

# Technical Manual for Intellectual Property Rights Management

*A Comprehensive Guide for Innovators and Businesses*

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## References

RD	Title	Link	Year
RD 1	European Union Intellectual Property Office (EUIPO)	<a href="https://www.euipo.europa.eu/en">https://www.euipo.europa.eu/en</a>	
RD 2	Paris Convention for the Protection of Industrial Property	<a href="https://www.wipo.int/wipolex/en/text/288514">https://www.wipo.int/wipolex/en/text/288514</a>	1883
RD 3	Patent Cooperation Treaty	<a href="https://www.wipo.int/pct/en/texts/articles/atoc.html">https://www.wipo.int/pct/en/texts/articles/atoc.html</a>	2002
RD 4	How to apply for a patent	<a href="https://www.epo.org/en/new-to-patents/how-to-apply-for-a-patent">https://www.epo.org/en/new-to-patents/how-to-apply-for-a-patent</a>	
RD 5	EPO's formal requirements and guidelines	<a href="https://www.epo.org/en/legal/guidelines-epc/2023/a_iii_1_1.html">https://www.epo.org/en/legal/guidelines-epc/2023/a_iii_1_1.html</a>	
RD 6	EPO's online filing system	<a href="https://www.epo.org/en/applying/myepo-services/file-with-us/online-filing">https://www.epo.org/en/applying/myepo-services/file-with-us/online-filing</a>	
RD 7	European Patent Bulletin	<a href="https://www.epo.org/en/searching-for-patents/legal/bulletin">https://www.epo.org/en/searching-for-patents/legal/bulletin</a>	
RD 8	PCT member countries	<a href="https://www.wipo.int/pct/en/pct_contracting_states.html">https://www.wipo.int/pct/en/pct_contracting_states.html</a>	
RD 9	European Patent Office (EPO)	<a href="https://www.epo.org/en">https://www.epo.org/en</a>	
RD 10	Member states of the European Patent Organisation	<a href="https://www.epo.org/en/about-us/foundation/member-states">https://www.epo.org/en/about-us/foundation/member-states</a>	
RD 11	Eurasian Patent Organization (EAPO)	<a href="https://www.eapo.org/en/">https://www.eapo.org/en/</a>	
RD 12	CYPRIS	<a href="https://www.cypris.ai/">https://www.cypris.ai/</a>	
RD 13	European enforcement order	<a href="https://e-justice.europa.eu/54/EN/european_enforcement_order">https://e-justice.europa.eu/54/EN/european_enforcement_order</a>	
RD 14	Unified Patent Court	<a href="https://www.unified-patent-court.org/en">https://www.unified-patent-court.org/en</a>	
RD 15	Who Are the World's Largest Patent Holders?	<a href="https://www.nasdaq.com/articles/who-are-the-worlds-largest-patent-holders">https://www.nasdaq.com/articles/who-are-the-worlds-largest-patent-holders</a>	2023
RD 16	Partnership on AI' formed by Google, Facebook, Amazon, IBM and Microsoft	<a href="https://www.theguardian.com/technology/2016/sep/28/google-facebook-amazon-ibm-microsoft-partnership-on-ai-tech-firms">https://www.theguardian.com/technology/2016/sep/28/google-facebook-amazon-ibm-microsoft-partnership-on-ai-tech-firms</a>	2016

RD 17	IBM, Samsung sign patent cross-license deal	<a href="https://www.rdworldonline.com/ibm-samsung-sign-patent-cross-license-deal/">https://www.rdworldonline.com/ibm-samsung-sign-patent-cross-license-deal/</a>	2011
RD 18	IBM and Samsung unveil semiconductor milestone	<a href="https://www.capacitymedia.com/article/29tguvmagy9h43cya7mkg/ibm-and-samsung-unveil-semiconductor-milestone">https://www.capacitymedia.com/article/29tguvmagy9h43cya7mkg/ibm-and-samsung-unveil-semiconductor-milestone</a>	2011
RD 19	Apple and Samsung settle seven-year-long patent fight	<a href="https://www.theverge.com/2018/6/27/17510908/apple-samsung-settle-patent-battle-over-copying-iphone">https://www.theverge.com/2018/6/27/17510908/apple-samsung-settle-patent-battle-over-copying-iphone</a>	2018
RD 20	Case Summary of GoPro, Inc. v. Contour IP Holding LLC	<a href="https://harrityllp.com/case-summary-gopro-inc-v-contour-ip-holding-llc/">https://harrityllp.com/case-summary-gopro-inc-v-contour-ip-holding-llc/</a>	2018

## Acronyms

Acronym	Meaning
ADR	Alternative Dispute Resolution
EAPO	Eurasian Patent Organization
EEO	European Enforcement Orders
EPC	European Patent Convention
EPO	European Patent Office
EUIPO	European Union Intellectual Property Office
IP	Intellectual Property
IPR	Intellectual Property Rights
PCT	Patent Cooperation Treaty
SME	Small and Medium Enterprises
UPC	Unified Patent Court
WIPO	World Intellectual Property Organization

## **Executive Summary**

This technical manual serves as a guiding beacon for individuals and businesses dealing with Intellectual Property Rights management and patent processes in Europe. Covering key aspects from patent eligibility to enforcement, the manual offers a detailed roadmap for understanding and successfully navigating the European patent system.

After an extensive introduction on the role of IPR management in innovation and business, the manual dives into the process of patent filing in Europe, providing a step-by-step breakdown of the process, timelines, and fees associated, emphasizing the importance of legal assistance and adherence to procedural requirements.

The manual then explores the world of international patent protection with a focus on the Patent Cooperation Treaty (PCT) and regional patent systems, to then unlock the strategic potential of Intellectual Property (IP) through continuous analysis, strategic planning, and effective commercialization.

The manual also delves into patent enforcement in Europe, providing insights into the legal process, jurisdiction considerations, and alternative dispute resolution mechanisms, along with three real-world case studies of IPR management.

For projects involving substantial investments in research and innovation, the manual elucidates the critical role of IPR management, addressing background and foreground IP, to ensure clarity in ownership, rights, and compliance, safeguarding the interests of project partners and funding organizations.

This manual underlines the complexities of European patent procedures and empowers innovators to strategically protect, leverage, and enforce their intellectual property on both regional and global scales.

# 1. Introduction

## 1.1 Scope

This manual aims to serve as a comprehensive guide for individuals and organizations seeking to understand and effectively manage their Intellectual Property Rights (IPR), with a particular focus on the utility patent filing process in Europe.

The manual covers various aspects of IPR management, from the basics of different types of intellectual property to the details of patent filing, maintenance, and enforcement.

## 1.2 The importance of IPR management

Intellectual Property (IP) management and patent filing play a crucial role in fostering innovation, protecting investments, and driving economic growth within organizations.

Many large corporations frequently fail to recognize the substantial potential of aligning their IP assets with broader business objectives. Although they may have an extensive portfolio of patents, they often lack a strategy for effectively capitalizing these assets with existing product lines and business goals.

IP protection encourages innovation by providing inventors and businesses with exclusive rights to their creations, while an effective IPR management can create a competitive advantage in the market, offering legal safeguards that enable inventors to protect their inventions and investments.

## 1.3 Target audience

This manual targets the following audience:

- **Inventors and Innovators:** individuals and teams involved in inventing and developing new products, technologies, or processes
- **Small and Medium Enterprises (SMEs):** small businesses and startups seeking guidance on protecting their innovations
- **Business Owners and Managers:** decision-makers responsible for understanding the strategic value of IPR
- **Academics and Students:** individuals interested in learning about IPR as part of their academic or research pursuits

# 2. Intellectual Property Rights

## 2.1 Defining IPR

IPR refers to the legal rights granted to individuals or entities for their intellectual inventions. These rights provide the inventors with exclusive control and ownership over their IP for a specified period.

The purpose of IPRs is to encourage innovation, creativity, and economic development by providing inventors with incentives to invest time, effort, and resources into their intellectual efforts. These rights also protect consumers by ensuring the authenticity and quality of products and services and promoting fair competition in the marketplace. The specifics of IPR, including their duration and scope, can vary from one jurisdiction to another, so it's important to understand the relevant laws in the targeted area.

## 4 Types of Intellectual Property Rights



### Patent

Protecting new and useful inventions



### Copyright

Protecting original works of authorship



### Trademark

Protecting brand identities



### Trade Secret

Protecting confidential business information

The four primary types of IPRs include:

1. **Patents:** patents protect new and useful inventions, granting the patent holder exclusive rights to make, use, and sell the invention for a certain number of years (typically 20 years in most countries). In exchange for disclosing their invention to the public, inventors receive protection and the opportunity to profit from their innovation.
2. **Copyright:** copyright protects original works of authorship, such as literary, artistic, musical, and creative works. These rights provide authors, artists, and creators with control over how their works are used, reproduced, and distributed. Copyright protection is automatic upon the creation of a work and typically lasts for the life of the author plus 50 to 70 years.
3. **Trademarks:** trademarks are symbols, names, or slogans used to distinguish the source of goods or services. They protect brand identities and prevent others from using similar marks that might lead to confusion in the marketplace. Trademark protection can be renewed indefinitely, as long as the mark remains in use and properly maintained.
4. **Trade Secrets:** Trade secrets encompass confidential and valuable business information, such as manufacturing processes, formulas, customer lists, and marketing strategies. Unlike patents, trade secrets do not have a fixed protection duration and can remain

protected as long as the information remains confidential and is actively safeguarded.

## **2.2 The Role of IPR in Innovation and Business**

IPR plays a significant role in both innovation and business by providing a framework that encourages and protects intellectual creations.

### ***Encouraging Innovation***

- IPR, particularly patents, offer innovators exclusive rights to their inventions, and therefore work as an incentive for individuals and organizations to invest in research and development. Without the promise of protection, the return on investment for innovation could be significantly reduced, discouraging creative efforts.
- IPR allows inventors and creators to monetize their IP through licensing, sales, or partnerships. The potential financial rewards from these activities can be a powerful motivation for further innovation.
- The patenting process necessitates a detailed and public disclosure of the invention, which not only protects the inventor's rights but also contributes to the body of knowledge in the field. This knowledge-sharing aspect of IPR can drive further research and innovation.

### ***Protection of Intellectual Assets***

- Businesses and innovators often invest substantial resources in developing new technologies, products, and services. IPR, such as patents and trademarks, offer protection against unauthorized use, safeguarding these investments.
- IPR allows businesses to distinguish their products and services from competitors. Trademarks, for example, create brand recognition and consumer trust, leading to a competitive advantage in the market.

### ***Legal Protections***

- IPR provides a legal framework for patent, trademark, or copyright holders to enforce their rights through litigation, which can deter potential infringers and provide remedies for those whose rights have been violated.
- IPR enables licensing and collaboration, allowing businesses to grant others permission to use their IP for mutual benefit, leading to the development of new products and technologies.

### ***Competitive Advantages***

- Patents can be used strategically to enter new markets or expand existing ones. By protecting innovative products, businesses can secure a foothold in markets where their technology is novel.
- The presence of a well-managed portfolio of IPR can make businesses more attractive to investors and potential partners, leading to increased capital and growth opportunities.



## Economic Growth

- IPR, including patents and trademarks, hold significant economic value as they can be sold, licensed, or leveraged as assets, contributing to the economic growth of businesses and nations

The following section will focus on patents, exploring different patent types and applications, as well as the patentability criteria.

## 3. Patents

As already mentioned before, obtaining patents offers numerous advantages, including exclusive rights, protection from unauthorized use, potential monetary gain through licensing or sales, market differentiation, legal recourse against infringers, documentation of knowledge and opportunities for collaboration.

Patents not only safeguard IP but also serve as valuable assets that enhance a company's market position and competitiveness. However, the decision to pursue a patent should be made with careful consideration of the associated responsibilities and costs, as well as alignment with overall goals and strategies.

### 3.1 Types of Patents

## 3 Types of Patents



### Utility

Protecting inventions such as machines, processes or systems



### Design

Protecting the design or aesthetics of an invention



### Plant

Protecting inventions of distinct and new variety of plant

There are three main types of patents (utility patents, design patent and plant patents), each one comes with specific eligibility criteria and protects a particular type of invention idea. However, it is possible for an invention idea to have more than one patent type.

#### 3.1.1 Utility Patents

Utility patents are the most common type of patent and are issued and granted for an invention that is new, useful, and non-obvious. They cover a variety of inventions including:

- **Processes:** methods or processes for performing specific tasks, such as manufacturing processes or methods of data analysis

- **Machines:** mechanical devices, tools, and apparatuses designed to perform specific functions
- **Manufactured Items:** novel and useful manufactured products or items, such as consumer goods or industrial equipment
- **Compositions of Matter:** chemical compositions, such as pharmaceuticals, chemical compounds, and new materials

To be eligible for a utility patent the invention must not have been publicly disclosed before submission and must involve an inventive step that is not obvious to those skilled in the relevant field.

To receive a utility patent a **provisional patent application** can be filed, providing 12 months of "patent pending" status during which an inventor can prepare and file a non-provisional application. Otherwise, a **non-provisional patent application** can be directly submitted, and, if granted, the patent holder obtains exclusive rights to make, use, sell, and license the invention for a period of typically 20 years from the date of filing. During this time, others are generally prohibited from using the patented technology without the patent holder's permission. For more information on provisional and non-provisional patent applications see section Types of Applications.

To obtain a utility patent, inventors must file a patent application with the relevant government patent office, which will examine the application to ensure it meets patent criteria. In exchange for the exclusive rights, patent applicants are required to provide a detailed and complete disclosure of the invention in the patent application. This disclosure becomes part of the public record and contributes to the body of knowledge in the field. Please refer to section 4 for more details on the patent filing process in Europe, and section 5 for international patent filing.

***In Europe, utility patents require annual maintenance fees to keep the patent in force, failure to pay these renewal fees can result in the loss of patent protection.***

One of the most famous examples of utility patents is the "Improvement in Telegraphy" patent, granted to Alexander Graham Bell in 1876 for the invention of the telephone. Bell's patent described the method and apparatus for transmitting vocal or other sounds telegraphically, it detailed the principles of how sound could be transmitted over a wire, which laid the foundation for the development of the telephone.

### **3.1.2 Design Patents**

Design patents protect the unique, ornamental, and non-functional visual or aesthetic aspects of an object. Unlike utility patents, which protect the functional aspects of an invention, design patents are specifically focused on protecting the appearance or design of a product.

This type of patent is granted for new, original, and ornamental designs for an article of manufacture, which can include the shape, surface ornamentation, and visual characteristics of the object. Design patents provide the holder with exclusive rights to the specific, ornamental design as depicted in the patent application drawings and if others create products with a substantially similar appearance, it can be considered an infringement of the design patent.

In Europe, the term of protection for a design patent, known as Registered Community Design, is maximum 25 years. When a design is registered with the European Union Intellectual Property Office (EUIPO) (RD 1), protection is granted for 5 years from the date of filing. After 5 years the patent can be renewed for additional periods of five years, up to a maximum of 25 years from the date of filing. Renewal fees are required to extend the protection in five-year increments.

Apple's iPhone design has been the subject of many design patents over the years, reflecting the evolution of the device's appearance, covering various aspects of the iPhone's design, including its overall shape, bezel, home button, screen layout, and other ornamental features.

### **3.1.3 Plant Patents**

Plant patents are granted to inventors and breeders who have developed and asexually reproduced new and distinct plant varieties. These patents cover the unique and novel characteristics of the plant, such as its genetic makeup, morphology, or ability to reproduce asexually, meaning the plant is reproduced without the use of seeds.

Plant patents provide the holder with exclusive rights to make, use, sell, or reproduce the patented plant variety for a period between 25 to 30 years from the date of filing the patent application, depending on the type of plant.

An example of a plant patent is the "Patent for a New and Distinct Fruit Plant" issued for the Honeycrisp apple tree to the University of Minnesota in 1988. The tree is celebrated for its exceptional qualities, including its crisp texture, sweet-tart flavor, and resistance to browning, and has become a popular and widely recognized apple variety.

## **3.2 Types of Applications**

There are several categories of patent applications, each serving specific purposes:

- **Provisional Application:** a provisional patent application is a simplified and informal filing of a utility patent that establishes an early filing date for an invention, it does not require a formal patent claim or prior state of art research and it provides 12 months of "patent pending" status during which an inventor can prepare and file a non-provisional application.

- **Ordinary or Non-Provisional Application:** this is the most common type of utility patent application. It includes a detailed description of the invention, claims, and drawings, it must meet all the formal requirements and undergo examination by the patent office. If granted it results in the issuance of a full patent, which, depending on the country, is valid for about 20 years.
- **Convention Application:** when an applicant wants to seek patent protection in multiple countries, they may file a convention application, which is based on the priority date of a previously filed application in a member country of the Paris Convention (RD 2). The Paris Convention, signed in 1883 and administered by the World Intellectual Property Organization (WIPO), is an international treaty that provides a framework for the protection of IPR among member countries. One of its fundamental principles is the principle of priority, which states that any person who files an initial patent application in one member country has the right to later file subsequent applications in other member countries and claim the original filing date as the priority date for those subsequent applications.
- **PCT International Application:** the Patent Cooperation Treaty (PCT) (RD 3) is an international treaty that simplifies the process of seeking patent protection in multiple countries. The PCT application allows applicants to designate multiple countries where they may want to obtain patents in the future.
- **PCT National Phase Application:** after filing a PCT international application, applicants must enter the national phase in each desired country, following the national laws and regulations.
- **Patent of Addition:** a patent of addition is filed to add improvements or modifications to an existing patented invention, and it shares the same priority date as the original patent.
- **Continuing Patent Application:** this category includes a group of related applications that maintain the priority date of an earlier application. Types of continuing applications include continuation, divisional, and continuation-in-part applications.
- **Divisional Patent Application:** filed when an original patent application contains multiple inventions, allowing for the division of these inventions into separate patent applications.
- **Reissue Application:** filed to correct errors or defects in a granted patent, it does not provide additional protection but corrects the errors in the original patent.
- **Continuation In-Parts Application:** this type of application combines elements of both continuation and new matter, it allows the addition of new material while retaining the priority date of the original application for existing material.

### 3.3 Patentability

Patentability is the fundamental criterion for granting a patent to an innovation. To be considered patentable, an invention must meet specific requirements, **including novelty and non-obviousness**. Following are the criteria essential for an invention to be considered patentable and eligible for the grant of a patent:

1. **Novelty (Newness):** to be patentable, an invention must be novel, which means it must be new and have not been publicly disclosed or made available to the public before the patent application's priority date, any prior publication, use, sale, or disclosure of the invention can potentially jeopardize its novelty. However, there is a one-year grace period in some jurisdictions, for example in the United States, where inventors can file a patent application within a year of their own public disclosure without losing novelty.
2. **Non-Obviousness (Inventive Step):** in addition to being new, an invention must involve an inventive step or non-obviousness. This means that the invention should not be an obvious or straightforward development of existing knowledge, but it should represent a significant and non-trivial advancement over the existing state of the art research. In assessing non-obviousness, patent examiners consider whether the invention involves a surprising, inventive, or unexpected solution to a problem.
3. **Useful and Industrially Applicable:** in addition to novelty and non-obviousness, a patentable invention must have utility and be industrially applicable. This means the invention should serve a useful purpose and have practical applications in industry, technology, or any other field of human endeavor.
4. **Sufficient Disclosure:** the patent application should provide a sufficiently detailed and clear description of the invention, including the specification, claims, and, where applicable, drawings or figures. A skilled person in the relevant field should be able to understand and replicate the invention based on the disclosure.

These requirements ensure that patents are granted for innovations that are genuinely new, non-obvious, and have practical utility, contributing to the advancement of science, technology, and industry.

## 4. European Patent Filing Process

The patent process (RD 4) in Europe can be complex and

***seeking legal assistance from a qualified patent attorney is highly recommended to ensure that patent application adheres to the legal and procedural requirements***

Also, the requirements may vary depending on the specific country in Europe, and the process can take up to 4 years.

The table below is an overview of the utility patent filing process in Europe, please note that fees don't include the potential seek of a patent attorney, or other professional help that might be necessary.

Step	What to do	Timeline	Fees
<b>Identify Novelty and Non-Obviousness</b>	Identify the novelty and non-obviousness aspects of the invention, and make sure it's industrially applicable.	This step can vary greatly and may take some time depending on the complexity of the invention	No
<b>Determine Eligibility with State of Art Research</b>	Conduct state-of-the-art research to identify and understand the current knowledge, inventions and technical developments that relate to the invention. This step also helps assess the novelty of the invention and the eligibility for patent protection, therefore its chances of being granted the patent.	Several weeks to a few months, depending on the depth and scope of the research	No
<b>Prepare Detailed Documentation</b>	Document the invention with a detailed description, including written specifications and, if applicable, drawings or diagrams. This documentation will be part of the patent application.	Several weeks to a few months, depending on the complexity of the invention	No
<b>Choose the Type of Application</b>	Decide whether to file a European patent application, a national patent application in a specific European country, or use the PCT route to seek patent protection in multiple countries.		No
<b>Select the Language</b>	Choose the language for the patent application. The European Patent Office (EPO) accepts applications in English, French, or German, if the application is not filed in one of these languages, translation might be needed.		No
<b>Prepare a Patent Application</b>	Draft a formal patent application, which includes the following components: <ul style="list-style-type: none"> <li>• <b>Title of the Invention</b></li> <li>• <b>Description:</b> detailed written description of the invention, including its features, functionality, and any embodiments</li> </ul>	Several weeks or months, depending on the complexity of the invention and the quality of the initial documentation	No

	<ul style="list-style-type: none"> <li>● <b>Claims:</b> set of claims that define the scope of the invention and specify what will be protected.</li> <li>● <b>Drawings:</b> if applicable, provide clear and accurate drawings, diagrams, or figures that support the description.</li> <li>● <b>Abstract:</b> brief summary of the invention.</li> </ul> <p>Ensure that the application adheres to the EPO's formal requirements and guidelines (RD 5).</p> <p>Seeking the help of professionals is highly recommended here to make sure the patent application is well formulated using patent specific vocabulary and writing rules.</p>		
<b>Submit the Application</b>	Submit the patent application to the EPO. This can be done electronically through the EPO's online filing system (RD 6) or by mailing a physical copy.		<b>Yes</b>
<b>Examination Phase</b>	The EPO will conduct a formal examination to ensure that the application meets all the necessary requirements. If the application is incomplete or contains errors, opportunity to correct them may be given.	Several weeks to a few months	<b>No</b>
<b>Publication</b>	Once the application is deemed complete and compliant, the EPO will publish it in the European Patent Bulletin (RD 7), making it accessible to the public.	Within 18 months from the filing date	<b>No</b>
<b>Search Report</b>	The EPO will conduct a search to identify relevant prior art and provide a search report.	Issued within six months of filing	<b>No</b>
<b>Substantive Examination</b>	The EPO will conduct a substantive examination to assess the patentability of the invention. This includes assessing novelty, non-obviousness, and industrial applicability. Applicants may need to respond to any examination reports or objections in the negotiation phase.	<p>The request for examination must be filed, by paying examination fees, up to the end of six months after the date on which the European Patent Bulletin mentions the publication of the European search report.</p> <p>The examination phase can take several months to over a year</p>	<b>Yes</b>



<b>Publication of Grant</b>	If the patent application is deemed patentable, and applicants successfully address any examination issues, the EPO will grant the patent. The granted patent will be published in the European Patent Bulletin.	If the patent application is approved, publication of the grant typically occurs within a few months from the decision	<b>No</b>
<b>Validation in Designated Countries</b>	After the European patent is granted, it is not automatically enforceable in individual European countries. Applicants will need to validate the patent in each specific country where protection is needed.	The timeline for validation in specific countries can vary, some require validation within three months, while others may allow up to three years	<b>Yes</b>
<b>Maintenance and Renewal</b>	To keep the European patent in force, patent holders must pay annual renewal fees to the EPO. Failure to pay these fees can result in the lapse of the patent	Maintenance fees are paid annually, and this process begins after the patent is granted.	<b>Yes</b>
<b>Enforcement</b>	If someone violates the patent rights, legal actions in the relevant jurisdiction may be needed to enforce the patent.	Legal actions may take several months to several years.	<b>Yes</b>

## 5. International Patent Filing

There are several options for international patent protection designed to facilitate the process of seeking patent protection in multiple countries. The two primary methods for international patent protection are:

### 1. Patent Cooperation Treaty (PCT):

- The PCT is an international treaty that simplifies the process of seeking patent protection in multiple countries. It does not grant international patents but provides a unified procedure for filing a single international patent application that has the effect of a national application in all PCT member countries (RD 8).
- **National Phase:** After the PCT process, applicants enter the "national phase" by filing individual patent applications in the countries or regions where protection is sought. This usually occurs 30-31 months from the priority date of the international application.

### 2. Regional Patent Systems:

- In addition to the PCT, there are regional patent systems that allow protection in multiple countries within a specific region through a single application.



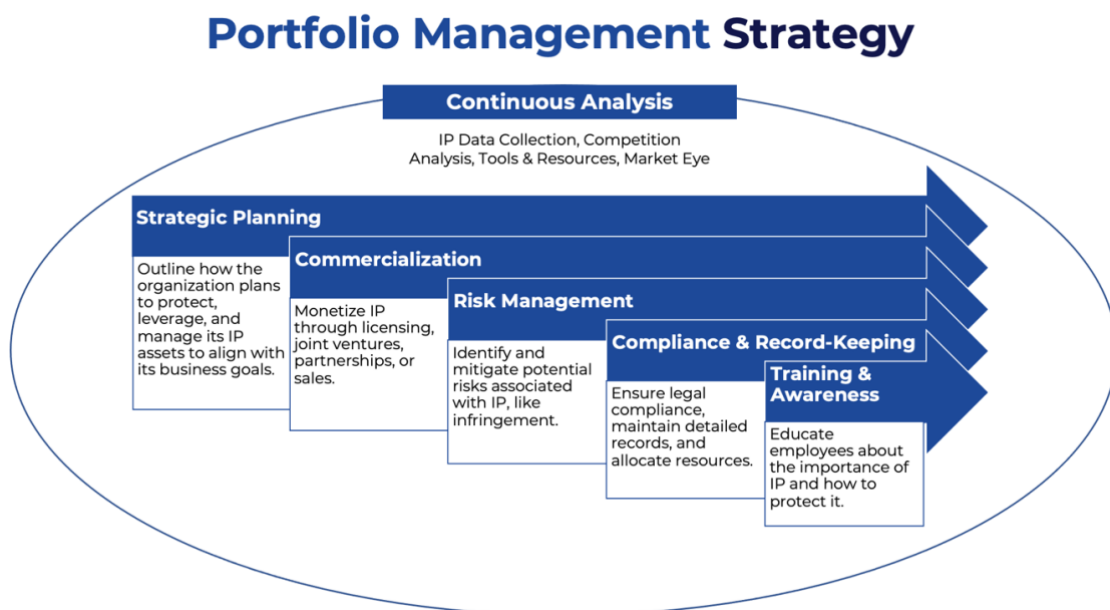
The most significant regional patent systems are:

1. The European Patent Office (EPO) (RD 9) grants European patents that can be validated in multiple European countries. After obtaining a European patent, the patent holder must validate it in the individual countries where protection is needed. The European Patent Convention (EPC) (RD 10) governs the system, European countries that are not EPC members require separate national applications. Please refer to section 4 for more details.
2. The Eurasian Patent Organization (EAPO) (RD 11) grants Eurasian patents that provide protection in several countries within the Eurasian region, including Russia, Kazakhstan, Belarus, and others.

When considering international filing for a patent, it's important to take into consideration the scope of protection, budget and costs, type of invention, patent laws, regulations, and procedures of each jurisdiction. Developing a comprehensive strategy for IP portfolio management can also help in deciding whether an international patent is necessary.

## 6. IP Portfolio Management

Managing a portfolio of IPR assets is a critical task for businesses and individuals looking to protect and leverage their innovations. An effective IP portfolio management strategy involves several key steps:



## 6.1 IP Portfolio Continuous Analysis

IP Portfolio Analysis is an important strategic process that should be a continuous practice in every organization looking to protect and leverage innovations. It involves assessing and managing an organization's IP assets to enhance their value and safeguard their rights, allowing organizations to develop a well-informed strategy for maximizing their return on investment.

To perform a comprehensive IP portfolio analysis, the following steps are advised:

- **IP Data Collection:** identify relevant data sources related to the organization's IP assets, which may include patents, trademarks, copyrights, and trade secrets.
- **Competition Analysis:** review competitor portfolios and compare them with the organization's portfolio to gain insights into industry trends.
- **Tools & Resources:** leverage tools and platforms for IP portfolio analysis, like Cypris (RD 12), to streamline the process and centralize data sources.
- **Market Eye:** stay updated on market dynamics and technological trends that can impact the value of IP assets.

## 6.2 IP Portfolio Strategic Planning

Based on the insights gained from the IP portfolio analysis, the organization can develop a comprehensive IP strategy, which outlines how the organization plans to protect, leverage, and manage its IP assets to align with its business goals and objectives. This might involve deciding which patents to maintain, which to abandon, geographical extension and where to focus Research and Development (R&D) efforts. It is also important to coordinate with various departments (R&D, legal, marketing) to align the IP strategy with the overall business strategy.

## 6.3 IP Portfolio Commercialization

Exploring opportunities to monetize IP assets through licensing, joint ventures, partnerships, or sales is essential to show that the company is at the forefront of industry technology and is ready to execute for clients.

## 6.4 IP Risk Management

Identifying and mitigating potential risks associated with IP, including the risk of infringement on others' IPR, or facing infringement on one's own IP. For instance, a software company might conduct regular IP audits to guarantee compliance and prevent license violations of open-source code.

## 6.5 IP Portfolio Compliance and Record-Keeping

Ensuring legal compliance, maintaining detailed records, and allocating resources to manage the IP portfolio is fundamental for an effective IP management.

## 6.6 IP Training and Awareness

Educating employees about the importance of IP and how to protect it. A company could conduct workshops to teach employees about the importance of confidentiality and the proper handling of sensitive information.

# 7. Patent Enforcement

Enforcing patent rights is a complex and legally intensive process, which is why it's essential to work with experienced attorneys who specialize in patent law and have a thorough understanding of the specific jurisdiction and laws and can therefore guide patent holders through the process. The specific approach to enforcing patent rights will depend on the unique circumstances of each case.

Here's an overview of the process and key aspects to consider when enforcing patent rights **in Europe**:

- **Patent Infringement:** occurs when someone uses, makes, sells, or imports a patented invention without permission from the patent holder, to enforce patent rights, the first step is to identify instances of infringement.
  - **Initial Actions:** when patent infringement is suspected, start by gathering evidence of the alleged infringement, this may include documenting instances of unauthorized use, collecting relevant documents, and identifying potential witnesses.
  - **Cease and Desist Letter:** it's common to send a cease-and-desist letter to the alleged infringer, this is a formal notice demanding that they stop the infringing activities and, in some cases, may seek damages or negotiations for licensing.
  - **Legal Proceedings:** if negotiations fail, legal proceedings may need to be initialized to enforce patent rights. Legal actions typically begin in national courts of the countries where the infringement is occurring.
  - **Remedies:** if the court rules in favor of the patent holder, remedies such as injunctive relief (to halt the infringing activities), damages (financial compensation), and legal costs may be available.

- **Appeals:** the losing party in a patent infringement case may have the option to appeal the decision, which can extend the legal process.
- **Jurisdiction and Venue:** consider the jurisdiction and venue carefully, as it may impact the outcome of the case, ensure to file in a court that has the authority to handle patent disputes and provides a fair and unbiased environment.
- **Expert Advice:** legal representation by experienced patent attorneys or solicitors is essential, they will help navigate the legal system, prepare the case, and represent the individual's or entity's interests in court.
- **Enforcement Across Borders:** European Patents granted by the EPO provide a unified grant but must be enforced at the national level, this can require separate legal actions in individual countries.
- **Alternative Dispute Resolution (ADR):** mediation or arbitration can be alternatives to traditional litigation, offering a more cost-effective and less time-consuming way to resolve patent disputes.
- **European Enforcement Orders (EEOs):** EEOs (RD 13) can simplify the enforcement process across EU member states by allowing judgments in one country to be recognized and enforced in others.
- **The Unified Patent Court (UPC):** the UPC (RD 14) offers a specialized and efficient framework to handle patent litigation for European Patents, it provides a unified approach to enforce patents across the seventeen EU member states.
  - When filing for a European Patent, you can elect the UPC jurisdiction, which will provide access to the court's system for litigating and enforcing patents in Europe.
  - If there are issues of patent infringement or disputes, bringing the case to the UPC will allow the court to handle the litigation matters and enforce patent rights across the relevant jurisdiction.

## 8. Case Studies

Patents are often seen as a reflection of a company's commitment for innovation. In this section, the focus will be on the top two patent holders of 2022, IBM and Samsung, both of which made effective IP management a foundation of their success (RD 15), and GoPro which was able to go from a small company to a global brand also thanks to their IP strategy.

### 8.1 IBM Case Study

International Business Machines Corporation (IBM) is well known for its extensive and diversified patent portfolio; the company has been among the top patent filers globally.

Here are some key points of IBM's patent portfolio:

- IBM holds **one of the most extensive and diverse patent portfolios** in the technology industry, covering domains such as artificial intelligence, cloud computing, quantum computing, cybersecurity, blockchain and more.
- The company **invests heavily in research and development**, fostering a culture of continuous innovation.
- IBM views its patent portfolio as a **strategic asset**, the patents not only protect the company IPs, but also serve as a source of revenue through licensing agreements with other companies. For example, in the area of cloud computing and AI, companies like Google, Microsoft, and Amazon have entered licensing agreements with IBM to use their patented technologies and innovations in their own services and products. (RD 16)
- IBM has taken a **collaborative approach to patent licensing** by participating in industry-wide patent pools and agreements, encouraging innovation within the tech ecosystem while generating revenue for IBM. For example, in 2011, IBM and Samsung announced a patent cross-license agreement, licensing their respective patent portfolios to each other (RD 17). A few months after the announcement, this joining of forces resulted, for one, in a breakthrough in semiconductor design (RD 18).
- IBM's patent portfolio has influenced the tech industry by **fostering innovation and competition**, and it has contributed to the development of open standards and interoperability.
- In 2022 IBM witnessed a huge fall of 49% in the number of patents granted, going from 8.681 patents in 2021 to 4.398 patents in 2022. This is the outcome of a shift in strategy which focuses on a more selective approach to patenting (RD 15). Despite this drop, **IBM still placed second in the ranking of the world's largest patent holders.**

## 8.2 Samsung Case Study

Samsung, like IBM, has a very substantial and diverse patent portfolio, covering a wide range of technological areas including customer electronics, telecommunications, semiconductor technology and more.

Here are some key points of Samsung's patent portfolio:

- Samsung is the **largest non-US spender on R&D**
- Samsung is well known for its **continuous innovation** in different technology sectors, reflected in its extensive patent portfolio
- Samsung has adopted a **strong IP strategy**, both defensively and offensively. The company files for a large number of patents every year, to both protect its innovations and have a strong bargaining position in cross-licensing agreements with other tech companies

- Samsung's patent portfolio is a **global asset**, with patents registered in various jurisdictions worldwide, allowing the company to protect their IPR in international markets.
- Samsung's patent portfolio management shifted after the litigation case against Apple. While the company used to be concerned about the number of patents, now they **focus on the quality**.

### ***Litigation case: Samsung VS Apple***

Started in April 2011 and ended with a non-disclosed settlement in June 2018, the legal battles between Samsung and Apple have been some of the most high-profile patent disputes in the technology industry.

The case started when Apple filed a lawsuit against Samsung in the US, which revolved around a number of design and utility patents for basic functions of a smartphone. Even though the fight was hashed out using specific patents, the battle was mainly about whether Samsung copied Apple to gain an edge in the early days of smartphones.

The case resulted in a series of appeals, taking it to the Supreme Court and back. At first, the battle led to a \$1 billion ruling in Apple's favor, then the verdict was whittled down to \$539 million, which was appealed by Samsung, but the two companies were then able to reach an agreement before it could be litigated again (RD 19).

**Lesson learned:** the legal battles between Samsung and Apple served as a cautionary tale for tech companies, they highlighted the potential risks of IP disputes, the importance of clear patent agreements and the need for companies to develop their own unique design and technology to avoid legal challenges.

## **8.3 GoPro Case Study**

GoPro, funded in 2002 by Nick Woodman, revolutionized the action camera industry by introducing durable, high-quality cameras tailored for adventure enthusiasts.

GoPro's success revolved around innovative camera hardware, focusing on building a robust IP portfolio. The company strategically managed its IPR, securing patents for many camera technologies, waterproof casings, and mounts, establishing a competitive edge in the market. GoPro's proactive approach to IPR management ensured protection for its cutting-edge designs and technologies, enabling the company to maintain a dominant position worldwide in the action camera segment.

Here are some key points of GoPro's patent portfolio:

- Nick Woodman filed his **first patent** in 2004, patenting a 33mm film camera system strapped to the users' wrist, a concept that eventually evolved into the foundation for the innovative wearable and mountable camera designs that became GoPro's signature. This patent marked the initial steps toward the development of the

action-oriented camera systems that later defined GoPro's success. The early patents protected GoPro's innovations from being copied by competitors, a significant risk for small businesses in technology sectors.

- GoPro effectively **trademarked its brand name and logo**. As the company grew, the GoPro name and logo became synonymous with action cameras, helping the company establish a strong brand identity and consumer loyalty.
- GoPro evolved from film to digital cameras, **continually upgrading and patenting** its new features and designs. This kept GoPro ahead of competitors and opened new markets, such as using GoPro cameras for professional filmmaking and drone photography.
- As a small company, GoPro had to **balance the costs of IP protection with its benefits**, strategically choosing what and where to patent or trademark. This strategic management helped optimize their investment in IP, ensuring that they protected key innovations that were central to their value proposition.
- GoPro has actively **defended its IP rights through litigation**, when necessary (e.g., GoPro vs. Contour case (RD 20)), ensuring that its patents and trademarks are not infringed upon. This sent a strong message to the market about their commitment to protecting their IP.
- Today, GoPro is a **globally recognized brand**, synonymous with action cameras.
- The company **went public in 2014**, marking a significant milestone in its growth journey.

#### **Lessons for Small Companies:**

- **Early IP Protection:** Protecting innovations through patents and trademarks can provide a competitive edge and is crucial for long-term success.
- **Strategic IP Management:** Careful and strategic management of IP assets is vital, especially for small companies with limited resources.
- **Continuous Innovation:** Ongoing innovation and protecting these new developments are key to staying ahead in competitive industries.

GoPro's journey from a small startup to a leading global brand in action cameras exemplifies the power of a well-managed and strategically utilized IP portfolio in driving business growth and success.

## **9. IPR Management in European Public Funding Projects**

European public funding projects involve substantial investments in research and innovation, effective IPR management helps protect both



the IP generated from these investments (Foreground IP) and the IP brought into the project by the partners (Background IP).

Many public funding projects involve collaboration between multiple stakeholders, such as universities, research institutions, and private companies. IPR management provides a framework for defining ownership and rights related to project outcomes and appropriate use of the partner's background IP. This clarity fosters collaboration, as partners are assured that their contributions will be respected and protected, and it ensures that the innovations are not misappropriated, thus safeguarding the financial interests of the funding organization and the project participants.



## Background IP

- Leverage for project's objective
- Rights and licenses defined in the consortium agreement



## Foreground IP

- Ownership to be determined
- Exploitation methods defined in the consortium agreement

**1. Background IP:** refers to the IP that project partners already own or have licensed before the project's initiation, including patents, copyrights, trademarks, trade secrets, and other proprietary rights.

- **Ownership:** partners retain ownership of their background IP, they bring this IP into the project to leverage it for the project's objectives.
- **Rights and Licenses:** the consortium agreements between partners at the beginning of the project defines how background IP will be used within the project. Partners may grant licenses to use their background IP for the project's purposes, specifying the scope and duration of these licenses.
- **Protection:** partners are responsible for protecting their background IP and ensuring that its use aligns with the project's goals.

**2. Foreground IP:** refers to the IP that is generated, developed, or acquired as a direct result of the project's research and innovation activities. This can include inventions, software, data, publications, and more.

- **Ownership:** ownership of foreground IP can be more complex and is often determined by project agreements. In some cases, foreground IP is jointly owned by project partners, while in others, it may be owned by a specific partner or institution.
- **Balancing Open Access and Protection:** many European public funding projects have « open access » requirements, meaning that research results should be accessible to the public. IPR management helps strike a balance between open access and protection,



ensuring that valuable innovations are shared while sensitive or commercially viable knowledge is safeguarded. Protecting foreground IP is essential to ensure its value and potential commercialization, this can involve filing for patents, registering copyrights, or taking other protective measures.

- **Exploitation:** The project consortium agreements outline how foreground IP will be exploited or commercialized, this can include licensing, spin-off companies, open access, or other strategies.

**3. IPR Compliance:** European public funding projects come with specific rules and regulations regarding IPR management, for example the current European Research and Innovation Funding Programme, Horizon Europe (HE), provides a [guide](#) to IP management within the HE projects. Proper IPR management ensures compliance with these requirements, failure to adhere to IPR guidelines could jeopardize funding, stall projects, or lead to legal issues.

## 10. Conclusion

Intellectual Property Rights serve as the backbone of innovation, incentivizing creators and providing a framework for protection, while effective management and strategic planning can transform intellectual assets into strategic business advantages.

In the ever-evolving landscape of IPR, this comprehensive guide has explored the various facets of IPR management and patent filing processes, highlighting their vital role in fostering innovation, protecting investments, and driving economic growth.

The significance of IPR management extends across a wide spectrum of stakeholders, from inventors and innovators to small and medium enterprises, business owners and managers, academics, and students. For public funding projects, IPR management ensures the protection of valuable IP and encourages collaboration.

As businesses and professionals continue to navigate the dynamic world of technology and innovation, understanding and harnessing the power of IPR will remain an essential element for growth, competitiveness, and progress.