

# **Intellectual property strategy**

## **Roadmap for a successful intellectual property and commercialization strategy**



**Intellectual Property  
Ontario**



## Welcome

Welcome to this module on intellectual property (IP) for businesses. IP is a complex topic that deserves the attention of anyone wishing to invest in innovation and entrepreneurship. Beyond the protection that patents can provide, it is important to consider a holistic approach that constitutes the full IP strategy.

This module will help you demystify the key concepts of intellectual property and its importance, so that you can put in place the right intellectual property strategy for your company.

You'll navigate your way through this module, starting with the demystification of the various types of intellectual property available in Canada.

Next, you'll turn your attention to the multiple phases of developing an intellectual property strategy.

Finally, you'll explore three case studies to put some of your new knowledge and skills into context.

Through these concrete examples, you'll see just how important it is to have a good IP strategy in place!

## Reflection

Before we go any further, do you know why it's essential for your company to have an intellectual property strategy?

Think about this question, then read the answer.

### **Full answer**

To be able to exploit an invention, you first need to check that it doesn't already exist, and then make sure that it won't be copied, so that the resources invested in its development aren't wasted.

This will enable you to commercialize the invention without risking prosecution and ensure a return on investment for inventors and their partners.

There is no single solution to protecting inventions, but rather a range of tools offering industry-specific possibilities, adapted to each type of product and market. This is where intellectual property strategy comes in.

Did you know? Small or medium sized businesses that have an IP strategy are 4x more likely to export globally, 64% more likely to be high growth, and generate 8-10x more revenue than those not using an IP strategy ([Statistics Canada; 2017](#))

## The various types of intellectual property in Canada

There are many ways to protect your inventions, and the Canadian Intellectual Property Office, CIPO, defines intellectual property as a form of creative endeavor that can be protected by patents, trademarks, copyrights, industrial designs, geographical indications, plant breeder's rights or integrated circuit topographies. To protect these forms of IP, an application must be filed with CIPO. (Source: Government of Canada. [Intellectual property - Glossary](#))

While trade secrets, by definition, are not registered, domain names are registered with the relevant Internet authorities, not with CIPO.

Here is more information on the types of IP available in Canada.

### **Patents**

Patents are used to protect new, non-obvious and useful technical inventions.

#### **Examples**

- A product (example: a door lock)
- A composition (example: the chemical composition used in lubricants for door locks)
- A machine (example: a machine for making door locks)
- A process (example: a method for manufacturing door locks)
- An improvement in any of these area

#### **Note**

- New features include enhancements to existing technologies.
- Bear in mind that significant financial resources are required to cover the life cycle of a patent.

To learn more

#### **View**

- Innovation, science, and economic development Canada. [What is a patent? \(Canada\)](#). Video. YouTube.

#### **Read**

- Government of Canada. [What is a patent?](#)

### **Trademarks**

Renewable every 10 years, trademarks protect the distinctive signs used to identify a company's products or services.

#### **Examples**

- Logos
- Names
- Slogans
- Color combinations
- Sounds

#### **Note**

Trademarks offer legal protection against the unauthorized use of similar or identical marks that may confuse consumers.

To learn more

#### **Read**

- Government of Canada. [Trademarks](#).

- Government of Canada. [Learn Trademarks - Canadian Intellectual Property Office](#)

## **Copyrights**

Copyright protects original literary, artistic, musical, dramatic, software and cinematographic works.

Copyright protection is automatically granted once any of the previous mentioned are presented in physical form (e.g. written or presented). However, you can apply for the copyright to be registered through CIPO.

### **Examples**

- Photographs
- Business plans
- Website content
- Artwork

### **Notes**

- The creator has the right to contest the modification of the original work.
- Thanks to moral rights, the creator has the right to challenge the modification of the original work to prevent it from being detrimental to the integrity of the work. Moral rights cannot be sold but can be waived by the author.

### **To learn more**

#### **View**

- Innovation, science, and economic development Canada. [What is a copyright? \(Canada\)](#). Video. YouTube.

#### **Read**

- Government of Canada. [What copyright is](#)

## **Industrial designs**

Industrial designs are there to protect the visual or aesthetic aspects of a product, such as its shape, configuration, motifs, or ornamentation.

### **Examples**

- The outline of a car hood
- A phone's graphical user interface
- The shape of chic furniture

### **Note**

- Registered industrial designs offer legal protection against unauthorized copying or use of the design for up to 15 years.

### **To learn more**

#### **Read**

- Government of Canada. [Industrial Designs.](#)
- Government of Canada. [Learn industrial designs - Canadian Intellectual Property Office.](#)

## **Geographical indications**

Geographical indications are considered a form of intellectual property in many countries, including Canada. A geographical indication is a name or sign used to identify

a product originating in a specific geographical region and possessing certain qualities, reputations or characteristics attributed to that region.

#### Examples

- Niagara Escarpment and Niagara-on-the-Lake wine appellations in Ontario

#### Note

- A geographical indication is a name or sign used to identify a product originating in a specific geographical region and possessing certain qualities, reputations or characteristics attributed to that region.

To learn more

Read

- Government of Canada. [IP Roadmap - Geographical Indications in Canada](#).

### **Plant breeder's rights**

Considered a form of intellectual property, plant varieties refer to new plant varieties that have been developed or selected by plant breeders.

#### Examples:

- "Tip Top" cherry, whose botanical name is *Prunus avium* and which was awarded in 2023 to the American company Tip Top Orchards LLC.

#### Note

- Plant breeders' rights are not granted to a species, but rather to a variety. The holder also has exclusive rights over the sale, production, reproduction, import, export, storage, and packaging of propagating material (seeds, cuttings, etc.) of his variety.

To learn more

Read

- Government of Canada. [Plant breeders' rights](#).

### **Integrated circuit topographies**

To protect the physical structure (three-dimensional arrangement of IC elements, or chip layout). Registered IC topographies offer protection against unauthorized copying or reproduction of the topography.

#### Examples

- Topography of CMOS microprocessors, patent US4652992A awarded to William S. Mensch Jr in 1987, original application in 1983.

#### Note

- It's about the physical structure of integrated circuits, not abstract ideas or concepts.

To learn more

Read

- Government of Canada. [Integrated circuit topographies](#).
- Government of Canada. [A guide to integrated circuit topographies](#).

### **Domain names**

A domain name can be considered a form of intellectual property, although it is not protected by the same laws as patents, trademarks, or copyrights.

#### Examples

- Simon's clothing store website: [www.simons.ca](http://www.simons.ca)
- A&W fast food restaurant website: [www.aw.ca](http://www.aw.ca)

#### Note

- Although domain names are not protected by specific intellectual property law, they are governed by rules and regulations established by domain name management organizations.
- Registering a domain name *does not* grant you the trademark. Trademark registration is an IP and an entirely different and separate type of registration as described above.

#### To learn more

##### Consult

- [Cira.ca](http://Cira.ca)

#### Trade secrets

A trade secret is a form of intellectual property protection that relates to confidential and valuable information used in scientific, industrial, or commercial activities. It is undisclosed information that gives a company a competitive advantage due to its confidential nature and economic value.

#### Example

- The Coca Cola recipe

#### Note

- Although trade secrets and industrial secrets are often used interchangeably, there are some important nuances to recognize. Strictly speaking, a trade secret refers to a commercial practice or knowledge, not a "technical" one. It can include information such as marketing strategies or customer lists. Industrial secrets, on the other hand, may include formulas, manufacturing processes, production methods, recipes, techniques, product plans or algorithms, for example.
- The advantage of a trade or industrial secret is that it can be protected indefinitely if confidentiality is maintained.

#### To learn more

##### Read

- Government of Canada. [Trade secrets.](#)

## From idea to market: Steps to follow

Beyond recognizing that there are many different types of intellectual property, you need to be able to put in place a comprehensive IP strategy for your inventions and innovations. To get from idea to commercialization, there are four steps to follow, and several people involved.

Every invention begins with an idea, often generated during preliminary research. The person or persons who have worked on the invention (inventors) are the main people involved at this stage.

Ideally, before proceeding with the development of the idea, a check should be carried out by consulting patent databases and/or speaking to an IP agent before proceeding to ensure that the invention does not already exist.

Once the verification is complete and the project is moving forward, a business plan is put in place. The business development and marketing consultant gets to work.

Finally, once the invention's commercial potential has been confirmed, the research and development stage is carried out by researchers to produce a prototype.

Thanks to these four steps, a complete picture emerges, enabling teams to develop the most appropriate intellectual property strategy according to their circumstances.

Read about each step to learn more.

### **The idea**

Person in charge

- The individuals who worked on the invention.

Explanation

To adequately protect their work, the people involved will need to develop an intellectual property strategy based on their industry practices, product, and business strategy. Important factors to consider are prior searches on existing patents, the company's marketing and development plan, and the research and development phases. A team of multi-disciplinary advisors accompanies those involved in this process.

### **The verification**

Person in charge

- Intellectual property agent.

Explanation

This step is crucial before incurring major planning and R&D costs, as it enables those involved in the invention to search through patents and other types of intellectual property already filed, and confirm that their product, technology, design, or name is not already attributed, which would prevent them from going ahead. There are several sources for verification, starting with [CIPO](#) in Canada and the [USPTO](#) in the USA.

Similar searches should be carried out with the corresponding authorities in the rest of the world (such as [EPO](#) in Europe), and in Asia. [Google Patents](#) is also a good source for preliminary searches.

### **The business plan**

Person in charge

- Business development and marketing consultant

Explanation

The business plan includes:

- The product plan, its positioning in relation to its industry
- The configuration of the industry, which may comprise numerous players (fragmented industry) or a very small number of giants (concentrated industry).
- Vertical markets (different segments) and geographic markets (territories: countries, regions, continents)

- Preferred distribution channels (direct or through intermediaries)
- Type of customer (B2B company or B2C consumer)
- Investment strategy (self-financed, or investor) and exit strategy, such as a strategic partnership, a public offering or a sale of the technology or company.

### **The research and development**

Person in charge

- Researchers

Explanation

Once the prototypes have been produced, the people involved will have to test them, collate the results, and make any necessary modifications, thus exposing the new technology to third parties. It will then be important to protect the invention, even temporarily, so that it is not copied as soon as it is developed (trade secrets).

## **Case studies**

To put into practice the new concepts introduced in this module, you will now complete three case studies.

You'll be introduced to three people who have invented products. Each person works in a different field, and will have to develop their own IP strategy, considering the various factors you've just seen. Here's an overview of their inventions.

Alex has invented a thirst-quenching, low alcohol content energy drink made from wild Canadian fruits. His communication skills and understanding of the market, coupled with a strong entrepreneurial streak, led Alex to create THE drink that would leave its mark on his generation.

Felipe, on the other hand, is a researcher in electronic engineering. He has developed a revolutionary integrated system that enables autonomous visual recognition of any object in real time. The architecture of his system minimizes the number of components and considerably reduces production costs. Felipe loves developing new technologies in his laboratory but has no entrepreneurial knowledge nor desire.

Monia has invented a device that can be integrated into batteries to prevent energy loss under extreme temperatures. Monia's aim is to create a specialized company that will become the benchmark in its field, and whose cutting-edge, constantly evolving technologies will be used by the world's leading battery manufacturers.

To learn more about each of their inventions and help them determine how they can protect them, read more about each one.

### **Alex's cooler: Strategy**

Here are more details on Alex's case.

### **The idea**



TonicSplash is a refreshing, energizing and low alcohol content drink made from wild Canadian fruits.

TonicSplash "A wave of freshness" uses some of the properties of lightly fermented elderberry to naturally alcoholise the drink, while highlighting nutrients and molecules that quickly quench the body's thirst and stimulate the muscular system, providing a restful, awakening effect.

Certain natural elements are combined according to a particular recipe to give the desired result. Precise dosages of each element in the recipe are extremely important to achieve the desired properties.

### **The verification**

IP agent Marco has a few questions. He wants to find out if there is an identical product or brand on the market. Here are the questions he asks before going any further, and the answers to each.

- Has Alex's recipe ever been patented? NO, IT HASN'T.
- Is it easy to replicate the TonicSplash recipe? NO, IT ISN'T.
- Are there similar products? YES.
- Is the TonicSplash brand already in use? NO.

### **The business plan**

In writing her plan, sales consultant Julia needs to determine the business strategy and market environment for TonicSplash. She has a list of questions to answer before she begins her plan.

- What is the geographical distribution of the product (the market)? GLOBAL.
- Is financing required? YES, IT IS.
- How is the industry structured? FRAGMENTED.
- What type of marketing? B2C.
- Is there a long-term strategy already in place? To establish a partnership with F500s in the field.

### **The research and development**

Alex, the inventor, proceeds to the prototyping and pre-production phases and answers 2 key questions.

- Does the recipe work? YES.
- How to handle information and results from research and testing: SECRET.

### **What does Alex's approach teach us?**

The industry uses secret recipes (Coca-Cola for example never patented its recipe but kept it secret), the brand and its image play a major role in the success of a product sold directly to the consumer, while in the long run, a partnership with a global player will become important. All these factors will dictate the IP strategy.

### **Alex's cooler: Protection**

Answer the following questions to help Alex protect his invention, TonicSplash.

**Question 1**

For better protection, should Alex register or patent ALL the IP related to his product?

*Feedback*

No, because the industry often resorts to trade secrets for recipes so that they cannot be reconstituted by competitors.

**Question 2**

Would a combination of several types of IP be preferable?

*Feedback*

Yes, to guarantee solid protection for many aspects of the product and the company.

**Question 3**

What types of IP protections are desirable in Alex's case?

*Feedback*

For maximum protection, Alex will need to combine trade secrets for the recipe, registration of the trademark "TonicSplash", which plays a major role in product recognition of the brand by consumers; the logo that will serve as a visual eye-catcher; registration of copyrights linked to advertising texts; and securing a web address that reflects the brand and will be the online destination of choice for consumers wanting to find out more about the products.

**Outcome**

Following the direct-to-consumer marketing of his TonicSplash product, Alex's company enjoys great success.

## Felipe's smart sensor: Strategy

Here are more details on Felipe's case.

**The idea**

smartCAM: a low-cost intelligent, autonomous sensor.

On the hardware side, the smartCAM uses a miniature camera integrated directly onto a new electronic chip, in which the various components are arranged in such a way as to considerably reduce manufacturing costs. A passive 5G connectivity chip is also integrated into the system, as are a battery and a wave-to-energy conversion unit, enabling complete autonomy of the connected system.

On the software side, smartCAM uses firmware that calls on AI algorithms for hybrid (Edge + Cloud) processing of the information to be captured in real time. The system decides to take a snapshot, compares it, and decides whether to send it to the server, requiring very little energy throughout the process. The applications for this type of equipment are manifold, ranging from industrial site surveillance to facial recognition for entrance gates to the detection of manufacturing anomalies on assembly lines.

**The verification**

IP agent Rachelle has a few questions. She wants to know if there is an identical product or brand on the market. Here are the questions she asks before going any further, and the answers to each.

- Has an integrated system identical to Felipe's ever been patented? NO, IT HASN'T.
- Is it easy to replicate his design? YES.
- Are the information processing method and hybrid topology of the software system unique? YES.
- Is the smartCAM brand already in use? YES.

### **The business plan**

In writing her plan, sales consultant Juanita needs to determine the business strategy and market environment for Felipe's invention. She has a list of questions to answer before she begins her plan.

- What is the geographical distribution of the product (the market)? GLOBAL.
- Is financing required? YES, IT IS.
- Is product industrialization necessary? YES.
- What type of marketing? B2B and B2C.
- Is there already a short-term strategy? Yes. Selling the technology to a camera company.

### **The research and development**

Felipe, the inventor, proceeds to the prototyping and pre-production phases and answers 2 key questions.

- Does the product work? YES.
- How to handle information and results from research and testing? SECRET.

### **What does Felipe's approach teach us?**

The production cost, which makes the prototype of such a device marketable, is very high. The industry, including potential buyers, generates a lot of patents; competition is fierce and the speed with which patents are filed is important; brand image doesn't play a big role in the success of a technology sold quickly to a major player. All these factors have influenced Felipe's business strategy. Moreover, he has no desire to set up and run a company.

## **Felipe's smart sensor: Protection**

Answer the following questions to help Felipe protect his invention.

### **Question 1**

For better protection, should Felipe register or patent ALL the IP related to his product?

*Feedback*

No. While the technology needs to be protected to follow industry practice and Felipe's desire to sell the fruits of his research to a major industry player, Felipe's trademark is unlikely to be important to the acquiring company as the buyer will most likely use its own brand and products trademarks.

### **Question 2**

Would a combination of several types of IP be preferable?

*Feedback*

Yes, to guarantee solid protection on several aspects of the product.

**Question 3**

Should Felipe change the product name?

**Feedback**

Because the product name “smartCAM” is already used, Felipe must find a new name. The brand name will be changed to FLX.I ROBOT so no legal action can hinder Felipe’s commercialization efforts.

**Question 4**

What types of IP protections are desirable in Felipe's case?

**Feedback**

For maximum protection, Felipe will need to combine different types of patent registration (methods, designs, IC topographies) for both his physical and software products. He will also need to register the copyright for his software. On the other hand, the trademark, logo, and copyrights associated with his advertising slogans, for example, will not need to be registered, as they will be of no value when his technology is sold, since he will not be marketing his product himself. However, before using any trademarks, logos, and slogans to present his product, he should make sure to carry out a trademark, logo, and slogan search to avoid infringing on the intellectual property of other companies and risking legal action that would jeopardize the sale of his product to a major player in the industry.

**Outcome**

Felipe sells FLX.I Robot to Fujifilm and returns to his laboratory to develop his next invention!

**Monia's thermal battery insulation system: Strategy**

Here are more details on Monia's case.

**The idea**

ElekShield, a thermal insulation device to protect batteries in extreme conditions.

Monia has developed a unique chemical component combined with a micro-filter system that allows different combinations of molecules depending on a battery's external and internal temperature.

This system regulates the battery's optimum ambient temperature, regardless of whether the outside temperature is extremely hot or cold, thus avoiding energy losses due to extreme temperature variations and extending the range of electric vehicles.

Eventually, this technology will also enable the batteries of any electric vehicle to be kept at a stable temperature, prolonging battery life while optimizing range and predictability.

**The verification**

IP agent Ahmed has a few questions. He wants to know if there is an identical product or brand on the market. Here are the questions he asks before going any further, and the answers to each.

- Has a system identical to Monia's ever been patented? NO, IT HASN'T.
- Is it easy to replicate her invention by modifying it slightly to achieve the same result? NO.
- Is the ElekShield brand already in use? NO.

### **The business plan**

In drawing up her plan, sales consultant Rosa needs to determine the business strategy and market environment for ElekShield. She has a list of questions to answer before she begins her plan.

- What is the geographical and segment market distribution of the product? GLOBAL and by industry.
- How is the industry structured? CONCENTRATED.
- Is financing required? YES, IT IS.
- Is a product industrialization process necessary? YES.
- What is the type of marketing? LICENSE.
- What is the long-term strategy? To become the leading developer of thermal battery protection technology for all types of vehicles.

### **The research and development**

Monia, the inventor, proceeds to the prototyping and pre-production phases and answers 2 key questions.

- Does the product work? YES. However, the technology is still expensive, requires space and can only be applied to industrial vehicles. By improving the system, it will be possible to achieve lower production costs and miniaturize the devices.
- How to handle information and results from research and testing? SECRET and PATENTS.

### **What does Monia's approach teach us?**

Monia's invention is unique and very difficult to reproduce without copying it. What's more, it offers a roadmap for improving and diversifying applications. In addition, the type of commercialization chosen must ensure that partners who license the technology are protected in all their markets. Finally, the trademark is important, as it enables Monia's partners to demonstrate the reliability and quality of their solution featuring the ElekShield technology. All these factors will dictate the IP strategy to be followed.

## **Monia's thermal battery insulation system: Protection**

Answer the following questions to help Monia protect ElekShield.

### **Question 1**

For better protection, should Monia register or patent ALL the IP related to her product?

*Feedback*

Yes. Since the industry has a habit of patenting innovations, and Monia wants to develop technology and products that evolve over time but will be known as the benchmark in the field, she needs to protect not only her invention but also her trademark and associated assets.

**Question 2**

Would a combination of several types of IP be preferable?

*Feedback*

Yes, to guarantee solid protection for several aspects of the product and the brand.

**Question 3**

What types of IP protections are desirable in Monia's case?

*Feedback*

For maximum protection, Monia will need to combine the registration of different types of patents (utility, designs, etc.) for her product. In addition, the trademark, logo, and copyrights associated with her advertising slogans will have to be registered, as Monia wants to create a company whose technologies, even if licensed to battery manufacturers, will represent the standards of their industry, and will therefore have to be clearly identified even if they are an integral part of more complete products.

**Outcome**

Monia licenses her technology to several manufacturers of batteries for industrial vehicles, while her company develops a variant for batteries for recreational vehicles, and then, thanks to more advanced research, for passenger vehicles. ElekShield becomes the industry benchmark in battery temperature maintenance systems.

## Summary

A well-planned IP strategy that considers all the factors influencing the industry, the market and the company enables the development of a winning commercialization strategy. Here's a reminder of the factors to consider.

Industry and competitor IP practices

- Trade secrets
- Patents
- Trademarks
- Other

Industry structure

- Concentrated
- Fragmented

Geographical distribution

- Restricted territories (country, region, or continent)
- Global

The business plan

- B2C
- B2B
- Licensing the technology

- Selling the technology outright

## Conclusion

We hope this module has given you a better understanding of the importance of mastering intellectual property issues and the need to plan a strategy first and foremost to avoid making mistakes along the way. We encourage you to continue your efforts, and to consult other resources and people qualified in the field, who will be able to guide you in the actions you need to take, depending on your situation.