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**WIPO Blockchain Whitepaper**

**Annex I: Overview of IP Ecosystems and IP Value Chains**

*Disclaimer: This document is prepared in the context of the WIPO Blockchain Whitepaper project, which aims at developing a whitepaper on Blockchain for IP ecosystems, including challenges/opportunities, impact, potential use cases, considerations on interoperability and governance for blockchain-based solutions for IP ecosystems. This document is intended to provide a high-level description of IP ecosystems and the IP value chains which entail with a description of relevant key actors, activities and resources for various IP asset classes, while it is noted that describing the ecosystems of all IP assets in a single framework is very challenging within the space available. Accordingly, this document does not seek to exhaustively define IP ecosystems and their IP value chains, but rather provides an initial, high-level, generalized approximation of such ecosystems and value chains through illustrative, generalized descriptions, to serve as a starting point for further elaboration in further work. These descriptions are focused on aspects of the ecosystems and value chains which are relevant to blockchain and distributed ledger technologies (DLTs). It is suggested that further work be needed to develop exhaustive and adequately differentiated descriptions of IP ecosystems and their IP value chains.*

## IP Ecosystem

Intellectual property (IP), broadly, means the legal rights, which result from intellectual activity in the industrial, scientific, literary and artistic fields.[[1]](#footnote-1) IP law has been traditionally divided into two classical branches of law, namely “industrial property” and “copyright and related rights” law,[[2]](#footnote-2) and also encompasses legal systems which do not fall neatly within the distinction Those systems, which lie beyond the classical distinction of “industrial property” and “copyright and related rights”, are referred to as *sui generis* IP laws (i.e., laws granting rights “of their own kind”) and cover subject matter such as new varieties of plants, non-original databases, software, traditional knowledge (TK) and traditional cultural expressions (TCEs). Besides these established legal systems, which are constituted by formalized, statutory IP law frameworks (at national, regional or international level), there are additional closely related branches of law which have historically provided the origins and basic principles of currently established IP standards and which therefore are often also considered to be part of the field of IP law, for example unfair competition law and certain branches of regulatory law relating to market approval of agricultural and pharmaceutical products.

Traditionally, international agreements as well as legal literature regarding the availability of such rights over IP refer to “systems for the protection of intellectual property”[[3]](#footnote-3). This document refers to “IP ecosystems” rather than IP systems. For the purposes of this whitepaper, the use of term “IP ecosystems” is useful in order to appropriately describe the full breath of the potential impact(s) of blockchain on “IP” and the existing IP systems.

In this document, the term “IP ecosystem” refers to a network of various actors that interact with each other in collaborative and competitive ways in an IP environment[[4]](#footnote-4) using resources to generate, protect, manage, make available and/or commercialize intellectual assets.

Intellectual assets constitute a sub-class of “intangible assets, which are [defined as] non-physical assets such as leases, brands, digital assets, use rights, licenses, intellectual property rights, reputation or agreements.”[[5]](#footnote-5) An ”asset” in general, including an intangible asset, is defined as an “item, thing or entity that has potential or actual value to an organization.”[[6]](#footnote-6)  In an IP context, the actual or potential value of an intellectual asset may refer to its economic (e.g., monetary), epistemic (e.g., scientific and technological) or affective (e.g., goodwill) value. Value can be tangible or intangible, financial or non-financial, and includes consideration of [risks](https://www.iso.org/obp/ui/#iso:std:iso:55000:ed-1:v2:en:term:3.1.21) and liabilities.[[7]](#footnote-7)  It can be positive or negative at different stages of the asset life.

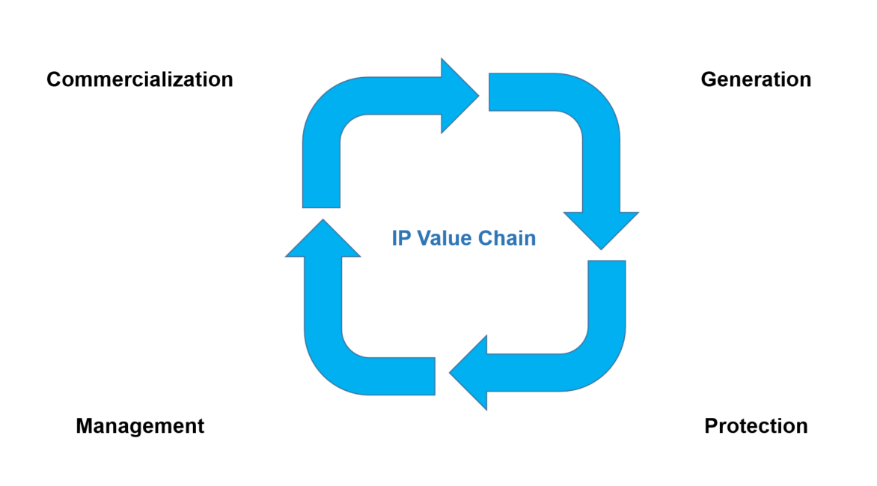
The interactions by which actors interact within IP ecosystems can be modeled into value chains of IP, i.e., IP value chains. IP value chains are sets of activities through which actors add or appropriate value of intellectual assets. Generally, the interactions of value chains are highly diverse, context- and case-specific and often discontinuous. However, when they form continuous interactions taking place over a continuously evolving (set of) intellectual asset(s), they have been described as value chains of IP, i.e. IP value chains. Such IP value chains are highly diverse and rapidly changing in the context of the technological, legal and commercial transformations that are currently reshaping IP ecosystems and are therefore demanding to generalize a simplified, general description. Therefore, when simplified for illustrative purposes into a single generic model, they could be described in the following generalized model of an IP value chain.

Value chains can generally be represented in a lifecycle model. The life cycle of an intellectual asset is defined as the stages involved in the management of that [asset](https://www.iso.org/obp/ui/#iso:std:iso:55000:ed-1:v2:en:term:3.2.1), whereby the naming and number of the stages and the activities under each stage usually vary in different industry sectors and are determined by the relevant [organization](https://www.iso.org/obp/ui/#iso:std:iso:55000:ed-1:v2:en:term:3.1.13). While recognizing the naming of phases and activities under each phase vary, in the IP context a very generalized model often refers to four phases, even though many IP assets do not go through every phase or proceed through phases in a sequential manner. Therefore, these phases and activities identified in each phase of the model are not necessarily sequential and they can overlap and not always take place, especially unregistered IP rights. For example in the case of copyright, the generation phase usually coincides with the protection phase, because a work is usually protected upon generation; and the management phase may be often mixed with the commercialization phase, especially when a copyright is managed and at the same time licensed by a Copyright Management Organization (CMO).

## IP Value Chain Phases

The type of IP value chains[[8]](#footnote-8) which are oriented towards commercialization of IP assets could be composed of four phases, mostly for registered IP rights such as patents, but not all activities in phases apply to all IP rights, in particular some activities may not apply for copyright and related rights and IP assets which are subject primarily or exclusively to unfair competition law:

* 1. Generation;
  2. Protection;
  3. Management; and
  4. Commercialization.



In the following sections, generalized, exemplary sub-phases and activities within each phase are described in further detail. Each phase and the related activities of the illustrative IP value chain is described with three key components: activities, actors and resources. It is important to note that a natural or legal person, i.e. an individual or organization, can play the different roles of many key actors. For example, creators of creative content are often “small businesses” and are directly involved in many more of the phases. This is increasingly the case with the democratization of content production and distribution enabled by technology. Blockchain as an enabling technology can play an important role in this trend.

### IP Generation Phase

In general descriptions of asset life cycles, this phase is also referred to as the Generation phase. Since in the field of IP, ‘creation’ and ‘creativity’ are technical terms specifically associated with the field of copyright and related rights, to include the origination of all types of IP assets this paper uses the term ‘generation’.[[9]](#footnote-9) This phase includes all steps from the initial intellectual activity resulting in potential IP value to the existence of an initial intellectual asset eligible for IP protection. This phase includes not only the creation of creative works, but also the activities needed to embody the idea of an innovator and, in many cases, it requires the involvement of third party actors.

For copyright and related rights, any original creative work is protected by copyright law from the moment it is created and a formal registration process is not needed in most jurisdictions, but this could, in certain circumstances, make difficult to prove ownership and for users of the work to identify the creator.

The initial terms used to describe the sub-phases of this Phase are preliminarily modelled on the branches of IP law, which concern intellectual activity related to ideas (rather than expressions or distinctive signs) and include: ideation, exploration, conception, production of intellectual assets and development of IP protection strategy. Considerations regarding the field of distinctive signs are not so closely addressed in this representation of this phase and will be added in further elaborations of the phase.

#### Ideation

In the **ideation sub-phase**, key activities are all those taken by actors such as innovators, R&D departments or, by analogy, creators and the objectives of such activities which are relevant to blockchain and DLTs during this sub-phase may include, if applicable, depending on the nature of the IP rights concerned, proving the existence and development of the future IP asset and, in some instances, keeping it secret (mostly applicable for industrial property and trade secrets). Since the present account of activities during this sub-phase is a provisional generalization which focuses on blockchain applications and will be differentiated during further elaboration of the sub-phase, it is important to note at this stage that not all activities apply to all IP rights (copyright, industrial property, *sui generis* systems, unfair competition law, etc.) and some activities apply to some IP rights only.

Examples of actions in the ideation sub-phase that may help in a potential future request for IP protection are proof of generation and record keeping, which can help prove date and existence of the invention. Since innovation is often incremental, version management of both the intellectual assets being generated as well as the resources being developed and utilized for their generation is important to maintain legal certainty for IP at this sub-phase of IP generation.

Examples of actions in the ideation sub-phase that may help in a potential future request for IP protection are proof of generation and record keeping, which can help prove the date and ownership of the invention.

Also, it is common business practice that organizations try to keep IP secrecy during this phase through several actions, for example:

* + with confidentiality agreements among partners involved in the development of the potential intangible asset;
  + ensuring employees, researchers and collaborators have in place confidentiality obligations; and
  + reviewing public disclosures to ensure confidential information is not revealed.

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| ***Key activities*** | ***Key Actors*** | ***Key data & resources*** |
| * Proof of existence of relevant assets * Confidentiality agreements * Record keeping * Version management | * IP generators * R&D department * IP advisors * Strategy department | * Strategic goals * IP strategic goals * R&D policy * Records, lab notes * Related physical assets |

Table 1 - Key activities, actors and data & resources for Ideation in industrial property

*[Note: It should be noted that the key activities, actors and resources are quite different between the industrial property innovation trajectory, upon which this representation of the present sub-phase is modelled, on the one hand and creative works such as movies, books and songs, on the other hand. These differences are important to note since each individual iteration of a creative work can be protected by copyright in and of its own right. In principle and from a technical point of view, blockchain marketplaces would be conceivable that track the authenticity, for example, of the hundreds of sketches that eventually resulted in a famous painting or sculpture. The same could apply to many script rewrites and storyboards that are part of the ideation process for a movie.]*

#### Exploration

During the **Exploration sub-phase,** depending on the nature of the IP rights concerned, actors like IP right holders, innovators and their legal representatives may explore the possibility of IP acquisition and take strategic, tactical and operational decisions based on public and private data sources (such as IP data, non-IP literature, litigation data, corporate data, market reports) that help them better understand a number of elements such as:

* + Technology landscape surrounding their innovation;
  + Situation of their area of specialization in the market;
  + Key players;
  + Technology trends;
  + IP scoring, through analysis of strengths and weaknesses of IP rights and research projects;
  + Level of maturity of their idea in the market;
  + Preliminary opportunities for IP commercialization;
  + Preliminary estimation of IP value and IP risks; and
  + Potential acquisition targets.

The understanding created from these data sources about the context, features and potential value of the initial intangible asset(s) will allow the actors to explore and decide whether the further development, research and investment into those assets is merited based on a range of considerations, including their potential future eligibility for IP protection, the potential value of that IP, the possibilities for its effective commercialization or other forms of the exercise of the acquired IP rights. The specific elements among the new intangible assets that will enable the granting of IP rights concerned, in case applicable, depending on the nature of the IP rights, are also identified in this stage.

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| Key activities | Key Actors | Key data & resources |

Table 2 - Key activities, actors and data & resources for Exploration

1. Key activities, actors and data & resources for Exploration

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| * Identification of elements eligible for IP protection * Understand technology landscape * IP scoring * Preliminary valuation analysis | * IP generators (if applicable) * R&D department * IP advisors * IP Investment Fund * IP Information Service & Analytics provider | * Intangible asset information from public and private data sources (such as IP data, non-IP literature, new litigation data, corporate data, market reports) * Geographical scope |

#### Conception

If applicable depending on the nature of IP rights concerned, key activities in the Conception sub-phase are on-going technology watch to quickly identify and analyze new market trends, and Freedom-to-Operate (FTO), which is a common practice in technology-intensive sectors (mostly for industrial property) to determine if there would be any potential infringement if the IP asset being conceived were commercialized. Freedom-to-Operate involves exhaustive review of sources of information with specialized tools.

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| Key activities | Key Actors | Key data & resources |

Table 3 - Key activities, actors and data & resources for Conception

1. Key activities, actors and data & resources for Conception

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| * Technology watch * Freedom-to-Operate (FTO) | * IP generators (if applicable) * R&D department * IP advisors * IP Information Service & Analytics provider | * Intangible asset information * Geographical scope * Market reports |

If applicable, depending on the type of creative works, research activities or rights clearance activitiesin order to ensure the feasibility to use some content that could be copyright protected will be performed. This is common in the audiovisual industry or in the elaboration of some scientific or other articles, books where pictures or data will be needed or in media content which can include copyright-protected content and it is needed to determine if there would be any potential infringement if the use of IP these assets.

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| Key activities | Key Actors | Key data & resources |
| * Diligence Searches | * Creative Content Creators * Producers | * Collections of publicly accessible creative works * Relevant creative works databases |

Table 4 - Key activities, actors and data & resources for Rights Clearance

#### Production of intellectual assets

Creative works productionplays an important role in the development of copyright-protected content, including book production, music, visual arts and performing arts (e.g., theatre, dance, etc.). It encompasses the entire production process from the preparation of the written script to the release of copies ready for management.

**The production sub-phase** includes all the activities to make the initial idea realized such as performing all the necessary preparatory work by, for instance, looking for funding, contracting actors and other personnel, and obtaining the necessary materials and technical facilities. Where necessary materials may have contractual obligations or other legal encumbrances attached from their transfer, such as may be the case in genetic material for making certain inventions, this needs to be taken into account. After completion of the preliminary work, a company may sign a contract with a film studio, for example, to rent studio space, and the studio constructs the sets and provides all the necessary technical facilities. Due to the focus on blockchain applications, in the present description of this sub-phase, the making of inventions, the production of distinctive signs through investment in the development of goodwill, and the production of trade secrets as intellectual assets through the implementation of reasonable steps and measures for the maintenance of their secrecy are not reflected in this generalized account and will be reflected during further elaboration of the sub-phase.

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| Key activities | Key Actors | Key data & resources |
| * Investment and marketing decisions * Fundraising * Hire the services of production studios * Hire performers and other personnel * Acquire materials and technical facilities * Determine potential legal encumbrances pertaining to acquired materials and facilities | * IP generators * IP investment fund * Material providers such as costumes and scenery * Production department | * Collections of publicly accessible creative works or other production inputs * Relevant databases of creative works or other data * Contractual agreements |

Table 5 - Key activities, actors and data & resources for Production of creative works

#### IP protection strategy

The Protection phase includes all the legal, administrative and technical activities involved in obtaining legal protection for a work in the form of IP rights, including voluntary ownership registration. These activities are here, preliminarily and in generalized form, grouped in four sub-phases: IP rights prosecution, ownership registration, IP maintenance and IP enforcement. This is a simplified description of the IP protection phase for the purposes of highlighting potential blockchain and DLT applications, which will be differentiated during further elaboration, especially in two regards. First, the IP protection phase is highly diverse for different IP titles and different branches of IP law diverge widely regarding the structure of this phase (and do not all conform with the sub-phases below). Second, it is important to note that, even if the Protection phase of a particular IP asset does reflect the below phases (e.g., in the case of utility patents and utility models), the activities, which are grouped here into a seemingly singular and unified ‘sub-phase’, do not occur in a single temporal continuity, in direct sequence or consequence of each other, and, for many IP assets, some may not occur at all even if others do.

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| Key activities | Key Actors | Key data & resources |

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| * Develop IP protection strategy for potential industrial property rights * Develop protection strategy for potential Copyright / related rights * Develop protection strategy for potential sui generis rights (e.g., new varieties of plants, databases, TK, etc.) | * IP generators * R&D department * IP department * Applicant * Legal representatives * IP advisors | * Intangible asset information * Legal information * Business information * Classification |

Table 6 - Key activities, actors and data & resources for IP protection strategy

### IP Protection Phase

The Protection phase includes all the legal, administrative and technical activities involved in obtaining legal protection for a work in the form of IP rights, including voluntary ownership registration. These activities are here, preliminarily and in generalized form, grouped in four sub-phases: IP rights prosecution, ownership registration, IP maintenance and IP enforcement. This is a simplified description of the IP protection phase for the purposes of highlighting potential blockchain and DLT applications, which will be differentiated during further elaboration, especially in two regards. First, the IP protection phase is highly diverse for different IP titles and different branches of IP law diverge widely regarding the structure of this phase (and do not all conform with the sub-phases below). Second, it is important to note that, even if the Protection phase of a particular IP asset does reflect the below phases (e.g., in the case of utility patents and utility models), the activities, which are grouped here into a seemingly singular and unified ‘sub-phase’, do not occur in a single temporal continuity, in direct sequence or consequence of each other, and, for many IP assets, some may not occur at all even if others do.

#### IP prosecution

Mostly for industrial property, the **IP prosecution sub-phase** includes all the steps of the IP prosecution process from the preparation of the application form by the applicant in order to request the granting of an IP right, until an official final decision is reached on the submitted application.

For other IP rights such as copyright and related rights or trade secrets, these activities do not apply. In the majority of countries, copyright protection is obtained automatically without the need for registration or other formalities. Most countries nonetheless have a system in place to allow for the voluntary registration of works. Such voluntary registration systems can help solve disputes over ownership, creation or authorship, as well as facilitate financial transactions, sales, and the assignment and/or transfer of rights. Trademarks in some cases can also receive limited protection automatically without the need for registration based upon their consumer recognition and use in the marketplace.

*[Note: It may be relevant to discuss the formation of unregistered trademark rights and the relevant resources, such as evidence of trademark use or consumer recognition. These activities can include additional actors/key actors, such as marketing or sales departments, licensees, distributors, or retailers.]*

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| Key activities | Key Actors | Key data & resources |

Table 7- Key activities, actors and data & resources for IP rights prosecution

Key activities, actors and data & resources for IP rights prosecution

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| * Drafting IP rights applications * Filing with the IP office * Granting the IP right * Registration of IP rights * Oppositions | * IP generators * Applicants * Legal representatives * IP advisors * IP Offices * IP Information Service & Analytics provider | * IP right application data, IP data, non-IP literature, geographical scope, classification and goods and services * IP Offices filing and maintenance systems |

#### Ownership registration

In the field of copyright and related rights, in the majority of countries, copyright protection is obtained automatically without the need for registration or other formalities. Nonetheless, most countries have a system in place to allow for the voluntary registration of works. Such voluntary registration systems can help solve disputes over ownership or authorship, as well as facilitate financial transactions, sales, and the assignment and/or transfer of rights.

Creative work is normally protected by copyright law from the moment of its creation without any formal requirement of registration. However, for the purpose of efficient rights administration, the authorship of any creative work could be voluntarily registered and certified alongside the presence of related rights over the same piece of work. This can help third parties identify the original author and avoid infringements while at same time will make easier for the creator to know who is using their works and claim for fair compensation.

In contrast to creative works under copyright, ownership registration in the field of industrial property is entirely different, where multiple and diverging systems of formal registration of ownership titles exist. Blockchain and DLT solutions may be equally relevant for such systems and their description will be supplemented in the further elaboration of the present life cycle description and in the elaboration of the blockchain use cases.

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| Key activities | Key Actors | Key data & resources |
| * Create evidence of ownership recording the fundamental elements of the works | * IP generators (Creators, Phonogram producers, Audiovisual producers) * CMOs * Legal Representatives * Certifying entities of ownership (banking, solicitors, posts, etc.) | * IP rights registries * All relevant information on the creative work that allows identifying the work, the rights that lay upon it and the legitimate rights holders * Creative works, sketches, scores, copies of the original of the works |

Table 8 - Key activities, actors and data & resources for Ownership registration

#### IP maintenance

Depending on the nature of the IP rights concerned, and in case applicable, **IP maintenance** refers to the activities to be performed when the duration of the IP right is limited, including renewal and changes in IP rights as well as fees payment. While certain IP maintenance activities might be simplified by blockchain or DLT solutions, they are legally determined by the procedures and formalities for the maintenance of protection, which must confirm with certain minimum standards for the various IP asset classes in the various branches of IP law.

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| Key activities | Key Actors | Key data & resources |

Table 9- Key activities, actors and data & resources for IP maintenance

1. Key activities, actors and data & resources for IP maintenance

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| * Renewal of IP rights * Changes on the IP rights * Fees payment | * IP Offices * Legal representatives * IP right holders * IP advisors | * IP Offices * Legal representatives * IP right holders * IP advisors |

#### IP enforcement

**IP enforcement** refers to procedures and remedies aimed at addressing any infringement of an IP right. Key actors are rights holders, law enforcement authorities, courts and tribunals, as well as institutions providing alternative dispute resolution services, such as the WIPO Arbitration and Mediation Center.

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| ***Key activities*** | ***Key Actors*** | ***Key data & resources*** |
| * To prevent and/or to stop acts constituting infringements of IP rights * IP monitoring or copyright-protected content monitoring * Report suspected piracy or unauthorized use or distribution of a copyright-protected content * Disposal or destruction of infringing items. | * IP right holder * Legal representatives * IP enforcement authorities * Anti-counterfeiting and Anti-piracy bodies * Judges and courts * IP alternative dispute resolution bodies * IP advisors * IP right holders   Table 10- Key activities, actors and data & resources for IP enforcement | * Granted IP rights, relevant technical information on the IP rights and the company * Communication channels between law enforcement authorities and the IP right holders * Evidence of infringement and of the identity of infringers * Information as to the location, nature, origin and quantity of infringing items * Evidence of losses incurred by right holders. |

### IP Management Phase

The IP management phase for industrial property includes all those management activities that the IP rights holder may take in order to develop and raise the value of the IP rights portfolio: IP audit, IP portfolio analysis, IP lifecycle analysis, Competitive technology intelligence and IP landscape analysis. This does not apply to copyright and related rights, where the rights are managed either individually, by the right holder(s) concerned, or collectively, via a Collective Management Organization (CMO).

The activities in the first three sub-phases (IP audit, IP portfolio analysis, IP lifecycle analysis) are mostly performed internally within the organization. The other two (Competitive technology intelligence and IP landscape) are mostly external. It should be noted that the IP management phase also includes other forms of IP management exercises.

Copyright and Related Rights are managed either individually, by the right holder(s) concerned, or collectively, via a Collective Management Organization (CMO).

#### IP audit

An IP audit is a review of the IP portfolio together with the relevant procedures used by the business to obtain and protect their IP. An IP portfolio can be understood as the scope of IP assets that are within the scope of an IP asset management system of an enterprise or organization. The purpose of an IP audit is to contribute to better identifying and monitoring the whole intangible asset portfolio, better secure and effectively monetize the IP and set up an effective IP administration structure.

The audit might be carried out by using a combination of different auditing techniques such as:

* + On-line questionnaires;
  + Follow-up face-to-face interviews with management staff, key employees and users of IP processes;
  + Analysis of contracts, sales invoices, marketing material, material transfer agreements (MTA), access agreements and other documents with the legal counsel;
  + Reviews of laboratory notebooks and related research records;
  + Reviews of computer files;
  + Reviews of data collections; and
  + Analysis of relevant documents collected during the preparation phase and identified during the interviews.

The resulting audit report will be a key input for IP portfolio analysis and IP lifecycle analysis.

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| Key activities | Key Actors | Key data & resources |

Table 11- Key activities, actors and data & resources for IP audit

Key activities, actors and data & resources for IP audit

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| * Online questionnaires * Follow-up face-to-face interviews * Documentation analysis * SWOT analysis of IP assets | * IP auditor (usually external) * IP right holder * R&D department * IP advisors * Production department * Market research department | * Intangible asset information from internal corporate documentation * Asset commercialization agreements * Asset access and transfer agreements |

#### IP portfolio analysis

The objective of the portfolio analysis is to gain the level of intelligence on the asset portfolio that enables a targeted execution of the strategy. Where multiple asset portfolios and asset management systems are employed, asset management activities should be coordinated between the portfolios and systems. The information gathered during the audit report helps align specific activities for the development of current or potential IP assets throughout the IP value chain.

The following steps are part of this sub-phase:

* + Business strategy : understand the markets, customers and technology areas that are important to the future needs of the business;
  + Inventory of assets : understand what is owned within the existing portfolio;
  + Categorize assets by stage of lifecycle, product line, business unit, technology area and remaining useful life;
  + Gap analysis : assess whether the portfolio profile supports the business strategy of the company, that is, whether it has enough IP in key technology areas; and
  + Develop a plan to close gaps through for example, licensing, innovation or acquisition.

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| Key activities | Key Actors | Key data & resources |
| * Business strategy analysis * Inventory of assets * Asset categorization * Strategy gap analysis * Development of a plan to close gaps | * R&D department * Legal representatives * Production department * IP advisors | Based on audit report, business strategy and IP strategy:   * Intangible asset information * Business strategic goals * IP strategic goals |

Table 12- Key activities, actors and data & resources for Portfolio analysis

1. Key activities, actors and data & resources for Portfolio analysis

#### IP lifecycle analysis

This lifecycle analysis sub-phase focuses on the complete analysis of status of IP assets within IP value chain to determine actions that need to take place with the highest priority in order to increase overall IP portfolio value. This is performed in alignment with IP strategy, SWOT analysis and conclusions of IP audit. The asset life can be understood as the period from asset generation or acquisition to asset end-of-life.

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| Key activities | Key Actors | Key data & resources |

Table 13- Key activities, actors and data & resources for Lifecycle analysis

1. Key activities, actors and data & resources for Lifecycle analysis

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| * Analysis of status of each IP asset within the IP value chain resulting in initial asset valuation and identification of risks, dependencies and key actions | * R&D department * Legal representatives * Production department * IP advisors * IP Commercialization Service | * Intangible asset information from IP audit report |

#### Competitive Technology Intelligence

The activities in this Competitive Technology Intelligence sub-phase refer to the collection, analysis, and application of publicly available information on external activities in technology that could affect a company’s business.

A key advantage is the improved quality of strategic and operational decisions by adding the perspective of external conditions and events.

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| Key activities | Key Actors | Key data & resources |
| * Collection, analysis, and application of publicly available information on external activities in technology that could affect a company’s business | * Market research department * Legal representatives * IP advisors * IP Information Service & Analytics provider | * Intangible asset information * Market trends |

Table 14- Key activities, actors and data & resources for Competitive Technology Intelligence

Key activities, actors and data & resources for Competitive Technology Intelligence

#### IP landscape

The goal of the IP landscape is to identify broader trends to determine pockets of IP for acquisition. Activities included here Freedom-to-Operate (FTO) analysis and patent invalidity searches. Patent landscape reports provide a snapshot of the IP situation of a specific technology, either within a given jurisdiction or region, or globally. They can inform strategic research planning and technology transfer. They can also be used to analyze the validity of IP titles based on data about their legal status.

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| Key activities | Key Actors | Key data & resources |

Table 15- Key activities, actors and data & resources for IP landscape

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| * FTO analysis * Patent invalidity searches | * Market research department * Legal representatives * IP advisors * IP Information Service & Analytics provider | * Intangible asset information * Market trends |

### IP Commercialization

In case applicable, depending on the nature of the IP rights concerned, the commercialization phase may include all those activities directly involved in generating revenue from the IP rights portfolio: Finance and Monetization.

The commercialization strategy can be designed and updated as a result of all the activities and documentation generated in the Management phase, such as IP audit reports, market research reports, contracts with third parties, etc. It includes activities performed to raise funds to support the execution of the IP strategy.

In the case of collective management for copyright, the income source steams from the agreements that the relevant collecting society agreed upon with users. The CMO is then responsible for redistributing royalties to rights-holders according to the reported usage of the works.

#### IP finance

IP finance includes various activities such as valuation of IP, collateralization, securitization and fundraising.

IP valuation gives a point in time value of the IP portfolio of an organization. The value of IP assets largely depends on the technology life cycle and monetization potential of the IP. Based on these value estimations, investment and marketing decisions can be taken. Valuation of the IP portfolios of an enterprise or other entity may also play an important role in the constitution of a comprehensive and adequate information base for decisions on acquisitions and mergers of enterprises.

Then through IP collateralization and securitization, organizations are able to gain access to financing based on their IP asset portfolio.

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| Key activities | Key Actors | Key data & resources |

Table 16- Key activities, actors and data & resources for IP finance

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| --- | --- | --- |
| * IP valuation * Investment and marketing decisions * IP collateralization / securitization * Fund raising | * Executive management * Finance department * Legal representatives * IP right holder * IP advisors * IP Investment Fund * IP Information Service & Analytics provider * IP finance | * Market conditions and trends * Intangible asset information * Business strategy objectives * IP strategy objectives * Contract information * Data IP audit report |

#### Collection and Distribution of creative works

Specifically in the field of copyright and related rights, once a creative work is completed, it can be made available for consumers and audiences through the collection and distribution of the content. This is the process that makes the creative work go from private to public and then people can access it from any distribution platform (cinemas, TV, video streaming or broadcasting platforms).

There are many actors involved in getting creative works from its creation to where it is accessible to the public. Producers, authors, record labels, promoters, publicists and distributors all play a role. CMOs acting as legal representatives of the rights owners or the authors or owners themselves, in alignment with the distribution strategy, will agree in relationship with the distributors to make the created content public.

|  |  |  |
| --- | --- | --- |
| Key activities | Key Actors | Key data & resources |

Table 17 - Key activities, actors and data & resources for Distribution of creative works

|  |  |  |
| --- | --- | --- |
| * Identify distributors * Create licenses for the commercialization of the rights | * Producers * CMOs * Creators, authors * Creative content distributors | * Distribution strategy * Contractual agreements with distributors * Licenses between CMOs and owners of the rights |

#### IP Monetization

Monetization includes all those activities that directly generate revenue to organizations based on their IP portfolio.

Key sources of information on which monetization decisions are based, are the documents mentioned in other sub-phases, such as IP strategy, IP audit report, market reports, IP valuation, contracts, etc.

Possible options for the monetization of IP assets are:

* + Licensing: A license is a contract under which the holder of an IP title (licensor) grants permission for the use of its IP asset to another person (licensee);
  + Franchising: Franchising is a special type of licensing, enabling the replication of the owner’s (franchisor) business concept in another location by providing continuous support and training to the recipient (franchisee). Since business concepts include the use of IP allowing the business to be run, franchising has an intrinsic connection with IP based on licensing of IPRs and know-how;
  + Joint Ventures: IP has an important role in the creation of joint ventures, since ventures bring their own intellectual assets. Joint ventures agreements set out contributions, responsibilities and obligations;
  + Spin-offs: These are separate legal entities created by a parent organization to bring its IP assets into the market. It is generally an efficient solution for the parent organizations, for which the further direct development, management and commercialization of their own IP assets may not be the most effective business and IP strategy, or not possible, such as universities and research institutions;
  + Technology transfer: Situations in which universities (or their staff) and industries formalize agreements on research and development. Such relations may imply transfer of technology developed within universities, consultancies and transfer of know-how or collaborative research projects. It may also include co-development of technology and know-how;
  + Assignment: Assignment is the transfer of ownership of an IP right between two parties. In this case, the assignee becomes the new owner and right holder of the IP right; and
  + Collection and Distribution of Royalties: In the field of copyright and related rights, collection includes all those activities that directly generate revenue to organizations based on the use of creative works. The royalties collected will be distributed among all the owners of the work in alignment of the share of the rights.

|  |  |  |
| --- | --- | --- |
| Key activities | Key Actors | Key data & resources |

Table 18- Key activities, actors and data & resources for Collection and Distribution of Royalties

|  |  |  |
| --- | --- | --- |
| * Payment of the royalties | * IP right holder * CMOs * IP utilizer * IP aggregator * IP broker * Universities | * Contract conditions * NDAs * Type of license * Granted rights * Payment conditions * Warranties * Termination conditions * Material transfer agreements (MTAs) |

[Appendix follows]

## Appendix: List of KEY ACTORS

|  |  |  |
| --- | --- | --- |
| Key Actors | Phases key actors are mainly involved in | Description |
| IP generators (such as creator, innovator, inventor, author, producer, performer, publisher, Phonogram producers, Audiovisual producers, IP right holder, individual/organization, enterprise, R&D department, laboratory, university) | Generation  *[Note: an individual or organization can play the role of many key actors in different phases. For example, creators of creative content are often “small businesses” and are directly involved in many more of the phases.]* | Individual or organization that contributes to the conception or generation of a creative content. |
| IP department | Generation, Protection, Management, Commercialization | Area in organizations in charge of legal and/or Intellectual Property matters. |
| Executive management / Strategy department | Generation, Management | Area in organizations in charge of advising on organizational strategy. |
| IP Commercialization Service | Management, Commercialization | Area in organizations in charge of definition and execution of commercialization strategies.  A firm or individual who provides IP commercialization services. |
| IP advisor | Generation, Protection, Management, Commercialization | External entity providing advisory services to companies on intellectual property matters. |
| Legal representative | Generation, Protection, Management, Commercialization | Individual or organization appointed by the innovator or IP right holder which has legal personality and which may, acting in its own name, exercise rights and be subject to obligations. |
| Applicant | Generation, Protection | Individual or the company who files a (voluntary) application for registration of an IP right with the relevant IP Office. Depending on the nature of the IP rights concerned and with the exception of copyright and related rights (because in the case of copyright, the generation phase usually coincides with the protection phase, because a creative work is usually protected upon generation), the applicant may become the owner of the IP right once it is registered upon the conclusion of the application process. |
| IP alternative dispute resolution bodies | Protection | Authorized bodies that provide an alternative, effective and less time-consuming way to enforce IPRs and resolve IP-related litigation. |
| IP Offices | Protection | Official national or inter-governmental bodies responsible for advising and assisting on the management of intellectual property rights. |
| IP right holder | Management, Commercialization | Owner of private legal rights that protect the creation of the human mind: inventions, literary and artistic works, and symbols, names, images, and designs used in commerce. They are commonly divided into two categories: Industrial Property Rights (e.g. patents, trademarks, industrial designs, geographical indications) and Copyright and Related Rights (e.g. depending on the copyright or related rights concerned, authors (such as writers, composers, painters and photographers), performers (such as musicians, actors and dancers), publishers, phonogram producers, film producers and other right holders). |
| IP enforcement authorities | Protection | Police, customs, market inspectors and other administrative and/or judicial authorities that ensure the effective enforcement of intellectual property rights (IPRs). |
| Judges and courts | Protection |  |
| Anti-counterfeiting and Anti-piracy bodies | Protection |  |
| IP auditor | Management | Individual or organization responsible for performing a systematic, thorough and solution-focused review of the intellectual assets owned, used or acquired by the businesses to ascertain their legal status, value, potential IP-related risks and the means for protection and to capitalize on them. |
| IP utilizer (such as government, company, SMEs, ventures, partner companies, franchisor / Franchisee) | Commercialization | Individuals or entities, who do not own the IP right, but seek a right to use it or have a right to use it. |
| IP aggregator | Commercialization | Individuals or entities that negotiate with IP holders on behalf of groups of IP utilizer. |
| Patent Collective | Commercialization | A patent collective can be used by entrepreneurs to pool patents, so that small and medium-sized firms will have better access to critical IP they need to grow in early stages without fear of infringing on a patent. The main aim of this collective is to give businesses the freedom to operate. |
| IP Investment Fund | Generation, Commercialization | Help create, build and support IP-based companies with services such as financial capital, strategic and commercial expertise, executive search and development and corporate finance and capital raising. |
| IP Information Service & Analytics provider | Generation, Protection, Management, Commercialization | IP expert services using metrics, models, and algorithms to deliver analytical approaches using techniques such as natural language processing, network analytics, artificial intelligence and machine learning, and geo-mapping and visualization. |
| IP Conference & Training provider | Generation, Protection, Management, Commercialization | Organizations and institutions with areas dedicated to IP knowledge sharing and training for multiple internal and external audiences such as national IP Offices and related institutions, IP advisors, judges and legal professionals, Universities and research centers and Businesses and SMEs. |
| IP broker | Commercialization | An IP broker mediates between the buyer and seller of IP and may manage the many steps in the process of creating a deal with regard to the purchase, sale, license, or marketing of IP assets. |
| IP finance | Commercialization | IP finance plays various roles where IP meets money, including securitization and collateral, IP valuation for acquisition and balance sheet purposes, tax and R&D breaks, and product financing. |
| Production department | Generation,  Management, Commercialization | The production department plays various roles in different Phases, which include overlooking business that is responsible for the manufacture of goods including conversion of raw materials into finished products, assembly of components and packaging among other activities. |
| Market research department | Management | Market research department entails collecting information regarding consumer’s requirements and preferences. |
| Collective Management Organization (CMO) | Protection, Management, Commercialization | CMOs provide appropriate mechanisms for the exercise of copyright and related rights, in cases where the individual exercise by the right holder would be impossible or impractical. Collective management is an important part of a functioning copyright and related rights system, complementing individual licensing of rights, resting on robust substantive rights, exceptions and limitations, and corresponding enforcement measures. In this vein, CMOs can provide a bridge between right holders and users, facilitating both access and remuneration.  Function: CMOs provide a mechanism for obtaining permission to use copyright materials, as well as for paying the corresponding fees or remuneration for certain uses of such materials, through an efficient system of collection and distribution of license fees and/or remunerations. Some CMOs provide social, cultural and promotional services. A Performing Rights Organization (PRO) is a subset of CMO. |
| Material providers | Generation | An individual or entity who provides materials for creative works such as costumes and scenery |
| Certifying entities of asset ownership | Protection, Management, Commercialization | An entity certify the asset ownership such as IP Office, Banking and Solicitors |

[Annex II follows]

1. Convention Establishing the World Intellectual Property Organization, Article 2(viii) [↑](#footnote-ref-1)
2. Intellectual property shall include rights relating to: literary, artistic and scientific works; performances of performing artists, phonograms and broadcasts; - inventions in all fields of human endeavor; scientific discoveries; industrial designs; trademarks, service marks and commercial names and designations; protection against unfair competition, and all other rights resulting from intellectual activity in the industrial, scientific, literary or artistic fields. See WIPO INTELLECTUAL PROPERTY HANDBOOK, <https://www.wipo.int/edocs/pubdocs/en/wipo_pub_489.pdf> [↑](#footnote-ref-2)
3. *See preambular paragraph 5, Art. 23.4, 27.3(b) and 65.3,TRIPS Agreement; Art. 18(1), Paris Convention for the Protection of Industrial Property (1979); Art. 27(1), Berne Convention for the Protection of Literary and Artistic Works; and other relevant international IP agreements as well as numerous national and regional IP legislative frameworks.* [↑](#footnote-ref-3)
4. IP environment includes laws, agreements, practices, economy, culture, traditions, moral and economic rights, the rights of the public in access to those creations, the rights of the public in access to those creations. [↑](#footnote-ref-4)
5. *Asset Management*, ISO Standard 55,000, Note 2 to Art. 3.2.1 [↑](#footnote-ref-5)
6. *Ibid.*, Art. 3.2.1 The opposite of ‘intangible assets’ are physical assets. Physical assets usually refer to equipment, inventory and properties owned by the organization. In some cases intangible and tangible assets may be very closely related, e.g. in characterization data of properties in natural resources. [↑](#footnote-ref-6)
7. *Ibid*., Note 1 to Art. 3.2.1 [↑](#footnote-ref-7)
8. The value chain described in this document is intended to embrace all intellectual property types at high-level, noting that definitions and categorizations could be various, for example, a value chain model for copyright and related rights could be described in different ways, e.g., phases of generation, production, distribution and consumption as any creative work is normally protected by copyright law when it is created and the commercialization phase may be regarded coinciding with the management phase from the copyright perspective. In the proposed definition, the production is defined in the Generation Phase and distribution and consumption are under the Commercialization Phase. [↑](#footnote-ref-8)
9. See, for example, Art. 2(5) Berne Convention (1979) [↑](#footnote-ref-9)