third of patented inventions being commercially utilized. Incomplete understanding of what intellectual property is and what are the strategies and tools for its protection at the level of the EU and Member States results in its insufficient use in building market position of European companies based on innovation. Meanwhile, the global market faces strong competition, especially from the United States and China. One of tools is to improve our innovation rates by better protecting and exploiting intellectual property created in European universities and research centers.

Implementation of an intellectual property protection plan is also a necessary condition for conducting and marketing the results of research conducted under the joint Stars EU research agenda. Research results must be subject to the same protection in all countries hosting universities conducting joint research projects. Otherwise, there may be uncontrolled use of research results by third parties, to the detriment of universities and research teams.

Intellectual property rights (IPR) in the EU are governed by a combination of EU legislation and national laws of member states. The EU framework aims to harmonize IPR protection across the Union, covering areas like copyright, patents, trademarks, and designs. This framework helps foster innovation, economic growth, and fair competition.

In the case of countries with different detailed regulations on national level, a common strategy for the protection of intellectual property of research results conducted as part of a common international research agenda must be negotiated individually each time before joining a joint research project, while simultaneously considering the respective national laws.

Executive summary

The **STARS EU Intellectual property rights guide** serves as a vital complement to the **STARS EU Technology Transfer Guide**, aiming to **increase commercialization of research, strengthen collaborative networks, manage intellectual property (IP) effectively, and contribute to a more innovative, competitive, and prosperous Europe**.

It addresses the critical issue that much of the knowledge generated by European researchers, particularly in universities, remains commercially unexploited, with only about one-third of patented inventions being utilized. This is often due to an **incomplete understanding of IP and its protection strategies**. The guide emphasizes that implementing a robust IP protection plan is a necessary condition for conducting and marketing research results under joint Stars EU research agendas, ensuring consistent protection across participating countries to prevent uncontrolled use by third parties. The EU's IP framework, combining EU and national laws, seeks to harmonize IP protection for innovation, economic growth, and fair competition.

Intellectual Property (IP), at its core, refers to **creations of the human mind**. More precisely, it encompasses **intangible goods that are recognized and protected by law**. IP covers a broad spectrum, including works of art, inventions, designs, computer programs, trademarks, and images. A key characteristic is their **intangibility**, meaning they exist independently of any material carrier. Furthermore, intellectual goods are **non-rivalrous**, allowing simultaneous consumption by an unlimited number of users without depletion. **Intellectual property rights (IPR) are exclusive rights**, granting the owner sole authority to decide who can use their creation and under what conditions. While most IP laws protect human creativity, the guide notes emerging challenges from **AI-generated content**, where copyright typically protects only works created by natural persons, with most jurisdictions denying IP protection to AI outputs lacking human contribution. Notably, the guide's definition of IP extends to **know-how**, which is not protected by exclusive rights but relies on **confidentiality** for its value.

The guide details various **Ways to Protect IP**, explaining the economic rationale behind IP protection: it **encourages development, incites innovators to share achievements, and allows for a fair return on investment**, preventing unfair advantages from copying. A single complex product can be protected by a variety of IPRs simultaneously. The primary types of IP protection discussed are:

- **Patents**: Granted for **new, inventive, and industrially applicable inventions**. They provide an exclusive right to commercial use for typically **20 years** from the filing date, and are strictly territorial. Obtaining a patent involves a formal process of application, examination, and publication.
- **Copyright**: Protects **works** automatically, without formalities, covering the **form of expression** but not underlying ideas. Economic rights typically last the **author's lifetime plus 70 years** in the EU, while moral rights are perpetual.
- **Utility Models**: Offer protection in some countries with **less stringent conditions** than patents (often not requiring an inventive step) and for a shorter duration.
- **Industrial Designs**: Protect the **appearance of a product** if it is new and has individual character. Registered designs can last up to 25 years.

- **Trademarks**: Distinctive signs capable of identifying goods or services of one undertaking from another. They are registered for **10-year periods, indefinitely renewable**.
- **Database Protection**: Can be protected by **copyright** (if original in selection/arrangement) or a unique **sui generis right** in the EU (if substantial investment is made in obtaining, verifying, or presenting contents).
- **Plant Variety Protection**: An exclusive right for breeders of **new, distinct, uniform, and stable plant varieties**.
- **Know-how**: Market-valuable, confidential information that is not publicly available and whose protection relies entirely on **confidentiality**, often requiring **Non-Disclosure Agreements (NDAs)** before disclosure.

Basic Principles of IP Management outline a strategic approach to protecting and maximizing the value of intellectual assets throughout their lifecycle. Key elements include: **identification of potential IP**, assessing its **commercial exploitation potential**, and choosing appropriate **IP protection** paths. **Confidentiality is crucial** before disclosure to preserve patentability or enable trade secret protection. The guide also covers **IP due diligence** before agreements, managing **joint ownership** through specific agreements, **valuation of IP** (cost-based, market-based, income-based approaches), and various methods of **IP exploitation** (business implementation, licensing, fundraising, transfer, collateral). Furthermore, **compliance and monitoring** are essential to adhere to legal regulations and contractual obligations, and to detect infringements. If infringements occur, **IPR enforcement** through legal actions or negotiations is critical. Lastly, **education and training** are fundamental to raising awareness among employees and R&D individuals about IP handling and confidentiality.

Dissemination of the Developed IP is discussed as the process of presenting research results to various audiences. It is crucial to **strategically plan dissemination in alignment with IP protection strategies**. For **Higher Education Institutions (HEIs)**, this means **disclosing and registering research results with a dedicated unit, such as a Technology Transfer Office (TTO), prior to any public presentation**, to assess potential legal protection, especially if industrial property rights like patents might apply. The guide highlights the importance of filing relevant applications *before* public disclosure to avoid losing protection opportunities. It also introduces **open science and open access** movements, which promote the free and unrestricted sharing and reuse of research, often required for publicly funded projects.

Finally, the guide provides a **Protocol for IP management for STARS EU members** for joint research projects. This protocol outlines ten crucial steps, beginning with **signing a Non-Disclosure Agreement (NDA)** and analyzing the legal status of R&D results in different countries. It emphasizes determining the division of newly developed IP, registering results at home universities, deciding on legal protection and financing, and determining commercialization rights and revenue sharing rules. A key takeaway is the necessity of **signing a joint research work agreement** containing clauses on background IP and joint ownership *before* starting a joint research program, to prevent potential conflicts over rights.

1. Intellectual Property

This Chapter 1 of the STARS EU INTELLECTUAL PROPERTY RIGHTS GUIDE provides a foundational understanding of **intellectual property (IP)**. Colloquially, IP refers to **creations of the human mind**. More strictly, it encompasses **intangible goods** that are created by the human mind and are **recognized and protected by law**. This means that not all intellectual outputs qualify as IP, but only those legally defined. IP covers a broad spectrum, including works of art, inventions, designs, computer programs, trademarks, and images.

1.1. What is intellectual property (IP)

Intellectual property, in its colloquial sense, refers to creations of the human mind. However, for the purposes of this Guide, a more specific approach is necessary. In a strict sense, intellectual property is a concept that encompasses two notions, namely property and intangible goods. While property is intuitively associated with tangible objects, the law has extended it to include intangible goods in response to the need for protection of creators and inventors. Intellectual property, in the strict sense, refers only to objects that are created by the human mind and are recognized and protected by law. This means that IP, sensu stricto, does not refer to all intellectual outputs, but only to those that are legally defined. Intellectual property covers a vast range of creations of human intellect for example works of art, inventions, designs, computer programs, trademarks, images.

> ***What does it mean intangible goods?***
>
> *The term of intangibility can be illustrated by an example of a work protected by copyright. Imagine that a poet creates a poem and makes only one copy of the it, for example on a notebook, or in digital form on his tablet (in legal terms the poem is "fixed"). The poem is entitled "XYZ". Copyright protection of the "XYZ" poem exists regardless of the tangible carrier on which the poem is recorded. We may ruffle the notebook in which the poem is written or destroy the tablet in which the poem is recorded, however, it would still be protected by the copyright. In this example the only things destroyed are the material goods, namely the notebook or the tablet. However, the work still exists despite destroying the only physical carrier on which the poem is saved. The poem is protected by copyright despite destroying the only one copy of the poem that has existed.*
>
> *The example above shows two types of property - the physical objects, namely notebook or tablet, are material goods and are subject to property rights. Those objects embody an intangible good – the poem "XYZ" that is a subject to intellectual property rights.*

Note: Intangible goods exist separately from the material carrier on which they are fixed.

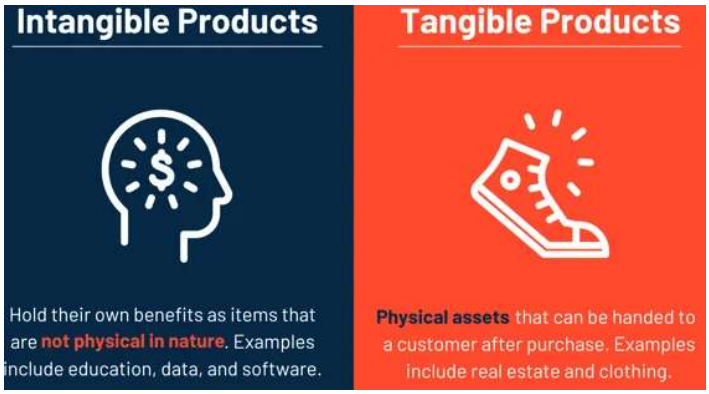


Fig.1: Intangible vs tangible goods. (https://www.g2.com/glossary/intangible-products-definition)

Intellectual property is non-rivalrous

"Non- rivalrous", or the opposite "rivalrous", are economical notions used to describe certain types of goods. If a good is rivalrous it means that it can be consumed simultaneously by one or limited quantity of consumers. Consuming such good by one consumer excludes others from using it at the same time.

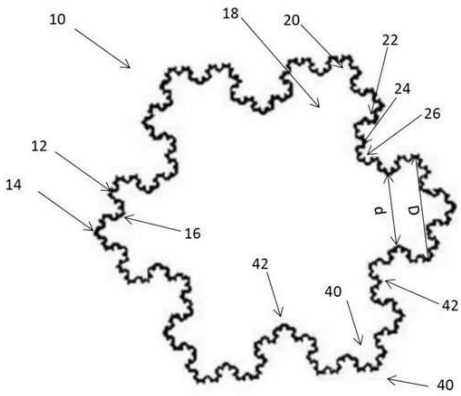
On the other hand, non-rivalrous goods may be consumed simultaneously by an unlimited number of consumers (in the extremum). In other words, consuming a non-rivalrous good by one consumer does not prevent its simultaneous consumption by others. Most tangible goods are rivalrous.

For example, a jacket is a rivalrous good. If I put on a jacket other people cannot wear it at the same time. A bike or a car are other examples of rivalrous goods. Intellectual goods are non-rivalrous. In general, unlimited number of consumers may benefit from intellectual property simultaneously. An article may be read by an unlimited number of readers, and it will not be depleted. An invention may be implemented countless times without deprivation of its effectiveness. How many people listen to, or sing "Imagine" by John Lennon at the same time?

1.2. Is "Intellectual" always a creation of the human mind?

The adjective intellectual refers to the intellectual activity of a human. Most intellectual property laws protect the fruits of human creativity or inventiveness. However, in the era of AI driven inventions, literature or images, we should consider this aspect in detail.

When a British nature photographer, David Slater, was making photos, a macaque took his camera and took a selfie. Although the photo is unique, it cannot be protected under copyright, because it was taken by a monkey. Copyright protects solely works created by natural persons.



DABUS - Device for Autonomous Bootstrapping of Unified Sentience

The Artificial Inventor Project, led by Professor Ryan Abbott, is intended to promote a discussion on the protectability of AI-generated output. Within the framework of the project a series of legal cases was filed to test whether intellectual property rights may be granted to an AI-generated output in the absence of a contribution from a human inventor or author. The vast majority of offices and courts around the world denied copyright or patent protection. Until this day, patent protection for AI generated invention was granted solely in South Africa.

"Théâtre D'opéra Spatial" created by Jason M. Allen using the AI image generator “Midjourney”, won first place at the Colorado State Fair Fine Arts Competition in the category "digital arts/digitally-manipulated photography". The image was a result of around 600 text prompts. The case contributed to the discussion regarding the boundaries of copyright law. The question which arose was whether the prompts could constitute a creative contribution to the image and in consequence might be protected by copyright, or whether is it necessary to edit the image manually for copyright to arise. Until now the U.S. Copyright Office (USCO) has denied copyright protection.

1.3. Property

Property means that solely the person possessing or entitled to a good may use it or dispose of it, excluding others from doing so. Such exclusivity may arise from possession or legal entitlement. Due to the fact that intellectual goods are intangible, the exclusivity of use may be granted solely by the legal system. Therefore, intellectual property is most commonly understood as the result of intellectual activity eligible for legal protection.

Note: Intellectual property rights are exclusive rights!

Exclusivity means that only the owner of intellectual property rights can decide who is allowed to use a certain creation and under what conditions. This entitlement can be compared to ownership of physical objects (proprietary rights). For example, a car owner is the sole decision-maker regarding who can drive their car and on what terms. Moreover, IPR are objective rights, meaning they protect the rights holder against anyone in society.

Examples:

1. The author of the poem “XYZ” is entitled to decide if the poem is communicated to the public or not, if it is published in a book of poetry or on the internet, if the access to the poem is granted upon payment, or free of charge, or whether it gets published on a billboard. No one else can make those decisions without the poet’s authorization, unless they hold the copyright themselves — for example the poet’s employer or a publisher who acquired the rights from the poet.

2. Another example is the proprietor of the patent. Solely the person (or entity) entitled to the patent rights may use the invention commercially on a given territory where the patent is valid. The proprietor of the patent may authorise another entity to use the invention for commercial purposes (for example by licensing the patent).

   Exclusivity means that the entitled entity may use the protected subject matter and exclude other persons from using it.

Exclusivity is not absolute and is subject to certain limitations. For example, copyright law allows the use of a work—if obtained from a legal source—for private purposes, education or research, or quoting excerpts (and in some cases, entire short works) for specific purposes.

For the purpose of this course the notion of IP shall encompass not only intellectual goods that are protected by exclusive right, but also know-how, which is not covered by such rights.

2. Ways to protect IP

This Chapter provides a comprehensive overview of why intellectual property (IP) protection is necessary and the various mechanisms available for it. From an economic perspective, granting a legal monopoly over creations encourages development, incites innovators to share their achievements with society, and allows for a fair return on investment. It then details different types of intellectual property rights, including **patents, copyright, utility models, industrial designs, trademarks, protection of databases, plant variety protection, and know-how**. The guide notes that a single complex product can be protected by a variety of these IPRs simultaneously.

2.1. Why do we need to protect intellectual property?

For the purpose of this guide, we will not analyse the axiological background of intellectual property rights and will instead present the justification of the IPR system from an economic perspective.

Development requires time, skills, knowledge and most commonly financial investment. Inventors, scientists, artists, and entrepreneurs dedicate their time, effort, and resources to create a work or invention. Taking into consideration the characteristics of intellectual property, particularly its intangibility and non-rivalry, intellectual goods could be simply copied and adopted by other entities that avoided the initial investment leading to development of such goods. Unrestricted copying of intellectual achievements may give competitors of innovative entrepreneurs an unfair advantage, allowing them to benefit from someone else's investment without bearing the costs. The legal monopoly over creations gives the authors, inventors or investors an opportunity to make a fair return on their investments. The particular nature of intellectual goods required the development of a special system of rights tailored to each category of intellectual goods. Granting a monopoly over intellectual property encourages development and incites innovators to share their achievements with society.

On the other hand, the monopoly vested in the IPR proprietor is generally limited in time. When the given IPR elapses, for example due to the passage of time or failure to pay the relevant fees within the deadline, the protected good enters public domain and may be exploited by anyone.

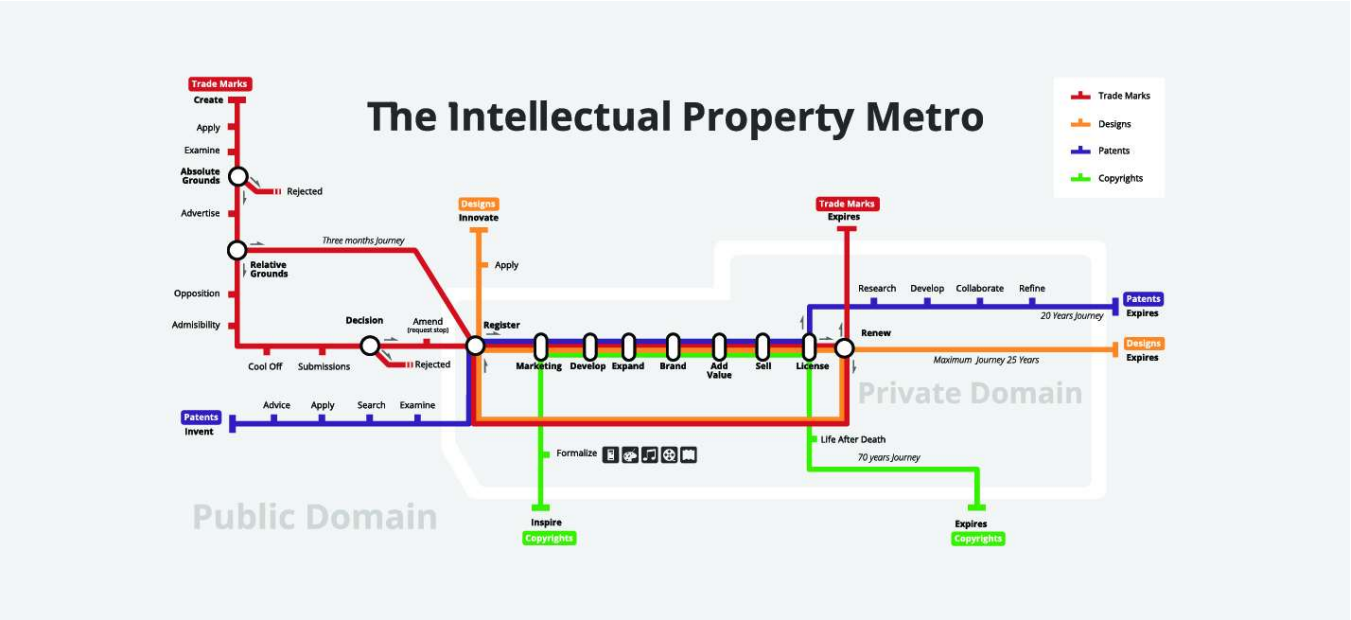
Curiosities:

- Did you know that the first authenticated instance of a royal patent-like grant was awarded by King Edward III of England to John Kemp in 1331? The grant gave a monopoly over woollen cloth weaving trade in England.
- The first codification of a patent system is the Venetian Patent Statute, issued by the Senate of Venice in 1474.

The IPR system

Different intellectual property rights protect various types of intellectual goods. One complex product may be protected by a variety of IPRs.

For example, different parts of mobile phone (including software) may be protected under multiple laws such as patents, copyright, design rights, trademarks. One mobile may contain thousands of goods protected under intellectual property rights.



Source: EUIPO

2.2. Patent

1. Subject matter of protection

Patents are granted for inventions that are new, involve an inventive step, and are industrially applicable. The notion of invention has not been positively defined by legislators; however, relevant legal acts usually contain a negative list of objects that are not considered inventions. These listed objects are excluded from patentability as such, which means that if the patent application concerns solely the listed object the patent will be refused. However, if the application also includes other features that have a technical character, the patent may still be granted.

The Article 52 of the European Patent Convention may be used as an example of non-inventions:

- discoveries, scientific theories and mathematical methods;
- aesthetic creations;
- schemes, rules and methods for performing mental acts, playing games or doing business, and programs for computers;
- presentations of information.

The list in non-exhaustive, which means that European Patent Office may consider another type of objects or activities as non-inventions excluded from patentability.

Moreover, even if a given development could be considered as invention, it cannot be patented if it falls under the scope of exceptions of patentability. Usually, a patent cannot be grated for:

- Inventions whose exploitation would be contrary to public order or morality;
- plant or animal varieties or essentially biological processes for the production of plants or animals (this exclusion does not apply to microbiological processes or the products thereof);
- methods for treatment of the human or animal body by surgery or therapy and diagnostic methods practiced on the human or animal body (this exclusion does not apply to products used in these methods).

Patentable invention: The Patent may be granted regardless of the field of technology that the invention concerns, as long as the invention has a technical character.

The invention must meet three prerequisites to be patentable:

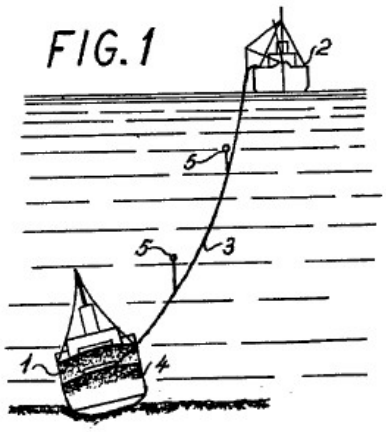
- It is new, which means that the invention does not form part of the state of the art;
- It involves an inventive step, meaning it is not obvious to a person skilled in the art, considering to the state of the art;
- It is capable of industrial application.

Each of the patent claims is examined in the light of all three patentability conditions. This means that, if a given feature of the invention, described in a patent claim does not meet all the patentability criteria, it would fall out of the scope of the patent protection. In other words, the patent may still be granted, but the specific feature would not be protected. While describing patentability conditions, this document may refer to “invention” as a whole; however, this is a deliberate simplification to make the patentability requirements easier to explain.

The patentability prerequisites require further consideration.

Novelty: An invention is considered new if it is not part of the state of the art. The state of the art means the body of knowledge existing in the determined moment in time, namely the filing date (or priority date, where applicable), in the relevant field of technology. It encompasses everything that, before the priority date for obtaining a patent, has been made publicly available in any form, such as in written or oral form, by use, or display. State of the art includes any sources in any language and from any geographical location. There are no restrictions regarding the manner of presenting the information or limits regarding the age of the sources.

Example:



In 1966 a Danish inventor, Karl Kroyer, filed a patent application concerning a method for raising sunken or stranded vessels. The method involved introducing buoyant bodies, such as gas-containing polystyrene balls or pieces of cellular plastic material, into the interior of the vessel. The application was rejected as the examiners at the patent office discovered that a similar method for rising a sunken vessel had been used by Donald Duck and his nephews in the comic book from 1949.

Therefore, **the state of art includes** not only scientific or sectoral publications, conference presentations, offered or marketed products, and use or demonstrations of the invention in any way, but **all available resources regardless of their type or nature**.

The invention is considered made available to the public when it is disclosed in a manner that enables a person skilled in the art, at the relevant date, to reproduce the invention.

Prior art includes information contained in earlier patent or utility model applications that claim priority, but have not yet been made public, provided they are published later as prescribed by law. An earlier application destroys the novelty of later applications if the earlier application is made public, with retroactive effect from its filing date.

Specific concept of novelty in pharmaceutical inventions - first medical use and second medical use

First medical use

It is still possible to obtain a patent for a substance or composition that is already known (constitutes a part of the state of the art), but its medical use was previously unknown. Medical use means use in therapy, surgery, or diagnostic. If the substance or composition has already been used in any medical method, it could not be patented within this category.

Second medical use

Second or further medical use is a category of inventions that may be patented even though the invention has been already known, and its medical use has already entered

in the state of the art. A patent may still be granted for substance or composition if it has the ability to achieve a particular therapeutic effect that is novel and has an inventive step.

Inventive Step: Generally, the inventive step prerequisite is examined once the novelty of the invention is established. The invention is considered to involve an inventive step if it is not obvious to a person skilled in the art, taking into consideration the state of the art.

A person skilled in the art is a legal concept that refers to a model person. Such a person is a skilled practitioner in their field, possessing average knowledge and ability in the relevant technical field. However, the model person skilled in art lacks creativity and operates routinely.

If the invention is obvious to the person skilled in art, considering the priority date, the invention lacks an inventive step and therefore patent protection would be denied.

Industrial Applicability: An invention is deemed industrially applicable if a product can be produced or a process can be used, in any kind of industry, including agriculture. In other words, the invention has to be useful and possible to implement in practice.

Industry is understood very broadly for the purpose of this prerequisite. Some legal acts require indicating the manner of the industrial application of the invention in the patent application.

How is an invention described in the application?: An invention is described in the patent application by claims and description. Patent claims are vital for determining the scope of protection. Only the features expressed in the claims are protected under the patent. The claims are accompanied by a description, which is used to interpret the claims. It should be noted that features disclosed in the description that are not contained in the patent claims are not protected. Such features enter the public domain. Moreover, the patent application contains an abstract, however, it is used solely as a tool for search purposes, and it cannot not be utilized for the interpretation of the claims.

Description of the invention: The description explains the invention. It presents prior art that may be useful for understanding the invention, together with indicating the relevant documents presenting prior art, especially patent specifications.

The description should disclose the invention in a manner that enables the identification of the technical problem and the solution implemented by the invention. The technical field to which the invention relates should be indicated. Only details necessary for elucidating the invention should be included in the description. If drawings are included in the patent application, they should be briefly described.

Sufficiency of disclosure is assessed based on the application, including the description, claims and drawings, and the indicated technical field.

Claims: The scope of a patent is defined by the claims included in the patent specification. The description of the invention and the drawings may be used to interpret the claims.

Claims are a crucial element of patent application as they determine the scope of the patent protection. A patent application must contain at least one claim. Claims should be formulated

in a clear and concise manner and relate to technical features of the invention. Moreover, the way of expression of the claims is quite formalized.

Claims are used for the precise definition of the patent subject matter. They may be supported by the description of the invention.

Two basic categories of claims may be distinguished; product claims and process claims. The first category may refer to an apparatus, machine substances or compositions. Process claims refer to activities.

Biotechnological inventions concern a product consisting of or containing biological material or a method by which biological material is produced, processed, or used. Biological material means material that contains genetic information and is capable of self-reproduction or reproduction in a biological system. Biotechnological invention must meet the previously discussed patentability criteria: it should be new, involve an inventive step, and be industrially applicable.

2. Scope of protection

A patent is an exclusive right that gives its proprietor a monopoly over the commercial use of a patented invention. The patent holder may prevent any other entity from producing, offering, putting on the market, using, exporting, or importing the products in which the patented invention is implemented, or which is produced using the patented method, without their consent. A patent for a process includes the products directly obtained by that process.

Territorial scope: A patent has a strictly territorial character. It protects the invention on a specific territory, namely the territory of the country in which the patent has been granted. Obtaining patent protection for an invention in different countries at the same time was burdensome. However, based on international treaties, applicants can simplify the formalities in such situations. It is possible to file one application within an international procedure that enables to obtain a bundle of national patents, which are independent from each other. Such systems include for example the PCT (with 157 member countries), European Patent (39 member countries).

There is the possibility of obtaining a patent that is valid in a specific region covering the territory of several countries, such as the European patent with unitary effect (European Patent Office), OAPI patent (African Intellectual Property Organization), GCC patent (Gulf Cooperation Council Patent), and Eurasian patent (Eurasian Patent Office).

3. Duration of protection

A patent lasts for 20 years from the filing date of the application with the Patent Office. If the maintenance fees are not paid to the relevant patent office, the patent will lapse earlier.

4. Right holder

The inventor is entitled to obtain a patent for their invention. However, this right may be vested in another entity, for example, when the invention is created by an employee or under a commission contract. The vesting of the right to obtain a patent is subject to national legislation.

5. How to obtain a patent?

To obtain a patent, the inventor must disclose the invention in the patent application. The disclosure should be clear and detailed enough to allow a person skilled in the relevant field of technology to reproduce the invention. The application is later published in a patent register that is publicly available. After the patent elapses (usually 20 years) the invention enters public domain meaning it can be used commercially by anyone.

National patents: Patent laws vary to some extent between countries; however, the overall application procedure is generally similar and includes the following steps:

1) Application - The inventor, or other entitled entity, has to file an application with the relevant patent office;
2) Examination of the application – first verification whether application provides all required information and documents. If the application fulfils the formal requirements, it is accorded a date of filing.
3) Search report – it is an initial report on the state of art, and includes a list of relevant patent documents;
4) Publication – the application is usually published along with the search report, usually 18 months after the date of filing (or priority date, if claimed);
5) Substantive examination – the invention and the application are verified in the light of statutory requirements;
6) Decision – the patent office issues a decision for either granting the patent or rejection.

Patent application: Each applicable law defines the necessary elements of the patent application. The application is prepared on a special form and comprises the following elements:

- a request for the grant of a patent;
- a description of the invention;
- one or more claims;
- drawings, if the description or the claims refer to drawings;

- an abstract.

A request for the grant of a patent is usually required to be made on an appropriate form. The request includes the title of the invention, name of the inventor (s) and should define the entity (entities) that applies for a patent, its entitlement to the invention, representatives (if any).

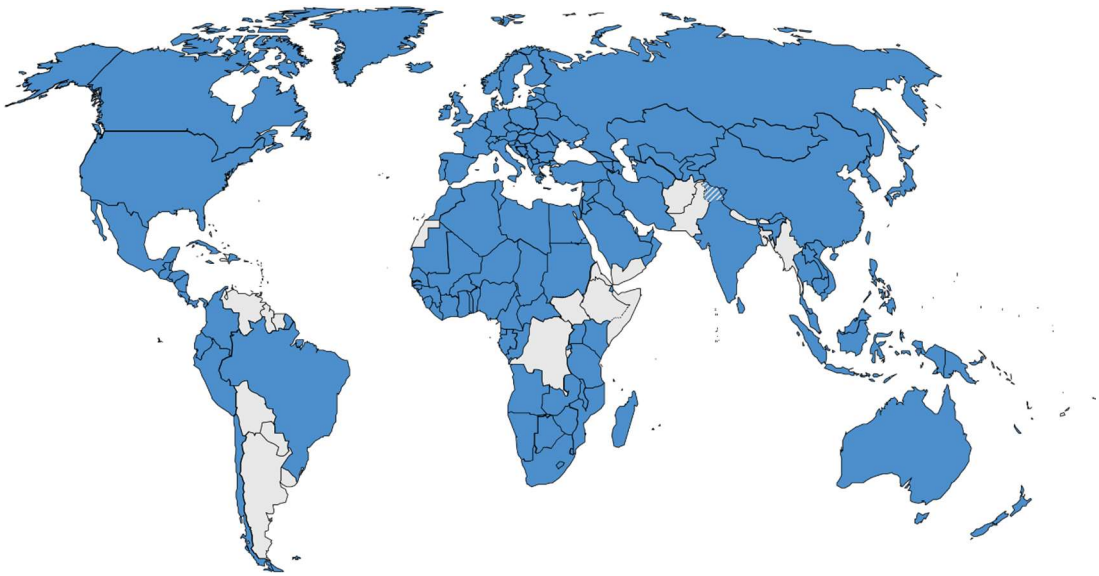
Description – describes the invention and is used to interpret the claims. The Description should summarize prior art and identify the technical problem that the invention solves. Itis important to note that if some of the patent features are presented in the description but are not included in the claims, those features will not enjoy the protection.

Claims are the core of the patent application. They define the subject matter of the application, and later of the patent.

Drawings usually are not an obligatory element of the application; however, they might be necessary to understand the invention. They are used to interpret the claims.

Abstract should provide brief information about the invention. It is used as a tool for search purposes, and it cannot not be utilized for the interpretation of the claims.

PCT – possibility to obtain patents in selected countries: The PCT is an international patent system administered by World Intellectual Property Organization under the Patent Cooperation Treaty. The system allows for obtaining patent protection in any (or all) of the signatory states chosen by the applicant by filing one application. The application may be filed, together with relevant fees, at a national patent office, European Patent Office or WIPO International Bureau. As a result of successful application a bundle of national patents is granted. In 2024, 157 countries were parties to the PCT.



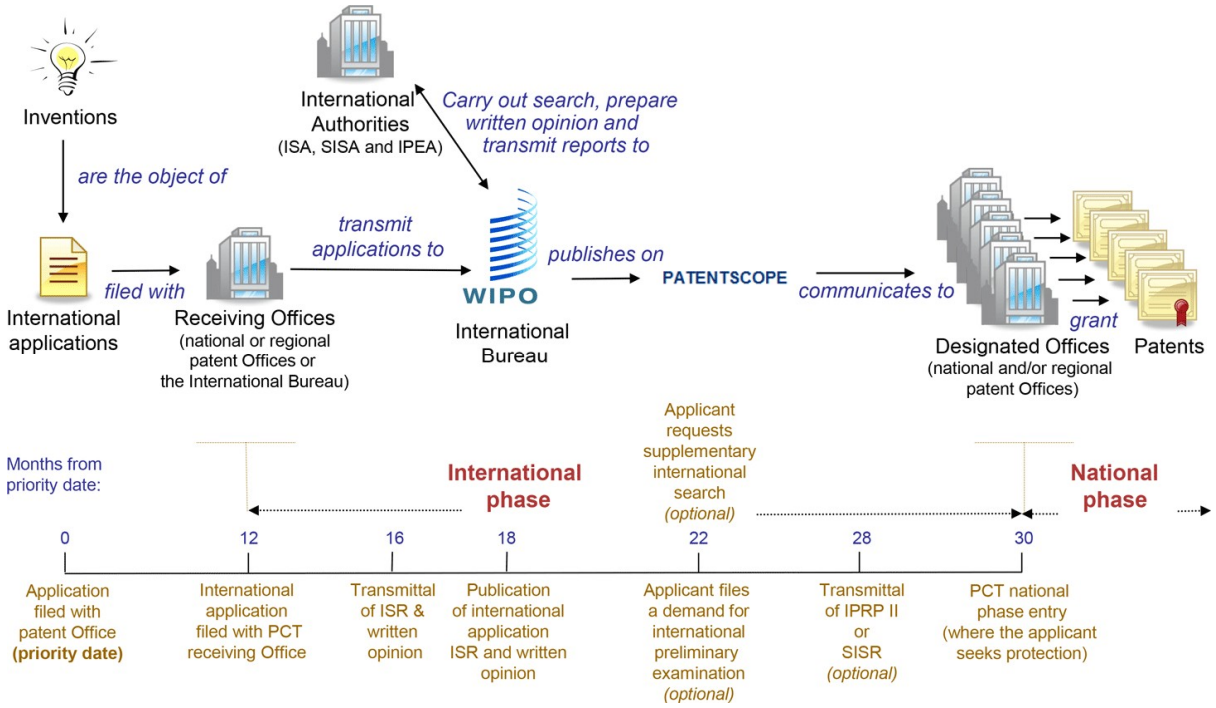
Source: https://www.wipo.int/pct/en/pct_contracting_states.html

The application procedure is divided into two phases – **international and national** (or regional).

- During **the international phase**, an international search report is produced by the international search authority (ISA) selected in the patent application. The search report presents published patent documents and literature relevant for patentability examination and is accompanied by an opinion on patentability. Based on the international search outcome, the applicant may amend the claims or even withdraw the application. The patent application and the search report are then (after 18 months from the priority date) published on PATENTSCOPE, WIPO's patent database. Optionally, the applicant may choose to conduct supplementary international search by another ISA, or an international preliminary examination. Those documents provide additional, in-depth analysis on patentability. Such information is valuable, in particular when the initial application was amended after the international search report. None of those documents are binding for national patent offices; however, if the applicant decides to transfer the rights to obtain the patent/patents, such additional documents may increase the value of those rights.

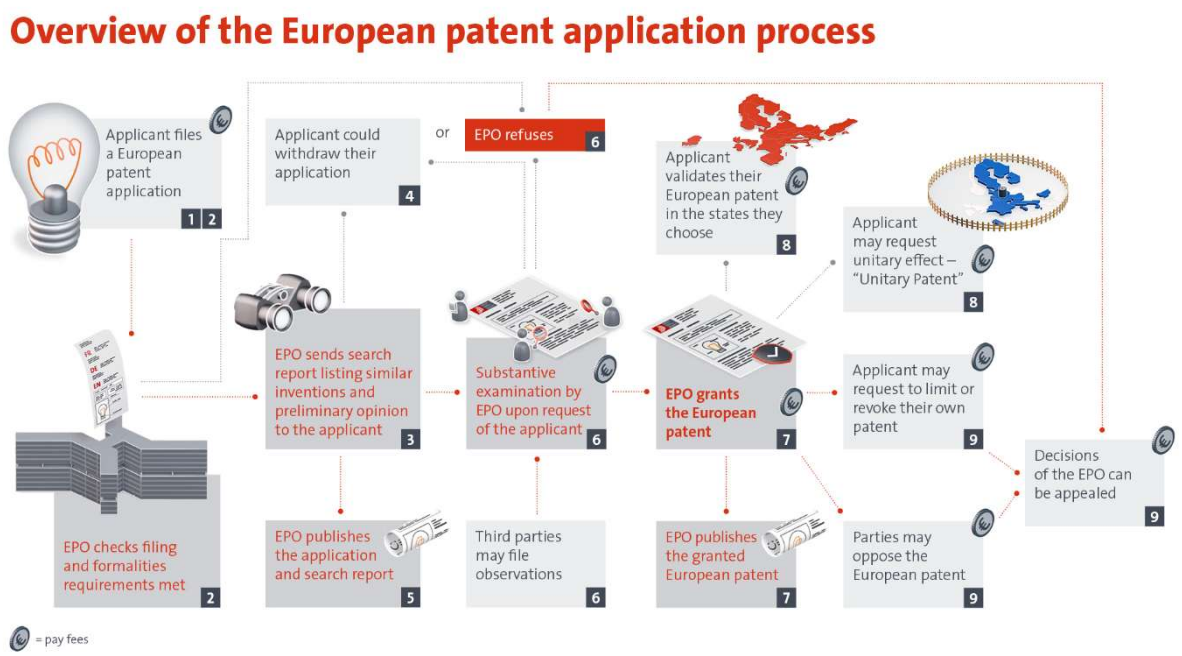
  At the lates by the end of the international phase the applicant must select the countries in which they want to obtain protection. The deadline for entering the national phase is 30 months from the priority date.

- In **the national phase** the application is examined by each of the national or regional patent offices that have been selected in the application. National or regional offices require payment of the relevant fees and sometimes translation of the application. The offices assess the application under the relevant national (regional) law taking into consideration the results of the search received from WIPO.



Source: PCT FAQs (wipo.int)

European patent & European patent with the unitary effect: The European Patent procedure, like the PCT, enables the filing of a single application which may result in the granting of a bundle of independent national patents. However, within the European Patent procedure, the applicant may also request unitary effect for their patent. Contrary to the PCT outcome, a European patent with the unitary effect is a single patent, automatically valid in all EU member states that participate in enhanced co-operation and have ratified the Agreement on a Unified Patent Court (UPC). Ratification of the UPC Agreement is crucial for the unitary system, because the unitary effect requires unified implementation of the material law and unitary court proceedings. Therefore, a single international Unified Patent Court has jurisdiction over Unitary Patents, including infringement (violation) and invalidation of the patent. Currently (as of end of 2024), the Unitary Patent has effect in 18 Member States; however, it is expected that more EU Members States will ratify the Agreement on a Unified Patent Court and fully join the system.



Source: https://www.epo.org/en/new-to-patents/how-to-apply-for-a-patent

The standard procedure is initiated by filing an application with the European Patent Office (directly or through a national patent office) and paying the initial fees. The application undergoes formal verification, after which EPO sends the search report and an initial opinion on meeting the patentability requirements. Upon receipt of the search report along with the opinion, the applicant may decide to pursue the application. If, in light of the search report and opinion, the likelihood of obtaining a patent is low, the application may be withdrawn before its publication. If the application is not withdrawn, it is published within 18 months of the filing date (or priority date, if claimed). The application will be available in European Patent Bulletin, Espacenet (EPO patent database), and the European Patent Register.

If the applicant decides to continue the procedure, they will have to request the substantive examination and pay the examination fee. After the patent application is assessed, the EPO issues a decision on grating the European Patent or refuse the application. The latter decision can be appealed. The examination usually takes 3-4 years.

If the patent is granted, the applicant may designate the countries (from 39 European Patent Organization Member States) in which the patent shall be validated in order to obtain a national patent. The request should be filed within 3 months of the receipt of the EPO's decision. The European Patent must be validated under national law in each designated country, which requires payment of relevant fees.

At the same time the applicant may decide to request the unitary effect. If the request is successful, the patent will have a unitary effect in all the 18 courtiers which participate in the Unitary Patent System. The request should be filed within 1 month of the publication of the EPO's decision in the European Patent Bulletin. The terms for filing a validation request and unitary effect request are independent. A request for unitary effect does not exclude the

possibility to validate the European Patent in selected states (for example, those for which the unitary effect does not apply, such as Poland, Spain, and the UK).

2.3. Copyright

Copyright is an exclusive right that protects works. Copyright protection arises automatically regardless of the value of the work (including banal works), its purpose and does not require any formalities.

1. Subject matter of protection

It should be noted is that copyright protects solely the form of expression; therefore, ideas presented in the work do not fall under the scope of the protection. Copyright does not protect discoveries, ideas, procedures, methods, and operating principles, or mathematical concepts.

Example:

The conceptual layer of the work is not protected under copyright. The research results presented in a scientific article would not benefit from copyright protection. Only the form in which the author expresses the scientific achievements is protected by copyright. The concepts presented in the paper may be protected in another IPR regime, for example under patent. A publication destroys the novelty of an invention or utility model. If research results may be protected under industrial property rights such protection should be sought prior to the publication of the scientific paper (or other form of dissemination). Filing an application for a patent is enough to enable the publication, the applicant does not have to wait for the grant of the patent. However, if the dissemination occurs before publication of the patent application, the possibility to amend or withdraw the application would be limited or excluded. It is crucial to develop a deliberate, strategic approach to the dissemination of the research results.

Each national law provides legal definition of a work. At the EU level, there is no unified legal definition of a work. However, the case law of the Court of Justice of the European Union, which is binding for Member States, provides an autonomous EU concept of work. The work should be original in the sense that it reflects the author‘s personality. The work is a result of

free and creative choices of the author, who leaves an individual, personal imprint on the work. This means that the work is the author's own intellectual effort and therefore has a personal touch. The author expresses themselves by making free and creative choices that form the work.

Examples of works:

- Literary, journalistic, and scientific works, such as poems, novels, and articles
- Computer programs
- Paintings, drawings, sculptures, and other visual art
- Choreographic works
- Photographs
- Industrial designs
- Cinematographic works
- Architectural, architectural-urban, and urban planning works
- Musical and word-music compositions
- Databases (in some jurisdictions)

2. Scope of protection

Copyright has dual nature and protects work in two aspects: economic and personal. Economic (property) rights grant the copyright holder a monopoly for the use of the work and enable monetizing the work. The copyright holder is exclusively entitled to exploit the work. Economic rights encompass the right of reproduction, right of distribution, right of communication to the public, rental and lending rights and the right to exploit derivative works. Economic rights are transferrable, might be licensed, constitute an in-kind contribution to a company, or serve as collateral. Moral rights, on the other hand, protect the author's personal bond with the work. They focus on the personal and reputational interests of the author. They are not transferable and are everlasting. The catalogue of moral rights varies in different Member States but usually includes the right of the authorship of the work, the right to attribution of the work (with the author's name or pseudonym, or to make it available anonymously), and the right to integrity of the work.

3. Duration of protection

According to some jurisdictions, particularly in the EU, copyright arises at the moment a work is externalized. The work originates in the author's mind, and its externalization makes it perceivable to others. This may occur through speech, improvisation, or live performance. In contrast, other jurisdictions require the work to be fixed in a tangible form for copyright protection to arise. For example, the work may be saved as a digital file, written on paper, or recorded in audio or video format. The work does not have to be completed, unfinished works are also protected. The fixation requirement is met even if the work does not have a permanent nature – for example an ice sculpture or flower arrangement.

Copyright protection extends to works created by any person, regardless of legal capacity. This includes works authored by minors or individuals with limited legal capacity. In the EU,

economic rights last for the author's lifetime and 70 years after their death. Moral rights, however, are perpetual and do not expire.

4. Right holder

Generally, the author is the rights holder of both economic and moral rights to the work they create. However, in certain situations, economic rights may be vested in another entity, such as an employer. These cases are governed by national laws, which may differ from country to country.

5. How to obtain protection?

Copyright protection arises automatically and does not require any formalities. In practice, a copyright notice is often attached to a copy of a work to inform the public about the copyright holder or existence of the copyright. For example, the © symbol, along with the year of creation and indication of the right holder, is commonly used.

Example: **Copyright in Poland**

Subject matter of protection

Polish law on copyright and neighbouring rights defines a work as any manifestation of creative activity with an individual character, expressed in any form, regardless of its value, purpose, or manner of expression. Creative activity is carried out by making free and creative choices regarding the manner of expression, and it can only be performed by a natural person, regardless of their legal capacity.

Individual character is a core concept of the copyright system in Poland. It means that the author imprints their personality onto the work, and in this way, the work reflects the author's individuality.

Additionally, the work must be expressed in such a way that a recipient has the opportunity to become familiar with it. Copyright protects only the form of expression, not the ideas or concepts underlying the work.

Scope of protection

Economic rights grant the rights holder a monopoly over the use of a work in specific ways, referred to as fields of exploitation. These fields are listed in the Law and include, in particular:

- reproduction and fixation of the work – Producing copies of the work using a specific technique, including printing, reprography, magnetic recording, and digital techniques;
- distribution of the original or copies of the work – Placing the original or copies of the work into circulation, lending, or renting them;

- public dissemination of the work in ways other than distribution – This includes public performance, exhibition, display, playback, broadcasting, and rebroadcasting, as well as making the work publicly available in such a way that anyone can access it at a place and time of their choosing.

Moral rights include:

- authorship of the work;
- attribute the work to their name or pseudonym, or to make it available anonymously;
- preserve the integrity of the work's content and form, and ensure its fair use;
- decide on the first public disclosure of the work;
- supervise the manner in which the work is used.

Duration of protection

In Poland, economic rights last for the author's lifetime and 70 years after their death, whereas moral rights are perpetual.

Right holder

Type of work	The owner of the copyright
Independent work created by the author (a natural person)	The author
Work created under the employment contract	Employer, unless otherwise agreed in the employment agreement
Work created under a commission contract	Depends on the contractual arrangements – the author owns the copyright in the commissioned work unless otherwise agreed. It is necessary that the transfer agreement is made in writing.
Joint works	Joint ownership of the coauthors.
Collective works	Each author/owner has economic rights to separate works, however, if the arrangement of the separate works itself meets the copyright criteria, the author of such collective work is entitled to the copyright.

Derivative works	Separate copyright to the derivative work is vested in its author, however, the derivative work cannot be exploited or the copyright. to the derivative work cannot be disposed of unless the permission of the author of the original work is given.
Scientific works (a specific provision)	As an exception from the general rule governing the copyright ownership of the works created under employment contract, the author is the copyright owner, however, the research institution has priority to publish the scientific work.

2.4. Rights Governing Utility models

Rights governing utility models are not harmonized internationally and remain within the national domain. Definitions of utility models depend on the national legislation and vary among the countries.

The nomenclature of rights varies in different courtiers (utility model, small patent, utility certificate). Moreover, not all countries provide protection for utility models. For example, United Kingdom, Luxembourg and Sweden have not adopted measures to protect such developments.

Generally, the conditions for obtaining protection for utility models are less stringent for patents. The costs of application are usually lower; however, the duration of protection is significantly shorter than patent protection. Utility models protection may constitute a less expensive alternative to patent protection or a tool to protect less creative developments.

Example: **Utility models in Poland**

A utility model is a new and useful solution of a technical nature, relating to the shape, structure, or combination of an object of a permanent form. The requirements of novelty and industrial applicability, which constitute patentability requirements, are applicable to utility models. In Poland, the right may be granted solely for a tangible product, not for a process — unlike in the case of a patent.

It is worth noting that the inventive step condition is not required in order to obtain protection for utility model.

Utility models that fulfil the prerequisites are granted protection. Protection is an exclusive right to use a utility model for profit or professional purposes throughout Poland. The right lasts ten years from the date of filing the utility model application with the Patent Office.

How to obtain a utility model protection

A utility model application is filed with the Polish Patent Office. The procedure is very similar to that for patents, and the provisions regarding patent applications are applied accordingly to utility model application. The application is made on a special form and contains all the elements required for a patent application.

The application undergoes formal and substantive examination. If all the conditions for protection are met, the Office issues a decision on granting the protection.

2.5. Industrial designs

1. **Subject matter of protection**

Design right is an exclusive right protecting the appearance of a product resulting from features such as lines, contours, colours, shape, texture and/or materials of the product itself and/or its ornamentation.

A product is understood as an industrial or handicraft item, including parts intended to be assembled into a complex product packaging, get-up, graphic symbols and typographic typefaces.

Design right may protect the appearance of products such as, such as mobile phones, glasses, lamps, sport equipment, cars, jewellery, textile designs. Industrial design law protects solely the features of appearance of the product. Technical features are excluded from protection; however, such feature may be protected under patent law.

In the EU, designs rights are harmonized by directive, therefore the protection of designs under national laws of EU Member States is similar. Moreover, unitary protection of designs in the EU (European Union design) has been established under the European Union design regulation (formerly: Community design regulation).

Usually, under national laws, protection is granted upon filing an application. The same is required by the EU design regulation. However, EU design right system provides protection for unregistered EU designs as well. Such protection arises automatically, but comparing to the registered design right, it lasts significantly shorter and its execution is more burdensome.

Designs can be protected if they are new and have individual character. The notion of novelty is understood differently from the novelty required to obtain a patent. The individual character requirement also differs from the originality which is essential for copyright.

Novelty: A design is novel if no identical design has been made available to the public before the date of filing of the application for registration of the design, or of priority date, if claimed. In the case of an unregistered EU design, the date relevant for assessment of novelty requirement is the date on which the design (for which protection is claimed) has first been made available to the public. Therefore, while examining the novelty requirement, we must refer to the prior art.

Designs are deemed to be identical if their features differ only in immaterial details.

Individual character: To establish whether a design has an individual character, an informed user model is applied. An informed user is a legal fiction of a person who uses the product protected under design right, who is observant and well-informed in a given sector. An informed user differs in the case of electric drills, professional paintbrushes, or mobile phones. One design may be used by different categories of users. For example, in a case of a toy gadget the informed user may be either a child that plays such a toy or a marketing manager in a company that makes goods which are promoted by giving away such gadgets.

The individual character is assessed from the perspective of informed user. If the overall impression produced by the design on the informed user differs from the overall impression produced on such a user by any design which has been already made available to the public (exists in the prior art), the design has individual character.

2. Scope of protection

Design protection covers the appearance of a product. The rightsholder may prevent other parties from using an identical or similar design commercially. In particular, the rightsholder has the exclusive right to:

- make, offer, place on the market, or use a product in which the design is incorporated or to which the design is applied;
- import or export a product incorporating/applying the design;
- stock a product incorporating/applying the design for commercial purposes (referred in points above);

- create, download, copy, and share or distribute to others any medium or software that records the design for the purpose of enabling a product incorporating/applying the design to be made:

An unregistered Community design protects only against deliberate copying. This means that a third party may use an identical design if they created it independently.

3. Duration of protection

In the EU, a registered design is protected for a maximum of 25 years from the date of filing of the application for registration. However, the rights holder must renew the registration every five years.

An unregistered Community design right lasts for three years from the date of public disclosure within the EU and cannot be renewed.

4. Right holder

The right to a registered design is generally vested in the designer. However, under national laws, this right may be vested in another entity.

5. How to obtain a design protection?

Usually, under national laws, protection is granted upon registration. To register a design, an application must be filed with the relevant office. Protection is granted on the condition that all the requirements are met.

International application

The application can be made on an international level within the Hauge System, administered by WIPO. By filing single application, the protection may be obtained in selected countries (up to all the countries) that participate in the Hauge System (currently 91 countries). As a result of the procedure a bundle of national registrations may be obtained.

The application may be filled in directly with International Bureau of WIPO or with the relevant national office. The application is examined solely with respect to the formal requirements; WIPO does not conduct substantive examination of the application. Once the application passes the formal examination, it is published in the International Designs Bulletin. In the national phase, the selected national or regional offices can assess the application concerning substantive criteria (novelty, individual character) if it is required under relevant laws.

National or regional offices may refuse the application, if it does not meet criteria, other than formal ones, laid down in the applicable law. A refusal of protection must be notified to the

International Bureau within six months from the date of publication of the international registration (or 12 months under specified conditions).

International registration is valid for an initial period of five years, and it can be renewed for a period of five years in each designated country. The total term of protection may vary between the designated countries and depends on the applicable law.

EU registered design

An applicant has to file an application to register a EU design with the European Intellectual Property Office (EUIPO) or to a national industrial property office.

An application for a registered Community design contains:

1. a request for registration;
2. information identifying the applicant;
3. a representation of the design suitable for reproduction (or a specimen, if relevant conditions are met);
4. an indication of the products in which the design is intended to be incorporated or to which it is intended to be applied.

Non-obligatory elements of the application:

1. a description explaining the representation (or the specimen);
2. a request for deferment of publication of the registration (the publication may be postponed for a period of 30 months from the date of filing, or priority date if claimed);
3. information identifying the representative if the applicant has appointed one;
4. the classification of the products in which the design is intended to be incorporated or to which it is intended to be applied according to class;
5. the citation of the designer or of the team of designers or a statement under the applicant's responsibility that the designer or the team of designers has waived the right to be cited.

EUIPO conducts mainly a formal examination of the application, however, if EUIPO, in carrying out the examination, notices that the application concerns a creation that is not a design (does not correspond to its legal definition) or the design is contrary to public policy or accepted principles of morality, it shall refuse the application. The decision may be appealed. If all requirements for the application are met, EUIPO grants the EU design to the applicant.

The application is published in EUIPO Design Bulletin. The applicant may request that publication be deferred.

The registered EU design entitles, on the exclusive basis, to use, make, offer, put on the market, import, export or stock products incorporating the protected design, and to prevent other entities from such actions concerning products incorporating the protected design that do not produce a different overall impression.

The registered EU design can be valid a maximum of 25 years from the filing date. It is initially valid for 5 years and it can be renewed for 5-year periods.

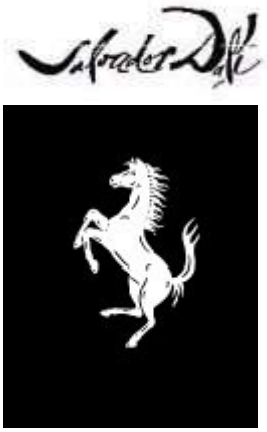
Unregistered EU design

Unregistered EU design is a right with unitary effect across the EU that arises automatically upon disclosure of the design to the public within the EU territory. The scope of the protection of the unregistered EU right is limited to the deliberate copying of the design. Moreover, if the protection is claimed (usually in the infringement proceedings), the disclosure and the date thereof must be proven, along with the intentional copying by the alleged infringer.

It is possible to apply for a registered design that has already been disclosed to the public if the application is made within 12 months from the disclosure. Therefore, an unregistered EU design and Registered EU design may overlap. The term of protection is limited to 3 years from the disclosure.

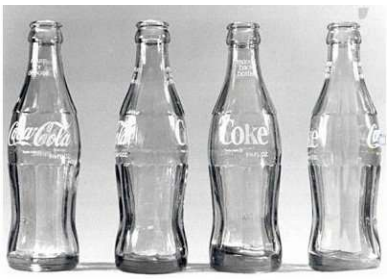
2.6. Trade mark

1. Subject matter of protection



Any sign may be registered as a trade mark, in particular words, designs, letters, numerals, colours, the shape of goods or their packaging, and sounds, provided that:

1) they are distinctive, meaning that are capable to distinguish the goods or services of one undertaking from those of other undertakings; and
2) can be represented on the respective register. The representation must enable the clear and precise determination of the subject matter of the protection.



Trade marks may be three-dimensional (e.g., the packaging of the goods, the shape of the goods like Toblerone chocolate), motion marks, as well as holograms, or colours per se (e.g., violet for Milka), as long as they have a distinctive character.

SAMSUNG

iPhone

Distinctiveness

Distinctiveness is a corner stone of trade mark protection system. A trade mark provides information on the commercial source of a given goods or services. The basic function of a trade mark is to distinguish products or services provided by one commercial entity from those provided by other entities.

A sign lacking inherent distinctiveness may acquire such character through use, for example red soles of Louboutin' shoes.

The exclusions from trade mark protection are usually listed in the applicable law. Generally, protection cannot be granted for marks which are devoid of distinctive character; marks that are descriptive; marks contrary to public policy or accepted principles of morality; marks that consists solely of the shape, or another characteristic of the good, which results from the nature of the goods, is necessary to achieve a technical result, or gives substantial value to the good. In the EU law, such conditions are called absolute grounds of refusal and are examined ex officio by the relevant office.

Relative grounds of refusal refer to existing prior rights and are usually examined upon a request of an entity that has an interest in blocking the protection of a given trade mark.

Special types of trademarks:

- Collective trademarks – used to distinguish goods or services that origin from members of a defined association;
- Certification marks - are used to distinguish goods or services that are certified as complying with determined standards (e.g. Woolmark sign).

2. Scope of protection

Territorial Scope – Trademark protection extends to the boundaries of the country or region for which the trademark is registered.

The protection granted under a registered trademark applies to the class of goods or services specified by the applicant. The designated class of goods or services should always correspond to those commercialized by the rights holder (or their licensors). The list of classes of goods or services is established at the international level by the Nice International Agreement on the International Classification of Goods and Services, which is administered by WIPO.

The proprietor of a registered trade mark has the exclusive right to use the trade mark in the course of trade in relation to goods and services. The right holder can prevent other entities from using, in their course of trade:

- a sign that is identical to the trademark and is used in relation to identical goods and services as those for which the trademark has been registered;
- an identical or similar sign used in relation to identical or similar goods, if there is a likelihood of public confusion, including the likelihood of association between the sign and the trademark.
- a sign identical or similar to the trademark, regardless of the goods or services for which it is used, if the trademark has a reputation in the Member State and the use of the sign takes unfair advantage of or is detrimental to the trademark.

3. Duration of protection

In the EU, trademarks are registered for a period of 10 years from the date of filing of the application. The registration may be renewed for successive 10-year periods without a general time limit.

4. Right holder

At the EU level, there is no legislation regarding the vesting of the right to register a trademark, and such a right does not automatically arise in favor of the creator of the trademark. However, Member States may provide, in their national legislation, a right to a non-registered trademark or another sign used in the course of trade.

Moreover, if provided by national law, the existence of a non-registered trademark or another sign may prevent the registration of a subsequent trademark.

5. How to obtain a trademark protection?

Trademark law, as well as design law, is harmonised across the EU countries through adopting relevant directives. At the same time, unitary protection of trademarks is offered under European Union Trademark Regulation.

- **National registration**: Under national regimes registration of a trademark is made after filing an application with the respective national office. The office examines the application in respect to both, formal requirements and absolute grounds of refusal.
- **International registration**: An international application may be obtained under the Madrid System administered by WIPO. Within this system a single international trademark application is filed in order to apply for protection in selected countries simultaneously (Currently 131 countries).

  In order to file an international application an applicant must first apply for trademark registration (so-called “basic mark”) with the national office (“office of origin”) under the respective national regime. Subsequently, an international application may be filled in through the office of origin. After verifying whether the international application corresponds the basic mark, the office of origin forwards the application to WIPO. WIPO which examines whether it complies with formal requirements. If the application meets all formal conditions, it is published the WIPO Gazette of International Marks and forwarded to the countries designated by the applicant.

The IP office of each selected country performs substantive examination of the mark. The decision on granting a trademark or refusal must be made within 12 months from the notification of the relevant IP office about the designation (18 months under defined conditions).

The protection of the trademark filed under the Madrid System lasts for an initial period of 10 years and may be extended indefinitely for further periods according to the applicable law.

European Union Trade Mark

The registration of a trade mark can be carried out at the EU level, and as a result of this procedure, the right holder receives unitary protection across the entire territory of all Member States. The application is filed with the European Union Intellectual Property Office (EUIPO) in the official language of any Member State, along with one of the following: English, French, Spanish, German, or Italian.

The application must contain the following:

- a request for the registration of a EU trade mark,
- information identifying the applicant,
- a list of the goods or services in respect of which the registration is requested,
- a representation of the trade mark.

2.7. Protection of Databases

The protection of databases under sui generis rights and copyright is harmonized in the EU by Directive 96/9/EC on the Legal Protection of Databases. This means that each EU Member State is obliged to adopt laws in compliance with the standards laid down in the directive.

In EU databases may be protected by both:

- copyright – if a database is the author's own intellectual creation;
- sui generis right – if a substantial investment has been made in the obtaining, verification, or presentation of its contents.

While copyright protection of databases is recognized under international treaties, the sui generis right to databases is specific to EU countries.

2.7.1. Sui generis right

1. **Subject matter of protection**

The protection applies to the arrangement of data where a substantial investment has been made, either qualitatively or quantitatively, in its obtaining, verification, or presentation. A substantial investment may involve financial resources, organizational efforts, labor, time and effort. The sui generis right does not protect individual data itself, but the entire database or a substantial part of it.

2. **Scope of protection**

The sui generis right grants the database maker the exclusive right to prevent others from extracting, re-using the whole or of a substantial part of the contents of the database.

3. **Duration of protection**

The sui generis right lasts for 15 years, starting from January 1st of the year following either:

- the completion of the database;
- the date when the database was first made available to the public (in case of the databases made available to the public before expiry of the term referred above).

The term restarts from the last substantial modification of a database. Introducing such changes results in a new database protected under the sui generis right. These modifications are evaluated qualitatively and/or quantitatively and may include the accumulation of successive additions, deletions, or alterations.

4. Right holder

The maker of a database is the person or entity that has made a substantial investment in the obtaining, verification, or presentation of its contents. The database maker takes the initiative and assumes the risk of investing, therefore do not qualify as database makers under this definition. In EU the rules applicable to databases created by employees are left to the discretion of the Member States.

2.7.2. Copyright in databases

1. Subject matter of protection

Copyright protects databases as such when the selection or arrangement of their contents constitutes the author's own intellectual creation. Member States cannot apply any additional criteria to determine the eligibility of a database for copyright protection.

Copyright protection does not extend to the content of a database, which may separately be subject to independent IPR protection (e.g., a database of poems). Moreover, as explained in the chapter regarding works, copyright protects solely the form of expression and not the ideas or concepts underlying the work (in this case, a database).

2. Scope of protection

The author of a database, to the extent that the expression of the database is protected under copyright, has the exclusive right to:

- reproduction;
- distribution to the public;
- communication, display, or performance to the public;
- translation, adaptation, arrangement, or any other alteration, as well as the reproduction, distribution, and communication of the results thereof.

3. Duration of protection

The term of protection is governed by the national laws of each country. In the EU, economic rights last for the lifetime of the author and for 70 years after their death. In many countries, protection lasts up to 50 years after the author's death, which is the minimum term of protection established by international treaties such as the Berne Convention and the TRIPS Agreement.

4. Right holder

Generally, copyright in a database belongs to its author, a natural person who created the database. The rules on vesting economic rights in databases protected under copyright that

have been created in the course of employment, commission, or other contractual arrangements depend on national law.

2.8. Plant Variety Protection

1. Subject matter of protection

A plant variety is a defined group of plants, selected from within a species, with a common set of characteristics. A plant variety right is an exclusive right granted to the breeder of a plant variety that fulfils the conditions set out by the applicable law. These conditions usually include **distinctness, uniformity, stability, and novelty.**

Distinctness – The plant variety must be clearly distinguishable from all known varieties.

Uniformity – The variety must exhibit sufficient uniformity in its key characteristics used to define its distinctness.

Stability – The key characteristics of the plant variety must remain unchanged after repeated propagation.

Novelty – The variety must not have been sold or otherwise disposed of to others before filing an application. However, if the plant variety has been sold or otherwise disposed of, the novelty requirement may still be met if the applicable law allows exceptions under specific conditions.

2. Scope of protection

An exclusive right to a plant variety grants the rights holder the sole entitlement, in respect of variety constituents or harvested material of the protected variety, to produce or reproduce (multiply), sell, market, export, import, or stock the variety for these purposes.

3. Duration of protection

Under the International Convention for the Protection of New Varieties of Plants, exclusive rights to a plant variety are granted for a minimum of 20 years, and 25 years for trees and vines. National laws typically extend protection to 25 years for most varieties and 30 years for trees and vines. Generally, a maintenance fee must be paid; otherwise, the right will lapse.

4. Right holder

The breeder is entitled to register a new plant variety. A breeder is the person who bred, discovered, and developed the variety, or their successor in title. Typically, national laws stipulate that the breeder may also be the employer or commissioner of the person who bred, discovered, or developed the plant variety.

5. **How to obtain a protection**

- **National registraction**: To obtain protection at the national level, an application must be filed with the relevant national authority. During the examination process, the authority may grow the variety or conduct other necessary tests.

  To obtain international protection, the breeder must file individual applications with national authorities. However, the International Union for the Protection of New Varieties of Plants (UPOV) has developed an online tool that helps applicants apply for breeders' rights with all participating offices.

- **Community (CPVO)**: The Regulation on Community Plant Variety Rights allows for the protection of plant varieties through a Community right, which is uniform and valid in all EU Member States. To obtain such protection, an application must be submitted directly to the Community Plant Variety Office (CPVO) or through one of its sub-offices or national agencies.

2.9. Know-How

Know-how refers to specialized information that has market value and is not publicly available. Its value comes from its confidential nature, but it is not protected by exclusive rights. This means that the know-how holder cannot prevent others from using identical information if they acquire it independently. Therefore, know-how should only be disclosed to another party after signing a non-disclosure agreement (NDA).

The most famous example of know-how is the Coca-Cola recipe, which has been a trade secret since 1886.

Know-how constitutes one of the forms of trade secrets. A trade secret is information that may have, in particular, a technical, business, or organizational nature and that holds market value due to its limited accessibility.

Trade secrets are usually protected under national laws combating unfair competition. This area is not harmonized at the EU level in relation to B2B relationships. Generally, national laws require that, for information to qualify as a trade secret, it must be subject to reasonable measures by the person in control of the information to maintain its confidentiality.

National laws protect trade secrets in a very limited way, solely against specific unfair competition practices. Such protection does not constitute an exclusive right.

3. Basic principles of IP management: legal acts in force globally, and in the specific countries

The IP management indicates the strategic approach for protecting and maximizing the value of intellectual assets. IP management should be based on a set of strategic procedures for IP handling, during all the stages of its life, from its inception until the expiry of its protection (if such occurs).

IP management procedures should be tailored to the type of the entity (public university or SME, large enterprise), its size and main goals (mainly commercial approach or rather implementing a broader mission, like in case of HEI). However, regardless of the type of the entity, a department (or person) responsible for the overall supervision of the process should be determined.

The main aspects of IP management procedures are:

- identification of potential IP;
- assessment of its commercial exploitation potential;
- IP protection - identification of the available forms of protection and decisions in this regard;
- IP due diligence;
- valuation of IP;
- compliance & monitoring of IP (including identification of infringements) and the procedures themselves;
- enforcement of rights.

Effective management of IP can enhance its value by, among other things, using legal frameworks to protect and exploit IP. Moreover, adopting procedures on identification of IP, accompanied by relevant trainings and raising awareness among employees, may result in expansion of the IP portfolio.

IP strategy is important not only from the perspective of research institutions, but also for businesses of all sizes. Adopting effective procedures for IP handling, covering all phases of IP existence, can strengthen a business's market position, generate additional revenue streams, avoid legal risks, and increase business value of the entity.

3.1 Key elements of IP management

Identification of IP

A small enterprise may entrust IP identification to a specialist who periodically audits the results obtained within the enterprise, whereas large entities usually have to rely on the employees'

awareness. The latter should be supported by relevant training on recognizing intellectual results that should be notified to the relevant department.

Such results should be appropriately described and recorded. Confidentiality rules should be adopted regarding these intellectual results to keep all the IP protection possibilities open (including patenting or keeping it as a trade secret). It is important that the employees and collaborators are aware of those confidentiality rules.

Identification of IP must also concern IP acquired from external sources. Agreements governing relationships with external providers should contain necessary intellectual property transfer clauses. It should be emphasized that rights to results obtained under commission or contract order are usually governed differently than rights to results obtained under an employee contract. Some national laws provide for the automatic assignment of rights to the employer, whereas in B2B relationships such provisions do not apply. Therefore, particular attention should be paid to appropriate management of such contracts.

Collaboration agreements

R&D is often conducted in collaboration with other entities. Such collaborations should begin with a specific agreement governing intellectual property rights. This agreement should clearly define the tasks assigned to each party. In this context, the results of the collaboration refer to all outputs generated by performing these tasks.

All collaborators should outline any **background** necessary to conduct the R&D. **Background typically refers to knowledge or data (including IPR) held by one of the collaborators prior to the start of the collaboration and necessary for implementing the tasks set out within the collaboration framework**.

The collaboration agreement should specify the rules regarding entitlement to the results and establish access rights to both the background and the results. If Party A is granted access rights to results or background owned by Party B, it means that Party A, under certain conditions, may request a non-exclusive license or other legal basis to use Party B's results or background for a defined purpose.

As a result of R&D collaboration, the parties often become joint owners of **the results and respective IPR (sometimes defined as foreground IP)**. In such cases, joint owners must enter into a joint ownership agreement that specifies each party's share in the IPR and the rules for exercising these rights. Details of IPR joint ownership are outlined below.

Assessment of the commercial exploitation potential of IP

An initial assessment of such potential should be performed as part of the IP protection strategy. The company or university should define key factors of the commercialization landscape, such as: target market, including the identification of direct recipients and end users; analysis of the competition; production costs, including relevant concessions or legal requirements.

The overall view of the commercialization strategy and the awareness of predicted costs will impact the choice of IPR protection paths. IP protection should be tailored to the needs of the

commercialization strategy, for example, by selecting the relevant territory of protection or adapting the preferred form of protection, such as keeping an invention as a trade secret instead of patenting it.

If, as a result of the commercial potential assessment, the IP is determined to have strong commercialization potential, investment in extending IPR protection should be considered. Conversely, if the IP has low commercialization potential, the legal protection strategy should be adjusted, and its costs minimized.

Protection

As a first step, an assessment of available protection paths should be made by a specialist in the field of IPR, such as a patent attorney or legal advisor. After determining possible ways of IP legal protection, the option that aligns with the entity's strategy can be chosen. Different models of IP protection may be appropriate, taking into account factors such as the potential value of the IP, financial resources allocated for protection, the model of its commercialization (e.g., implementation by the company itself, transfer of rights, licensing), and the temporal and territorial scope of the protection.

To preserve a wide range of protection paths, intellectual results should be kept confidential until competent body decides otherwise. In this manner, intellectual property rights granted based on novelty conditions may still be obtained (e.g. registration of utility model or granting of a patent). Moreover, the proprietor may decide that the most suitable form of protection for the results is to keep them confidential (e.g. as a trade secret). Therefore, adopting confidentiality rules, both internally within the entity and externally in relationships with third parties, is crucial.

Due diligence

One key aspect of IP management is IPR due diligence. This process is typically conducted before entering into agreements such as IPR transfers, licensing arrangements, mergers and acquisitions, or joint ventures. IPR due diligence focuses on verifying all legal aspects related to intellectual property rights in the context of the planned agreement should be conducted by each party involved in the agreement. For example, it should be done by both, the licensor and the licensee before entering the license agreement. From the perspective of the licensor, IPR due diligence allows them to make representations and guarantees regarding the licensed IPR. On the other hand, as a result of the IP due diligence conducted by the licensee, they will have greater legal certainty in using the licensed IPR without infringing on third-party rights. During the due diligence process, IPR ownership, scope of protection, and regulatory compliance are examined, IP-related risks are identified, and IP assets are evaluated. The process results in a comprehensive report that details all relevant aspects and highlights any associated risks in relation to the planned agreement.

Due diligence should be conducted with regard to each identified IP, and relevant records should be kept for each R&D result. In this manner, it can be easily evidenced that each IPR protecting a given result is vested in the company or university. Therefore, the creators of a particular IP should be identified, and the contracts governing their work (e.g., employment contracts or commissions) should be properly recorded and include all necessary IPR clauses.

Joint ownership

Joint IPR ownership can, in simple terms, be compared to joint ownership of real estate. Joint owners are entitled to shares in a common asset. However, with intangible assets, the situation is far more complex. National laws govern joint ownership to some extent concerning specific intellectual property rights (such as patents, utility models, designs, trademarks, and copyrights). General rules on the management of jointly owned rights and the entitlements of joint owners are provided in relevant national laws. Typically, joint owners may modify some of these general rules through a joint ownership agreement. Such an agreement should cover:

- methods for protecting jointly owned IP;
- allocation of costs related to legal protection;
- procedures in case of infringement by a third party;
- division of benefits from the use of the IPR;
- the IPR exploitation rules, including rules for granting licenses to third parties;
- choice of governing law and conflict resolution mechanisms.

The content of such an agreement will depend on the nature of the rights protecting specific categories of intellectual property. This means that the joint ownership agreement should include provisions tailored to the type of intangible asset (e.g., new plant variety, confidential information, computer software, invention).

Valuation

IP valuation is the process of identifying the economic value of intangible assets. It is essential for technology transfer purposes, mergers and acquisitions, strategic business decisions (e.g. allocating resources to high-value IP), tax and accounting purposes, and litigation (to calculate potential damages).

The value of IP depends on its nature, methods of protection, scope of protection (including geographical and temporal scope), and potential competition (e.g., substitutes or technologies that fulfil the same market need).

The potential value of intangible assets determines the decision on appropriate protection measures; however, these aspects are mutually dependent. The broader the scope of protection is applied (in terms of quality or quantity), the value of the IP increases. For example, if an invention is patented on the territory of several countries, its value significantly increases compared to the same invention protected in only one country. Similarly, if the same innovation is protected under a patent, it will be more valuable than if it is protected as utility model.

The value of IP should be established by an expert specializing in such valuations. The commonly accepted methods of IP evaluation are as follows:

- ***cost-based approach*** - the method refers to the costs incurred in developing the IP. Relevant costs may be historical (such as actual R&D expenses) or replacement costs (the estimated cost of recreating the IP). This method is simple and straight forward, however, it does not consider the potential future value of the IP.

- ***market-based approach*** – the method is based on analyzing historical data from licensing or IPR transfer agreements involving similar assets to the IP being evaluated.
- ***income-based approach*** – the method values IP based on the expected future income generated by the IP, discounted to its present value. Income-based approach includes:
    - royalty relief method,
    - discounted cash flow (DCF).

All of them are presented in the Stars EU TTO Guide.

Exploitation

Once intellectual property (IP) is identified and protected, it can be exploited by the entitled entity. The exploitation of IP refers to utilizing these assets to generate revenue. Such exploitation is only possible when the IP is legally protected (e.g., through exclusive rights granted by intellectual property laws or through confidentiality agreements). Possible ways of IP exploitation include:

- ***Business implementation*** – directly using the IP in the business. For example, the IP may be incorporated into the offered product, used to provide services, or applied in the production of goods.
- ***Licensing (including franchising and merchandising)*** – allowing another entity to use IPR in exchange for royalties.
- ***Using IPR as a tool for fundraising*** – IPR can be used as an in-kind contribution to a company and to attract investors. Business angels and venture capital funds often invest in companies with a strong IPR portfolio.
- ***Transferring ownership of IPR*** – selling or assigning IP rights to another entity.
- ***Pledging IPR as collateral*** – IPR can be used as collateral for securing a bank loan.
- ***Developing IP in further projects or partnerships*** – expanding and leveraging IP in new ventures or collaborative agreements.

Compliance and Monitoring

Compliance & monitoring (C&M) are important elements of the IP management. An entity should continuously monitor the exploitation and protection of its IP over the time. All activities related to IP have to comply with legal regulations, internal procedures, contractual obligations. In that manner, an entity can avoid infringement of third-party rights and mitigate risk associated to the use of IP. At the same time, it can effectively monitor the protection and utilization of its own IPR. The first step in ensuring compliance is having a clear understanding of relevant obligations.

Compliance & monitoring should be carried out in relation to:

Internal procedures: IP- related procedures are aimed to foster the identification, assignment, protection and enforcement of IPR. Therefore, it is essential for any entity to ensure the effectiveness of such procedures. Employees and collaborators should be properly instructed and trained on the necessary steps to protect IPR related to research and development activity. This includes notifying the employer about the creation of any IP, maintaining the confidentiality of the results, and securing appropriate legal protection. Compliance, however, begins at the level of employment contracts or B2B partnerships. A business entity or a research institution should always ensure the assignment of IP rights to the results generated under any such contracts.

Contractual compliance: Contractual obligations related to specific IP must be clearly defined and adhered to. Terms, royalties, scope of rights, operating restrictions, and non-disclosure obligations governed by agreements should be followed diligently. To that end, all employees involved in IP-related activities must be made aware of these obligations and instructed accordingly. This applies to any agreement, collaboration, or partnership entered into by the enterprise or university.

These obligations apply to both, IP crucial for the business—such as irreplaceable licensed trademarks—as well as intellectual goods used in the course of business that can be replaced, such as software for order and invoicing management or highly specialized software used for R&D purposes.

Grant agreements, particularly those involving public funding, present a specific case. It is vital for enterprises or research institutions to comply with all obligations set forth by the granting authority concerning the results of the project, such as IP protection, assignment of rights, exploitation, or any required forms of dissemination.

Legal regulations: Each entity must ensure compliance with legal regulations at both the national and European levels. The obligations related to IPR may include, for example, the registration and maintenance of industrial property rights or the use of IP within the statutory exceptions or limitations of the IPR monopoly. It is also essential to correctly identify the applicable law in specific cases.

A separate legal area concerning IP that must be adhered to is competition law and consumer protection regulations.

Compliance may also extend to industry-specific regulations related to IP, particularly in sectors such as energy, pharmaceuticals, and waste management.

Monitoring of Infringements: Effective monitoring of IPR infringements is essential for safeguarding the value and exclusivity of protected assets. The IPR holder should proactively monitor the market to ensure early detection of unauthorized use and take

timely enforcement actions. Monitoring may include tracking competitors, reviewing relevant publications, and searching databases (e.g., trademark registries).

Enforcement

IPR Enforcement: IPR enforcement is a legal action aimed at stopping IPR infringement and remedying the damages caused by it. Enforcement of IPR is an essential tool in the effective protection of IP.

> If, in the course of monitoring IPR, an infringement of the company's or university's IPR is identified, the relevant actions must be undertaken to safeguard the rights holder's interests. As a first step, the infringement should be assessed in the context of its severity, impact (for example, on revenue, reputation), and possible legal actions. All of these factors shall determine the next steps.

IPR enforcement may include actions such as:

- Filing a case before civil or administrative authorities – it should be underlined that in IPR infringement cases, applications for provisional measures play a crucial role. Such measures are temporary actions issued by a competent authority before the final decision in the case. Provisional measures are aimed at preventing further infringements or preserving evidence relevant in the case.
- Initiating criminal proceedings, if applicable (e.g., counterfeiting, piracy, plagiarism).
- Requesting customs authorities to take relevant action to intercept infringing goods at the border and to prevent such goods from entering circulation (so-called border measures).
- Negotiations – Sometimes, it is more profitable to resolve IPR infringement amicably.

Contractual Enforcement: In the event of a contract breach (e.g., a license agreement), the contractual obligations should also be enforced. When dealing with contracts, the value of the business relationship should be assessed, and, in general, breaches should first be handled amicably.

As a first step in contractual enforcement, a justified notice should be issued to the breaching party, stating the breach and requesting relevant actions. Contracts usually contain clauses on dispute resolution, which may require negotiations as the initial step or even mandate that future disputes under the agreement be submitted to mediation procedures.

If a contractual party's actions are limited solely to a breach of contract, without violating any applicable laws, the other party may enforce the contract through civil proceedings.

Education and Training

One of the crucial elements of IP management is raising awareness among employees and other individuals engaged in R&D regarding internal procedures and rules on IP handling, especially confidentiality obligations. Appropriate IP handling and adherence to procedures can be ensured only by individuals who are adequately trained.

Awareness of IP procedures can be developed through staff training programs tailored to the needs of the given entity. This should include internal procedures, compliance with contractual obligations, and general education on IPR.

4. Dissemination of the Developed IP

This chapter outlines the process of presenting research results to various audiences, from industry professionals to the general public. It underscores the importance of **strategically planning dissemination in alignment with intellectual property (IP) protection strategies**. This means that if results can be protected by industrial property rights, relevant applications should be filed *before* public disclosure.

For Higher Education Institutions (HEIs), it's crucial to disclose and register research results with a dedicated unit, like a Technology Transfer Office, prior to any public presentation, to assess potential legal protection. The chapter also introduces **open science** and **open access** as movements promoting the free and unrestricted sharing and reuse of research.

4.1 General Remarks

Dissemination of research results refers to presenting them to the public. The audience may include a specific industrial sector, academia, scientists, or the general public. Dissemination of scientific achievements is one of the core activities of HEIs; however, it can also serve as a valuable tool for entrepreneurs. From the latter perspective, dissemination may help in finding business partners, building the company's market position, and communicating with consumers.

Dissemination channels should be tailored to the type of research results and the intended audience. These channels will differ depending on whether the goal is to reach professionals in the field, policymakers, or the general public.

Common dissemination channels include traditional ones such as scientific publications and presentations at scientific or industry conferences. When targeting a broader audience, popular science articles, social media, and platforms like YouTube may be effective.

Importantly, dissemination should be planned strategically and aligned with the IPR protection strategy. Communicating research results to stakeholders or the public should always be a deliberate decision. If the optimal way to protect certain results is to treat them as confidential know-how, such outputs should not be expressly disseminated, and the scope of information shared about them must be carefully considered. Any substantial information that constitutes know-how should be excluded from dissemination.

If the results can be protected under industrial property rights depending on their novelty, a relevant application should be filed before dissemination. However, in such cases, it is generally recommended to share the results only after the application has been published in the relevant bulletin (e.g., a national patent office bulletin).

4.2 Higher Education Institutions - A Specific Case

From the perspective of Higher Education Institutions (HEIs), the dissemination of research results is essential for achieving real impact. Research outputs should be shared with entities and stakeholders who can effectively apply them—such as organizations operating within relevant industries, legislators, and research funders. Furthermore, these results should also be communicated to the general public.

While the dissemination of scientific achievements is part of the core mission of HEIs, it must be emphasized that such dissemination is subject to internal procedures and typically cannot be left to the sole discretion of the individual researchers involved.

At HEIs, research results must be disclosed and registered with a dedicated unit—usually a Technology Transfer Office—prior to any public presentation. This process ensures that potential legal protection strategies are properly assessed. If applicable and justified, an application for legal protection based on novelty (e.g., in the case of an invention or utility model) should be submitted before dissemination. Without such precautions, securing legal protection may become impossible once the results have been made public.

Additionally, HEI authorities may decide not to disseminate certain results and instead protect them as confidential know-how. If the results are not eligible for legal protection under exclusive rights, such confidentiality may be the only viable pathway to commercialization.

4.3 Steps for Effective Dissemination

1. **First step: Plan your dissemination in line with the IPR protection strategy**

Define the subject of dissemination and verify its legal protection status, including all necessary prerequisites that must be fulfilled before the results can be shared.

Note: Dissemination of research results generated within scientific collaborations may be subject to additional restrictions outlined in collaboration agreements. For example, it may require prior notification to project partners or obtaining their consent.

2. **Clearly identify the objectives of the dissemination, as this will determine subsequent steps.**

The aim may include:

- Communicating specific findings to the public,
- Enabling public debate or awareness,
- Facilitating follow-up research,
- Showcasing innovation to consumers,
- Seeking business partners or investors.

3. Define the audience

Depending on the purpose, the target audience may vary (e.g. policymakers, industry professionals, researchers, general public). Identifying the right groups is key to meaningful communication.

4. Characterize the audience

It is important to prepare a general profile of the targeted group to adjust the form and channels of the communication. Understanding the audience helps maximize the impact of the dissemination efforts.

5. Tailor your communication

Once the purpose and the audience are defined, it becomes possible to tailor the message accordingly. The following factors should be considered:

- What is the audience interested in?
- What do they want to know about the research?
- What will capture and retain their attention?
- What is the best format and language for the message?

6. Choose the appropriate dissemination channels

Select channels that best align with your audience and purpose—such as scientific journals, social media, public events, industry conferences, policy briefings, or educational platforms.

7. Plan the dissemination

Assign responsible individuals or teams, allocate a budget, provide necessary tools, and define key milestones and timelines to monitor progress. The dissemination plan should be flexible and adapt to changing circumstances.

4.4 Open science

Open science or open research is a movement that promotes conducting research in a transparent, accessible, and collaborative manner. It emphasizes broad dissemination of research results and encourages their reuse by others.

The concept encompasses multiple dimensions, including open access to knowledge (e.g. open access publications, open data, open source software), shared research infrastructures, dialogue with other knowledge systems, and active engagement of societal actors.

Open access is an international movement aimed at providing free and unrestricted access to research and educational resources. It is one of the key pillars of open science. Open access refers to a mode of publishing copyrighted works in a way that allows readers to access them free of charge and without other barriers.

Moreover, such publications can often be reused, downloaded, and distributed under specified open licenses.

This mode of publication is frequently required as part of publicly funded research projects.

5. Collaboration projects

Protecting intellectual property (IP) rights in research and development (R&D) projects conducted in collaboration between the two or more independent stakeholders is a complex topic that requires careful preparation. Clearly defining the terms of the collaboration is crucial, ideally before the project begins.

The first step is to develop rules for allocating rights to the results generated during R&D. It is at this stage that the legal framework specific to the given industry or sector and applicable regulations that may regulate such activities should be considered.

Choosing the appropriate model for allocating intellectual property rights is also crucial. It is necessary to determine who will benefit from the results of the joint work and under what terms. Depending on the project structure and the level of involvement of the parties, choosen model can take various forms, from equal joint ownership to transferring rights to one party with a defined share of the profits.

5.1. Intellectual Property in assignment works

Collaboration between the private and public sectors can be based on various models of intellectual property management. In the case of research projects funded entirely by industry, the clients expect the outcome of such work to become their property. Nevertheless, it is in the best interest of universities to recognize cases where a seemingly straightforward assignment unexpectadly results in the creation of new intellectual property.

Newly created intellectual property possesses additional value that typically falls outside the scope of the agreed-upon remuneration for the assignment.

Figuratively speaking, the client pays for the activities performed by the researchers to complete the assignment, but this remuneration does not cover all the knowledge the research team possesses and might use during this work. If, during commissioned work carried out for another entity, a researcher creates completely new, unexpected intellectual property, the client may acquire the rights to it, but by concluding a separate agreement to transfer the rights to this invention or to acquire a license to use it. Large companies operating in an international environment are aware of this situation and, when proposing contract models for the performance of commissioned work for universities, typically include clauses regarding the transfer of copyrights to newly created intellectual property. If such a clause is missing, it is recommended to include it to avoid potential future problems with IP application.

Equally important are practical issues, such as who can publish research results and when, how to protect trade secrets, who files patents, and who bears the costs of their protection. Furthermore, there's the issue of how in-kind contributions are divided and how profits from commercialization will be distributed.

Each of these elements requires careful consideration and adaptation to the specific nature of the project.

5. 2. Background IP and Foreground IP

Background IP and Foreground IP are intellectual property rights held by a given Party or Parties, in particular those relating to:

- inventions, patents, patent applications, utility models and industrial designs, integrated circuit topographies, improvement projects, trademarks (elements under the Industrial Property Law),
- confidential know-how, trade secrets,
- works,
- databases.

Background IP is the result of prior R&D work conducted prior to the Parties' newly planned project. Foreground IP is developed during the project's implementation.

Background IP should be identified early in the funding application process.

Background IP is owned by a given Party (or Parties in the case of joint ownership) and enables the implementation of the project and the subsequent commercialization of the Foreground IP developed in the project. It often happens that during project implementation, Foreground IP is developed, which is incorporated into the Background IP, its refinement, and its technological advancement – the TRL.

It's possible that neither party possesses Background IP. In such a case, it would be sufficient to state this in the consortium agreement and move on to the issue of Foreground IP.

In a consortium agreement (or an annex), the parties should identify and describe in detail the Background IP and define possible forms of its commercialization. Furthermore, in the consortium agreement, the parties should also commit to and secure the right to commercialize the Background IP along with the Foreground IP.

Without defining the Background IP at the stage of applying for a joint project, commercialization of the Foreground IP could become impossible, if, for example:

- a research institution sells to a third party a patent that incorporates the developed Foreground IP,
- a company exits the consortium and, for example, a new entity joins.

The risk of such a situation should be addressed in the consortium agreement – it should stipulate that the changed consortium acquires the confidential know-how (Background IP of the departing company) to the extent necessary for future commercialization of the Foreground IP, for example, through a royalty-free, non-exclusive license with the option of sublicensing.

In principle, project results belong to the beneficiary who generated them.

Project results may however also be generated jointly by several beneficiaries. In this case all beneficiaries involved in generating the results automatically have joint ownership if it is not possible to establish the respective contribution or separate the results for the purpose of obtaining their protection.

The joint owners must specify the provisions for exercising their joint ownership in writing in a 'Joint Ownership Agreement'. They may also agree on an alternative to joint ownership – for example the transfer of sole ownership to one of the joint owners.

For collaborative projects implemented under Horizon Europe, the European Comission defines specific strategies and requirements for Intellectual Property management.

The call documents provide specific guidance on how IP is allocated and commercialized.

Link IP management to Horizon Europe & EIC requirements:

https://intellectual-property-helpdesk.ec.europa.eu/ip-management-and-resources/ip-eu-funded-projects_en

6. Protocol for IP management in common research project for STARS EU members

As summary of procedures, we list the key steps on the management of a new IP generated within STARS EU as result of a collaborations of several partners:

1) A template for the confidentiality agreement will be developed by STARS EU TTO with the assistance of the legal teams at the partner universities. The agreed-upon text of the template for the confidentiality agreement will be submitted to the Steering Committee for approval.

2) The first step will be for the universities involved in the project to sign an agreed-upon confidentiality agreement. Should either party wish to amend the agreement, any changes will need to be approved by the partners' authorized representatives.

3) Analysis of the legal status of employee R&D result in the countries of individual universities. Analysis will determine who has property rights to the project results in respective country. Analysis will be done by STARS EU TTO. Involved researchers and patent attorneys will help in this proces.

4) Analysis whether a Background IP belonging to one or more of the creators/entities will be used to develop a new result (Foreground IP).

5) Determining how newly developed intellectual property will be divided between creators or their home universities.

6) Registration of the R&D result produced by an employee at the home university prior to determining the IP protection path.

7) Decision on the legal protection of newly developed intellectual property and agreement on the method of financing this protection.

8) Determining who will have the right to commercialize the result.

9) Determining the rules for preparing the valuation of the newly generated result and its acceptance by the co-owners of the result.

10) Determining the rules for dividing revenues from the sale of results between eligible entities and/or creators.

11) Signing an agreement on jointly conducting research work containing a clause on possible use of Background IP (if relevant) and joint ownership of the results and the method of managing them. The text of the proposed agreement will be developed by the legal support of the universities concerned.

IMPORTANT: Consent to starting a joint research program should be conditional on the prior signing of such an agreement in order to prevent potential conflict situations in the division of rights to newly created intellectual property

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