

MODULE 3: Innovation, product & Process improvement systems

Learning Unit 1 – Technology Watch & Information Management

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Funding

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Learning outcomes

This module will enable you to:

- Define Surveillance in general and Technological Surveillance and Competitive Intelligence according to the UNE EN 166000 standard.
- Know about typologies of modern sources of information: patents, databases.
- Knowledge about the data and text mining, and its role in the Surveillance / Intelligence process. – Awareness of the applications of the Surveillance / Intelligence from real cases and studies developed in several industrial sectors.
- Define and characterize the function of intelligence in the company.
- Know about the usefulness of Technological Surveillance Systems and Competitive Intelligence as an essential aspect for continuous innovation.
- Develop specific competences on the main components of the process of acquiring and processing information about the competitive environment of the company.
- Use the basic and advanced techniques that allow defining and anticipating the events of the competitive environment, critical for the success of the company.
- Learn the method to respond correctly to strategic, business and operational intelligence requests from decision makers. bus
- Use the methodology for its implementation in an organization.

How to learn?

- This course could be taken using a “self directed” learning approach.
- For those attending “full time” courses a lecturer will be directing your learning using the learning materials available.
- For those enrolled on a “part time” basis a mixed approach could be employed.
- Please see below recommendations for each of the situations:

How to learn? Self directed approach

We suggest the following sequence:

- Read the slides, watch the videos and reflect on the content.
- Read the additional text available where information is more detailed.
- If possible discuss with a colleague or register for a “Forum” and express your views.
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- If there are aspects that you find interesting and want to explore further access one of the texts recommended in the Bibliography



How to learn? Full time approach

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How to learn? Mixed approach

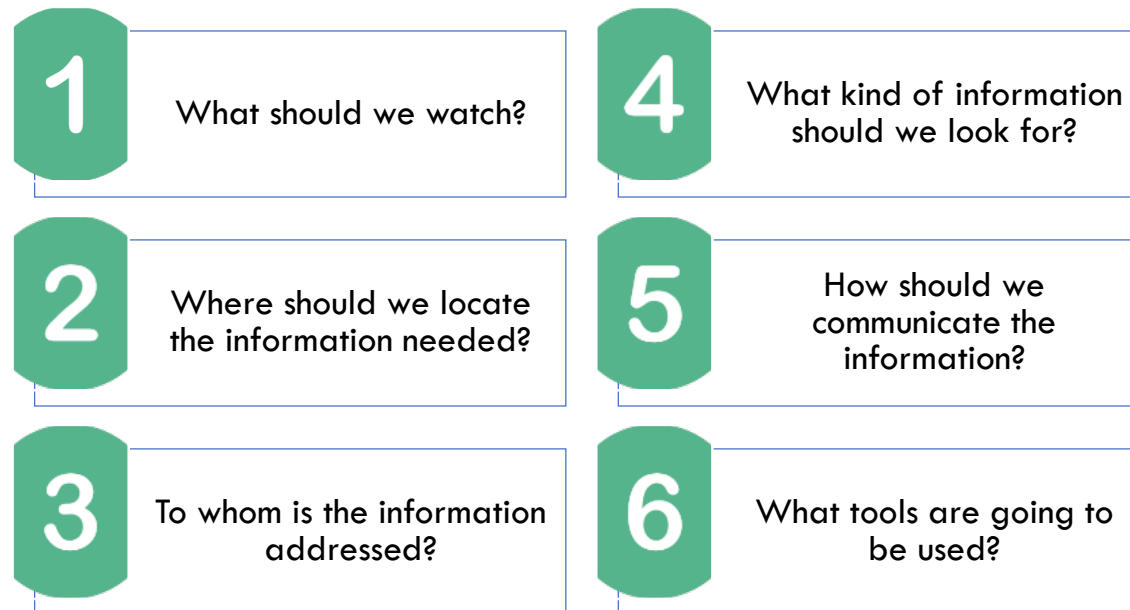
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Why study technology watch & information management?

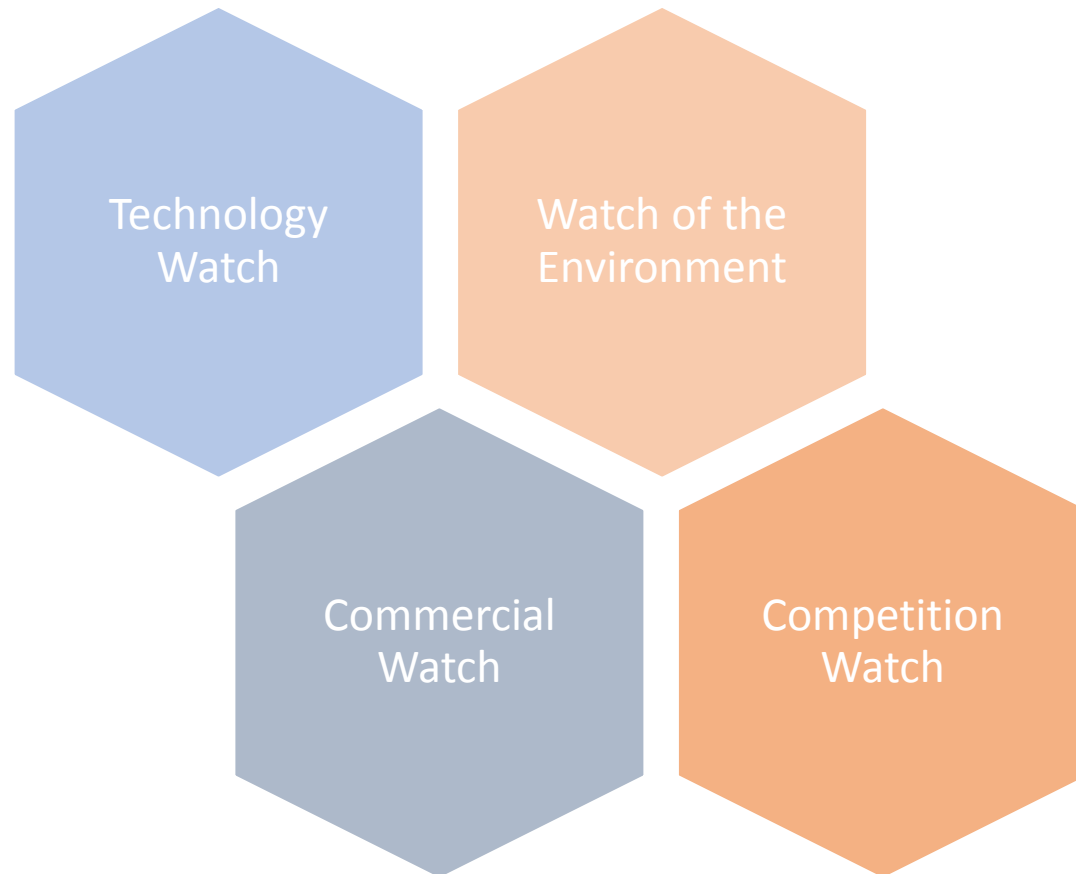
- In a globalized environment like the current one, in which the importance of information and knowledge inside the organization is increasingly important, managing them efficiently can be the greatest of our competitive advantages.
- Technological surveillance is a systematic business practice, oriented to the search and to the analysis of scientific and technological information, that information about the environment could be useful in the moment of taking certain decisions, and increasing the chances of anticipating possible changes and improving the business.
- At the end of the Technological Surveillance module, the student should be able to:
- Apply the methodology and tools -basic and advanced techniques for the identification, systematic collection and analysis of critical information of the environment- of the Surveillance and Competitive Intelligence in order to achieve the development and innovation of existing products or processes, for the diversification towards new products or markets and for making strategic business decisions.

Technology Watch

- Watch is the systematic and organised effort of a company to observe, capture, analyse, accurately disseminate and retrieve information on the facts of the economic, technological, social or commercial, relevant to it.



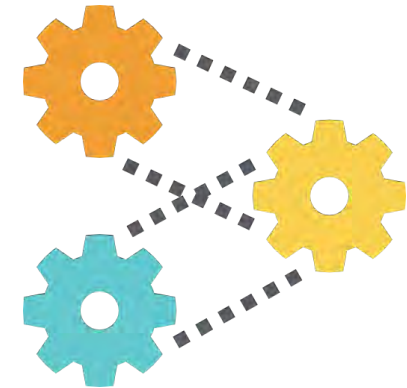
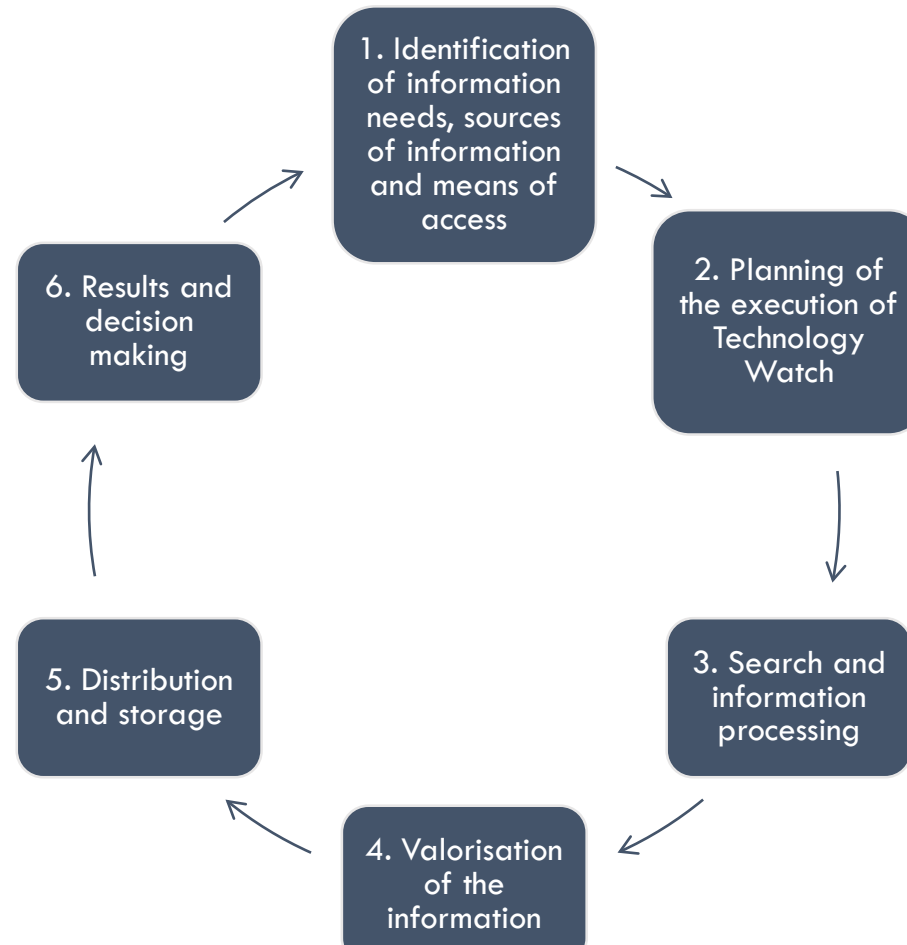
Types of Watch



Once the information needs are identified, the Critical Watch Factors **(CWV)** must be defined

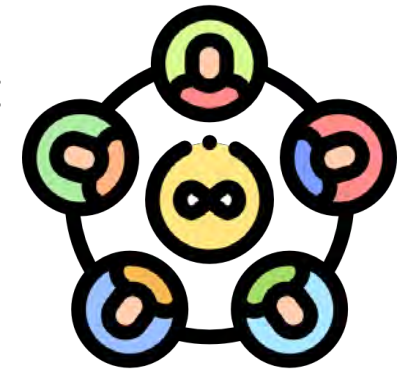


Technology Watch Process



Roles and responsibilities

- **Coordinator or Dynamiser:** The person responsible for the proper functioning of the Watch system, who sees to the process and organises the tasks for the different participants.
- **Source manager** (documentalist): The person who knows and manages the different sources of information, giving support to analysts to get the most out of it.
- **Analyst** (data scientist): The person responsible for reviewing, validating and sharing the information received, adding value to it with their experience in the sector.
- **Reader or Consumer:** The recipient of the information distributed by analysts, who uses it to make decisions at an operational or strategic level, also providing the analysis with feedback.
- **Administrator:** The person who manages information technologies to support the process. This role is not exclusive to the Watch and intelligence system.



Information resources

FORMAL SOURCES

- Reports
- Databases
- Patents
- Legislation
- Rules
- Thesis
- Articles
- News



INFORMAL SOURCES

Internal sources of the organization:

- Partners
- Suppliers
- Competitors
- Customers
- Fairs or exhibitions
- Congresses, seminars, conferences



Example of Technology Watch system



OBJETIVE	LINE OF ACTION	INFORMATION NEED
1. INTEGRATE NEW MOST SUSTAINABLE MATERIALS IN THE MANUFACTURING PROCESS	Use sustainable materials in the furniture manufacturing process	Sustainable materials
	Work with suppliers that use environmental policies	Directory of suppliers that use sustainable materials
2. BE AN ORGANIZATION ADVANCED IN INFORMATION MANAGEMENT	Select a tool that improves your internal information management	Information about the availability of software tools with this functionality
3. BE AWARE OF THE LATEST TECHNOLOGIES WITHIN THE SECTOR REGARDING MANUFACTURING PROCESSES	Incorporate new techniques or methods into the production process	New technologies in the process of manufacturing furniture or technologies transferable to the furniture sector
4. BE INFORMED OF THE SITUATION OF COMPANIES THAT ARE DIRECT COMPETITION	Identify the competition and its environment	Competitors presence in the news, research projects, new products or new clients

INFORMATION SOURCES: Patent databases, material databases, R&D Project databases, technological offer databases, news from websites specialized in materials, fairs, courses, events...

EXAMPLES OF SOURCES OF INFORMATION

Patents databases	<p>Espacenet</p> <p>PantentScope</p> <p>Google Patents</p>
Materials databases	<p>Mat Web</p> <p>Mat Dat</p> <p>Materia NL</p>
R&D Project databases	<p>Cordis</p> <p>FEU</p> <p>DART-Europe</p>
Technological Offers databases	<p>Seimed</p>

SEARCH STRATEGY

Boolean operators

	“Materials AND Sustainable”
Sustainable Materials	“Materials AND (Sustainable OR Ecology)”
	“Sustainable AND Wood”
New Production Technologies	“Robot* AND Furniture”
	“Robot* AND Production”
	“Manufacture* AND Furniture”

Technology Watch tools

KEYWORDS

Keywordtool

▼ Keywords ?

- sustainable
- sustainable **development**
- sustainable **development goals**
- sustainable **meaning**
- sustainable **fashion**
- sustainable **furniture**
- sustainable **palm oil**
- sustainable **development definition**
- sustainable **tourism**
- sustainable **materials**

Soovle



sustainable
sustainable development
goals
sustainable energy
sustainable development
sustainable agriculture
sustainable living
sustainable tourism
sustainable city
sustainable design
sustainable architecture

what is sustainable and non
sustainable
difference between sustainable
development and sus
how is sustainable buildings
materials sustainable
sustainable peace for a
sustainable future
what makes wood
sustainable
what is sustainable forestry
what are sustainable
solutions
is bioethanol sustainable
is wind energy sustainable
is glass sustainable

sustainable development
goals
sustainable
sustainable development
sustainable agriculture
sustainable definition
sustainable synonym
sustainable brands
sustainable dc
sustainable futures
sustainable energy systems

Search: Sustainable | Soovle

Try the icons or hit the right-arrow key to change engines...

sustainable living
sustainability
sustainably vegan
sustainable development
sustainable development
goals
sustainable farming
sustainable agriculture
sustainable fashion
sustainable energy



sunglasses
surface pro 4
surface pro
surge protector
supreme
sunglasses men
surface book
subwoofer
surface
surface pro 3

KWFinder

Keywords	Trend	Search	CPC	PPC	KD
sustainable material	480	\$1.65	6	44	
green building materials	1,504	\$1.35	16	45	
sustainable building materials	2,021	\$1.73	19	47	
eco friendly building materials	1,000	\$1.29	21	46	
green building materials list	213	\$0.64	18	Q	
sustainable construction materials	716	\$1.34	7	47	
green materials	886	\$0.24	30	52	
eco building materials	112	\$0.63	18	45	
green construction materials	320	\$0.85	12	52	
sustainable materials list	390	\$0.95	12	Q	
lego material	720	\$0.19	72	Q	

Technology Watch tools

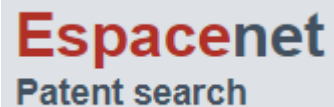
ALERTS



METASEARCH



PATENT DATABASE



SCIENTIFIC ARTICLES DATABASE



Technology watch software



SOFTWARE	CHARACTERISTICS
Orbit Questel	It offers a full suite of web-based productivity and collaboration services dedicated to intellectual property with search, analysis and idea-to-asset management capabilities
Hontza	It is an open source platform that automates the process of Competitive and Strategic Intelligence and articulates through collaborative groups
Vicubocloud	It is a platform that allows you to conduct your Technology Watch and Competitive Intelligence process, extracting strategic information necessary for your organization
Tetralogie	This competitive intelligence software is supplied with full text or factual data from bibliographic databases, online or on CD/Rom, from Internet or any other computer source
The Vantage Point	Text mining tool for the discovery of knowledge in the search results of patent and literature databases
KEYWATCH	Strategic intelligence tool that has been constantly evolving to integrate the fundamental capacities of modern strategic intelligence systems
DENODO	The platform contains a set of tools capable of managing both structured data (databases) and unstructured information in a unified manner
ANTARA	Antara aims to change the way companies manage intelligence. It is an easy-to-use software that develops the intelligence of the organization and makes it more competitive

MODULE 3: Innovation, product & Process improvement systems

Learning Unit 2 – Innovation Management System

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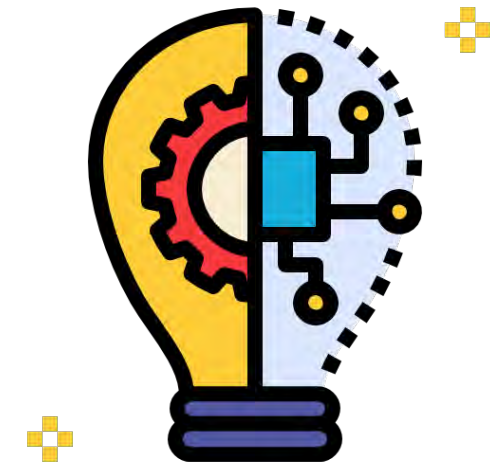
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Innovation

- “An innovation is the introduction of a new, or significantly improved product (good or service), of a process, of a new marketing method or of a new organizational method, in the internal practices of the company, the organization of a place or external relations.” (Oslo Manual, 2005)

TRADITIONAL SUCCESS FACTORS	NEW SUCCESS FACTORS
Size	Speed
Clarity in functions	Flexibility
Specialization	Integration
Control	Innovation



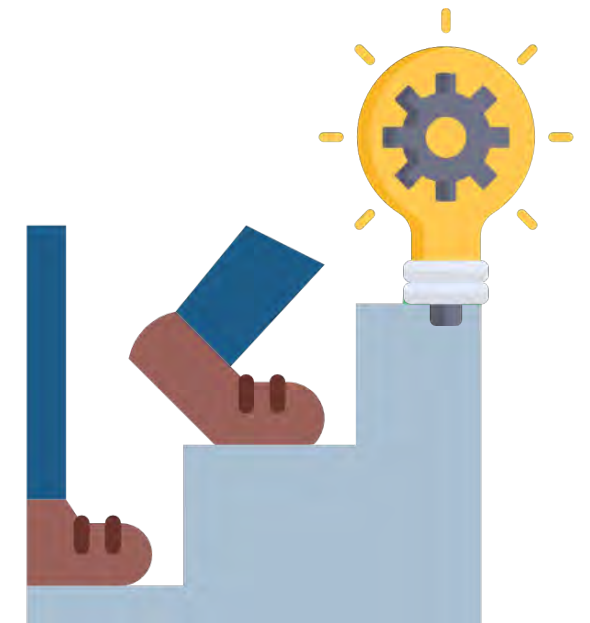
Types of innovation



The **furniture sector** is in a moment of change and technology, which is why **new structural models (fast, flexible and variable) emerge.**

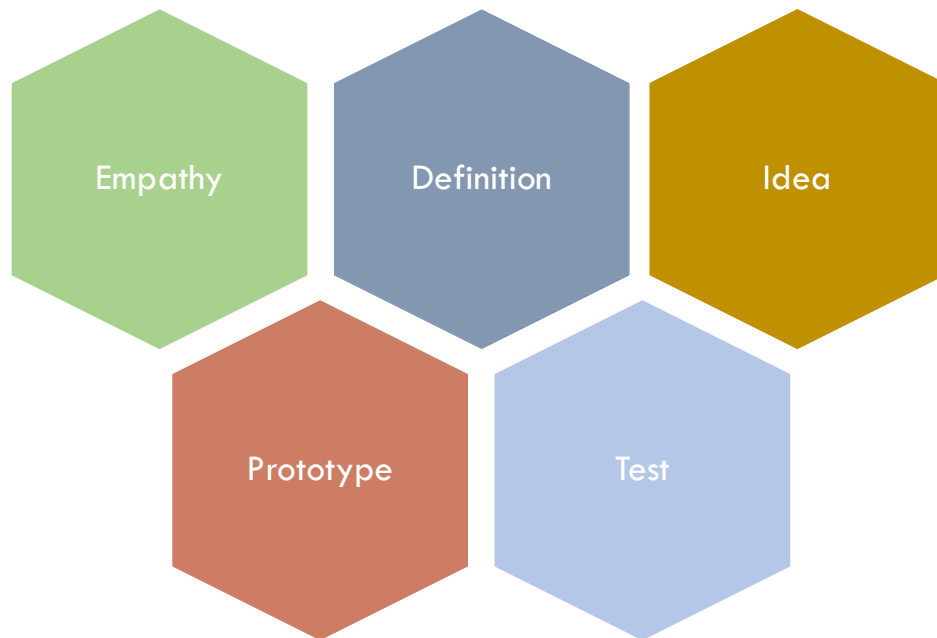


Steps to manage innovation



Design thinking

Design Thinking can be defined as an analytical and creative method with the aim of generating innovative ideas and comes mainly from the way in which product designers work.

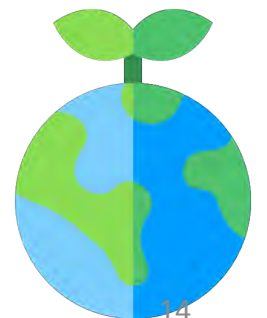


- *TEAMWORK*
- *CONFORTABLE WORKPLACE*
- *ATTITUDE*



Thanks to DESIGN THINKING...

- IKEA produces furniture so that each user can transport and **assemble** it **easily**. For the customer, the result is a product at a good price and well designed
- IKEA has **green** design mentality



Innovation management system

- An Innovation Management System (IMS) is a set of elements of an organisation that interact to establish policies and innovation objectives. It aims to help organisations implement, develop and maintain a systematic framework for their innovation management practices.

External analysis	Internal analysis
Market aspects	Existing management practices
Technical aspects	Attitude and commitment to innovation
Political aspects	Capacity
Economic aspects	Operational aspects
Social aspects	Aspects of operation as achievements and recent failures



Roles of the IMS

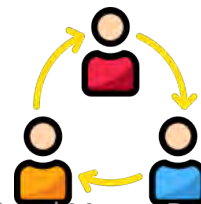
The **management staff** should show leadership and commitment in the Innovation Management System, and assign the responsibilities and authorities to the relevant roles.

Responsibility for specific innovation projects

- Assume responsibility for the assigned Innovation Project
- Use innovation tools according to the requirements of the assigned Project
- Inform the general innovation management staff of the progress of the assigned Project

Responsibility for the management of innovation in general.

- Ensure the effectiveness and efficiency of innovation
- Perform operational planning
- Start and guide the innovation process
- Assign the corresponding responsibilities to each Innovation Project
- Coordinate different innovation projects
- Inform management staff of progress and operation



Intellectual Property

- **Context:** Monitoring developments in the legislation and jurisdiction of national and international Intellectual Property
- Intellectual property as an **innovation strategy**
- **Culture:** Raising staff awareness and direction on intellectual property
- **Appointing** a respectable **person** or team for the implementation of the intellectual property strategy
- Develop **tools and resources** to guarantee the follow-up of the innovation processes
- **Innovation process:** To safeguard innovation and risks in reference to the intellectual property of third parties
- **Reduced risk** of compromising intellectual property rights when interacting with external partners



Innovation process

Every innovation process is different depending on the **type of innovation** that will be carried out and depending on the **type of organization** that will carry it out.

Financial benefits

- Increase in benefits
- Increase in income
- Cost savings
- Operating margin growth
- Recovery of investment in innovation



Non financial benefits

- Greater number of ideas
- Greater market share
- Greater efficiency of the processes
- Recognition of the brand of the organization
- Number of employees
- Intangible assets
- Ecological sustainability



Evaluation and improvement of the IMS

- The organisation should conduct an in-depth evaluation with a frequency that depends on the environment and the need for organisational improvements.
- The results of this evaluation should be related to possible improvements in the IMS and should be communicated by the managers to the organisation in order to improve together and prevent errors from recurring.

