

## **TECHNOLOGY WATCHING AND COMPETITIVE INTELLIGENCE**

***Technology Watching and Competitive Intelligence are two interlinked processes and both of them oriented to improving company's competitiveness***

Being a businessman is a tough duty; they have to keep an eye open on a continuous basis. The emergence of new products, new technologies, new competitors or changes in customer whims/tastes, can happen at any moment seriously threatening the smooth running of their business. The history of the industry is full of examples of companies or even whole sectors, who succumbed to the sudden appearance of a new technology. Companies must always keep an eye on the latest technologies that are being developed, and the latest products coming into the market; not only to react on time towards the sudden changes but to take advantage of new opportunities too. This will turn into a competitive advantage for the company. Moreover, businessmen should avoid trying to invent what is already invented. It is estimated that European companies lose more than 20.000 million € per year working on inventions already patented; money that could well have been invested in other projects or activities.

Is in this context where the concept of Technology Watching and Competitive Intelligence appear. In fact, companies have always carried out, to a greater or lesser extent and not always fully conscious, technology watching (attendance to fairs, congresses, relationships with suppliers and customers ...).

Technology watching systems can be defined as the search, detection, analysis and reporting to the company's chief executives on the external threats and opportunities in the field of science and technology, in order to make less risky decisions. .. The objective is to analyze the innovative behaviour of our direct and indirect competitors, exploring all available sources of information, to position themselves over other competitors and hence taking full awareness of technological competences that will be a reality in a more or less near future. All this without losing sight of the present and near future technological capacity that will allow the company to meet new challenges.

**Technology Watching is the organized, selective and ongoing way of collecting external information, analyze it and turn it into knowledge in order to anticipate to the changes and ensuring less risk decisions**

It basically consists of knowing at the right moment, the right piece of information and it turns out to be essential in R&D+i activities; in fact, companies should search for any existing solution(s) available before starting a new innovation Project.

Competitive intelligence is defined as an ethical and ongoing process of gathering all the business environment (self and others) information, analyzing it and communicating it in a pertinent, precise, specific, opportune, predictable and active way.

**Turning all the information gathered with the technology watching, starting with the analysis, into knowledge is what all is about.**

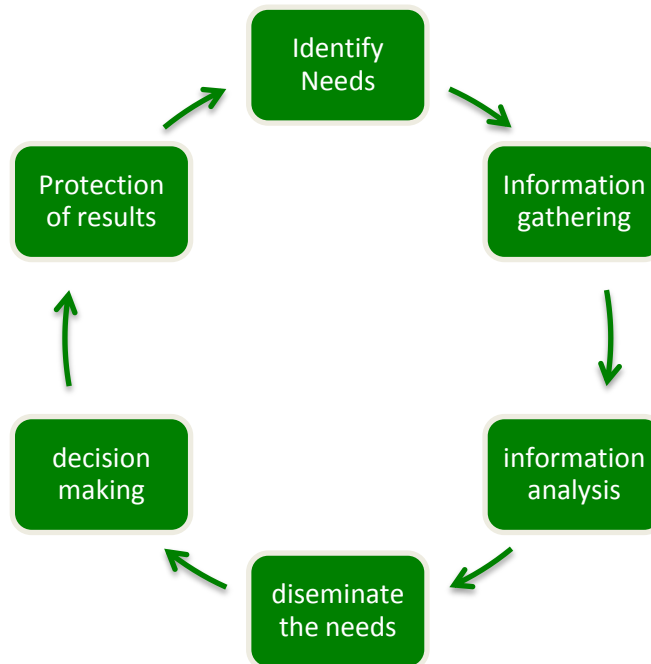


Figure 1 The Technology Watching cycle.

A good technology watching process must provide us information about:

- Technologies that are being researched about (published or patented) in a specific field
- Technological solutions available
- Emerging technologies
- Dynamics of technologies (what technologies are becoming more popular and which ones are obsolete )
- Research lines and technology trends in the main competitors companies
- Research centres, teams, and leaders in the generation of new technologies, able of transferring that technology

This information is not only valuable when planning an innovation project, but is an invaluable piece of information when planning the company's business strategy, understanding as such

the election, after the complete analysis of the competence and the near future, the areas where the company will act, the intensity and the nature of this activity.

### What are the advantages of Technology Watching?

The main advantage would be having a management tool that will allow access to precise information, in the right moment, about the main outcomes and technological news, as well as all those movements that might affect the future of the companies.

Every innovative company, with certain systematic spirit in strategic planning, should watch out for every single change that might affect, sooner or later, their business.

There are lots of reasons, some of them mentioned previously, why a company should practice technology watching; Reasons can be grouped into 5 categories:

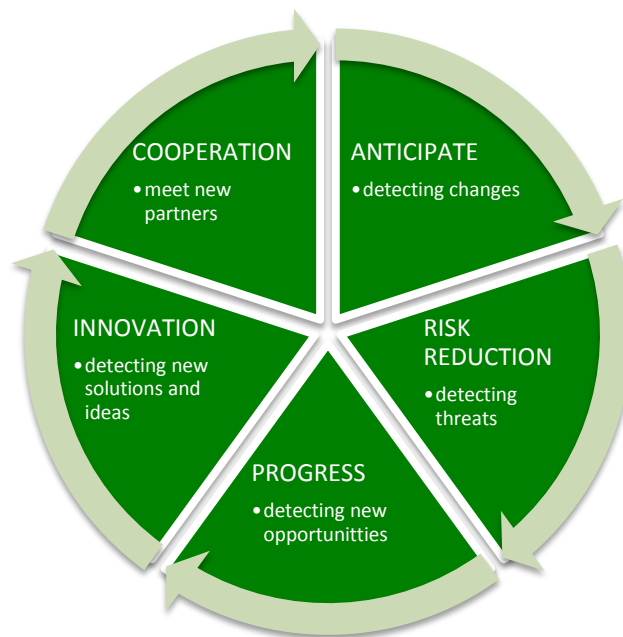


Figure 2 Reasons why a company should carry out technology watching

The benefits that implementing a technology watching and competitive intelligence system provide to a company can be summarized in an improvement of the business overall position, adding value to the products and services and reducing the risk towards an eventual business failure. Knowledge transfer and improvement of internal and external communication might also take place as a positive consequence of the implantation for this kind of system.

### and what are the associated threats?

The main threat or disadvantage of technology watching is that it is usually misunderstood with other disciplines such as industrial espionage, benchmarking or technology foresight.

The main difference between Technology Watching and industrial espionage is that the former deals with legally obtained information management.

Benchmarking deals with a certain aspect or function in a specific time period, and technology foresight is about methods and strategies useful for predicting with a certain degree of confidence future technologies and their influence in an organization, industrial sector or even the society as a whole.

### Tools to support Technology Watching and Competitive Intelligence

In the last years these disciplines have received a huge boost thanks to several factors that have taken place nearly at the same time: (i) data bases proliferation, (ii) amazing development and extended use of internet, (iii) advances in scientometrics and (iv) software development capable of dealing enormous amounts of information.

The most influent one, of course, has been the development of internet. These days one can find nearly everything on the internet, including databases of scientific literature and patent offices ([U.S. Patent and Trademark office](#), [European Patent Office](#) (EPO), [Japanese Patent Office](#) (JPO) and [World Intellectual Property Organization](#) (WIPO))

**With so much information, internet has become a tool of priceless value for technology watching.** Of course, one can always get completely lost with the overload of information. Fortunately with the years some tools that make the “searching” process on the internet a much easier process, and allow technology watching in a more productive and quicker way, and those are the search engines, advanced search engines and the meta-search engines.

Also in the more recent years, bibliometrics, technology mapping and text and data mining have experienced great advances. All these tools have been developed to help in decision making.

Mining (data & text) process refers to the analysis of information (text or figures) included in our own company. Technology maps are visual representations of the state of the art in a certain area. Maps represent in a schematic way, those technologies that have been more researched and hence there are more patents and papers in a certain period of time. They also allow for identification of emerging technologies that are experiencing a fast development comparing technology maps from different time periods.

Bibliometrics allows managing, with the help of IT tools, great amounts of data.

## **TODAY TECHNOLOGY WATCHING AND COMPETITIVE INTELLIGENCE IS ACCESSIBLE TO SMEs TOO.**

Far from being a tool for big corporations, Technology Watching and Competitive Intelligence is being increasingly used by innovative SMEs. Environment observation and a good management of the gathered information are enough to get visible results in any company, including SMEs.

A very thorough task can be carried out with a small software investment. Even more, some of these software/IT tools are free to download from the internet.