# Innovation management and transfer of technology

GARRIGUES

CINTIA BERNHARDT – BORJA DE CARLOS

# Agenda

- The importance of protecting knowledge
- Different IP rights
- What are the relevant rights?
- Main features of Patents and Utility Models
  - How to protect an invention?
  - Novelty, Inventive step, Industrial application
  - Rights conferred by a patent
  - Patent prosecution
  - Example questions
  - Practical case - Prosecution
- Computer programs/ Software
- Main features of Trade Secrets
- Who creates Knowledge?
- Is an open innovation system beneficial?
- Ownership of the invention
- Transfer of technology: Negotiation

# The importance of protecting knowledge

- According to the 2018 Economic Report of the President in the US (link): Success in today's global economy is increasingly dependent upon **effective identification**, **protection**, and **enforcement of intellectual** property (IP) assets. In fact, IP-based businesses and entrepreneurs today drive more economic growth in the United States than any other single sector.

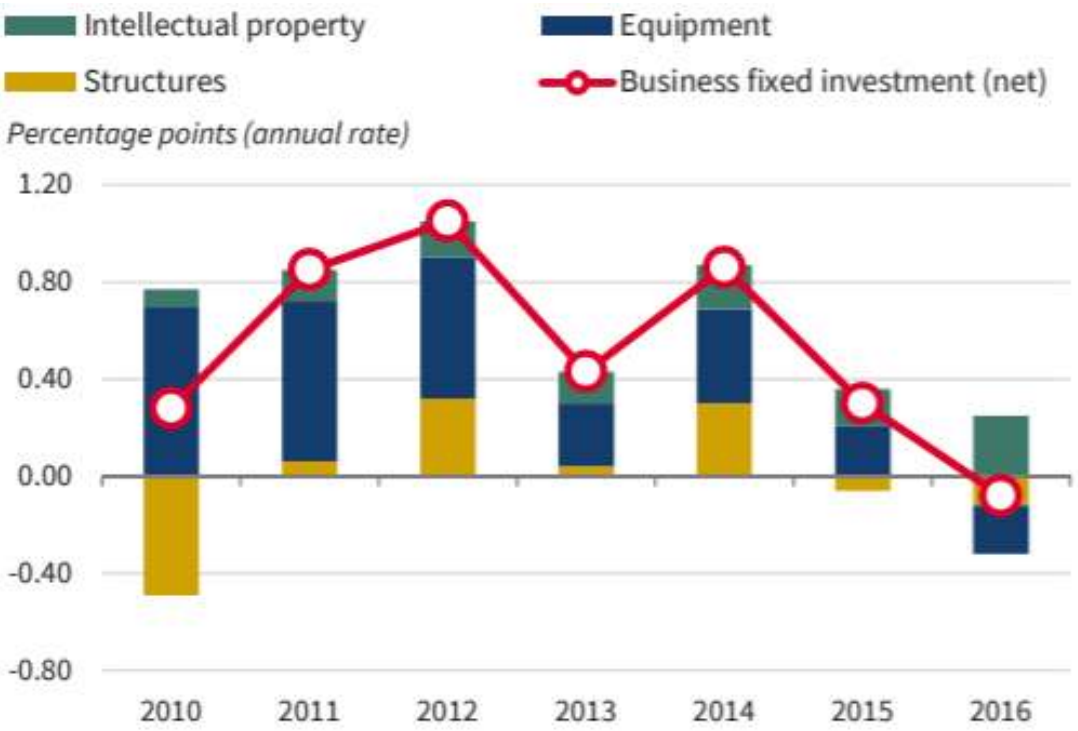
  - IP accounts for approximately 1/3 of the value of U.S. corporations

  - Stolen intellectual property reduces GDP by 1 to 3 percent a year—an annual loss in the range of $185.7 billion to $557.1 billion

**We live in knowledge-based economies**

# The importance of protecting knowledge

## USA: Contribution of Business investment to Real GDP Growth




Source: Bureau of Economic Analysis (2017), private fixed investment by type.
Note: Business fixed investment contribution shows the net contribution of private nonresidential structures, equipment, and intellectual property spending to real GDP growth.



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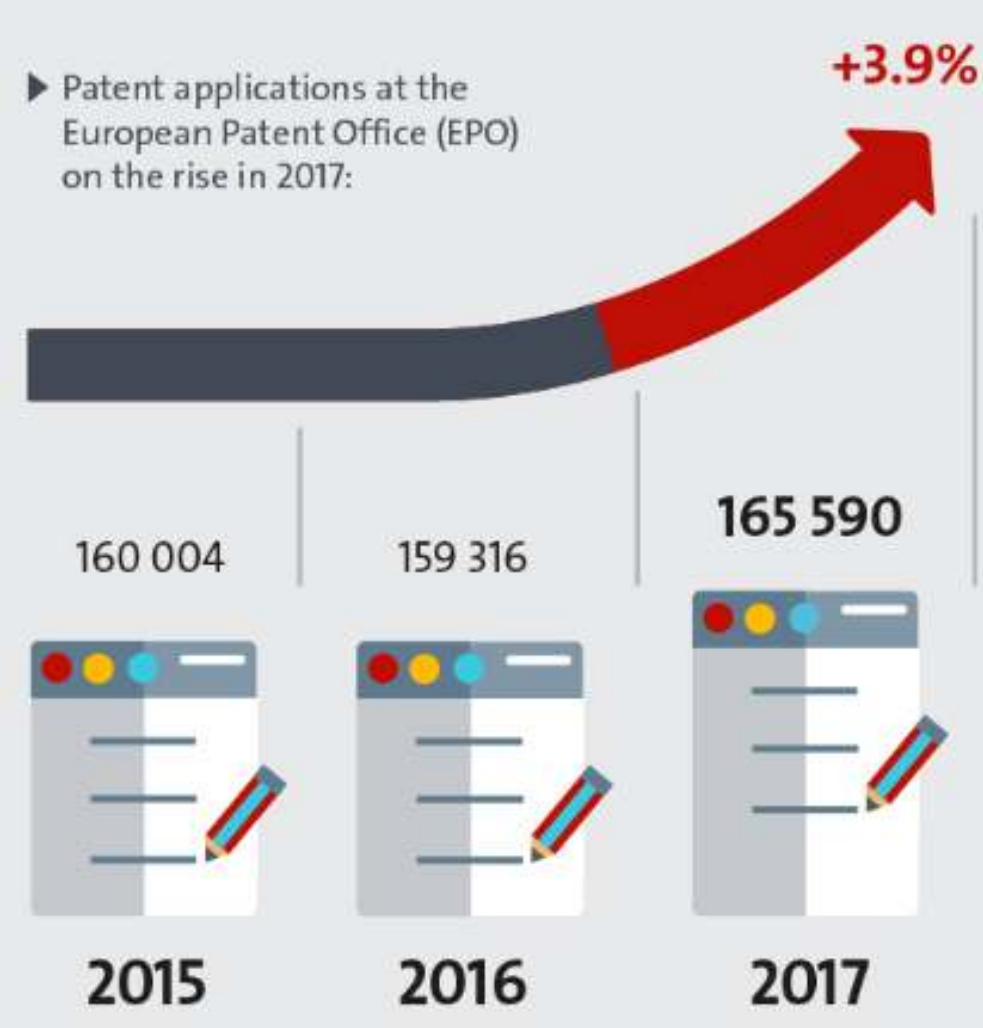
# The importance of protecting knowledge

## EPO Statistics (link):Patent applications rise



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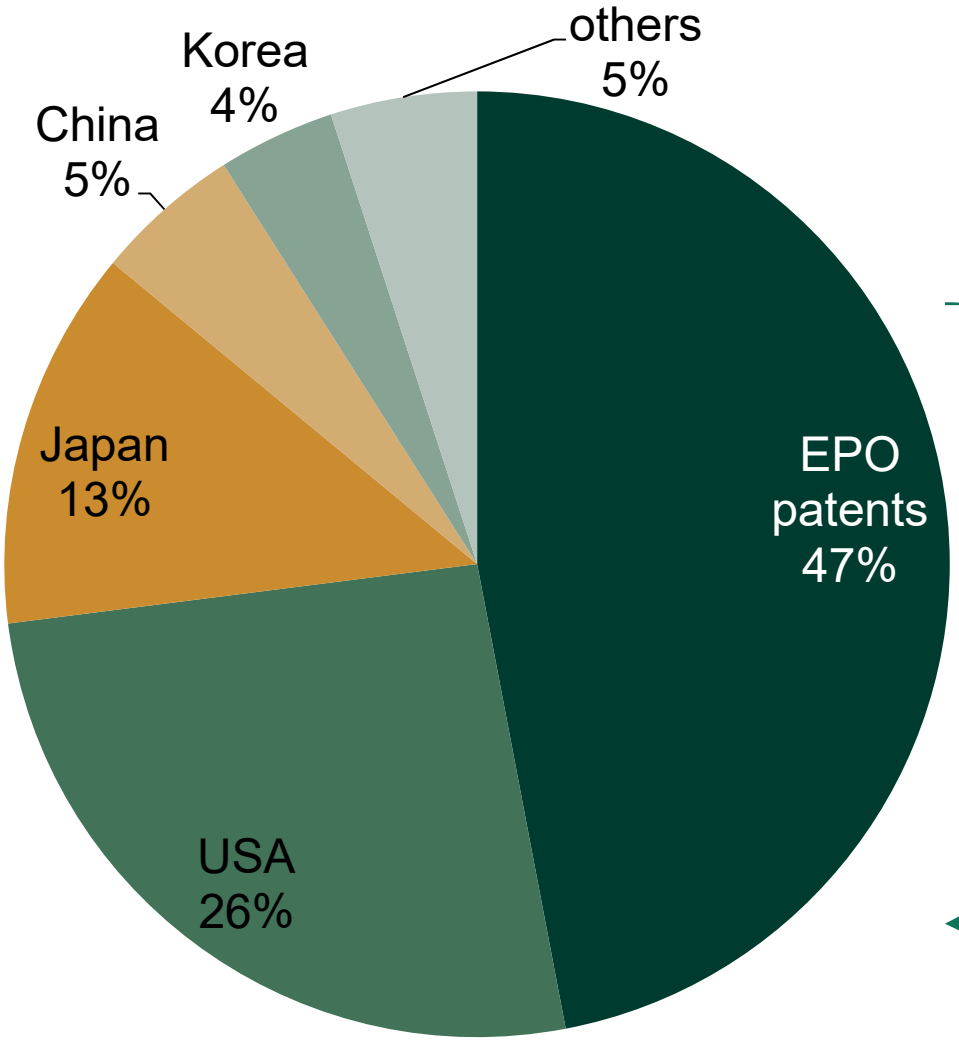
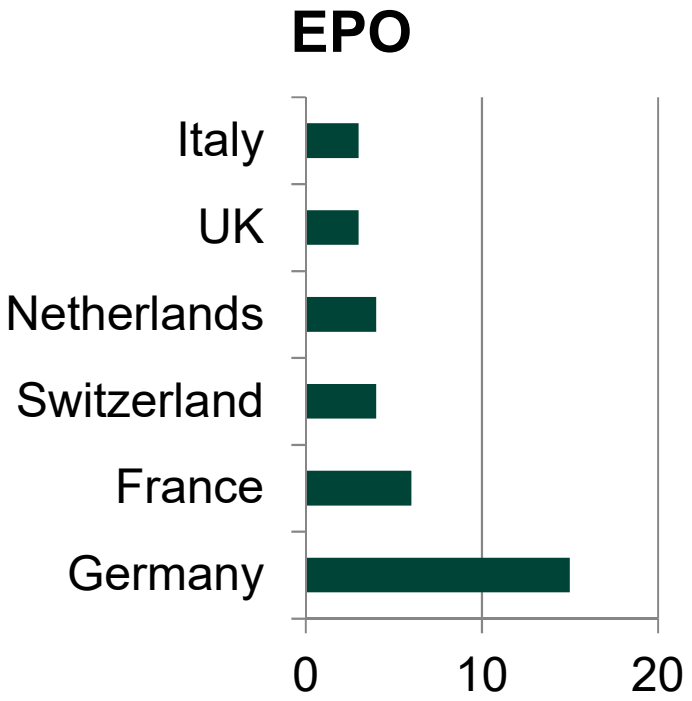
# The importance of protecting knowledge

## EPO Statistics (link) :Patent applications



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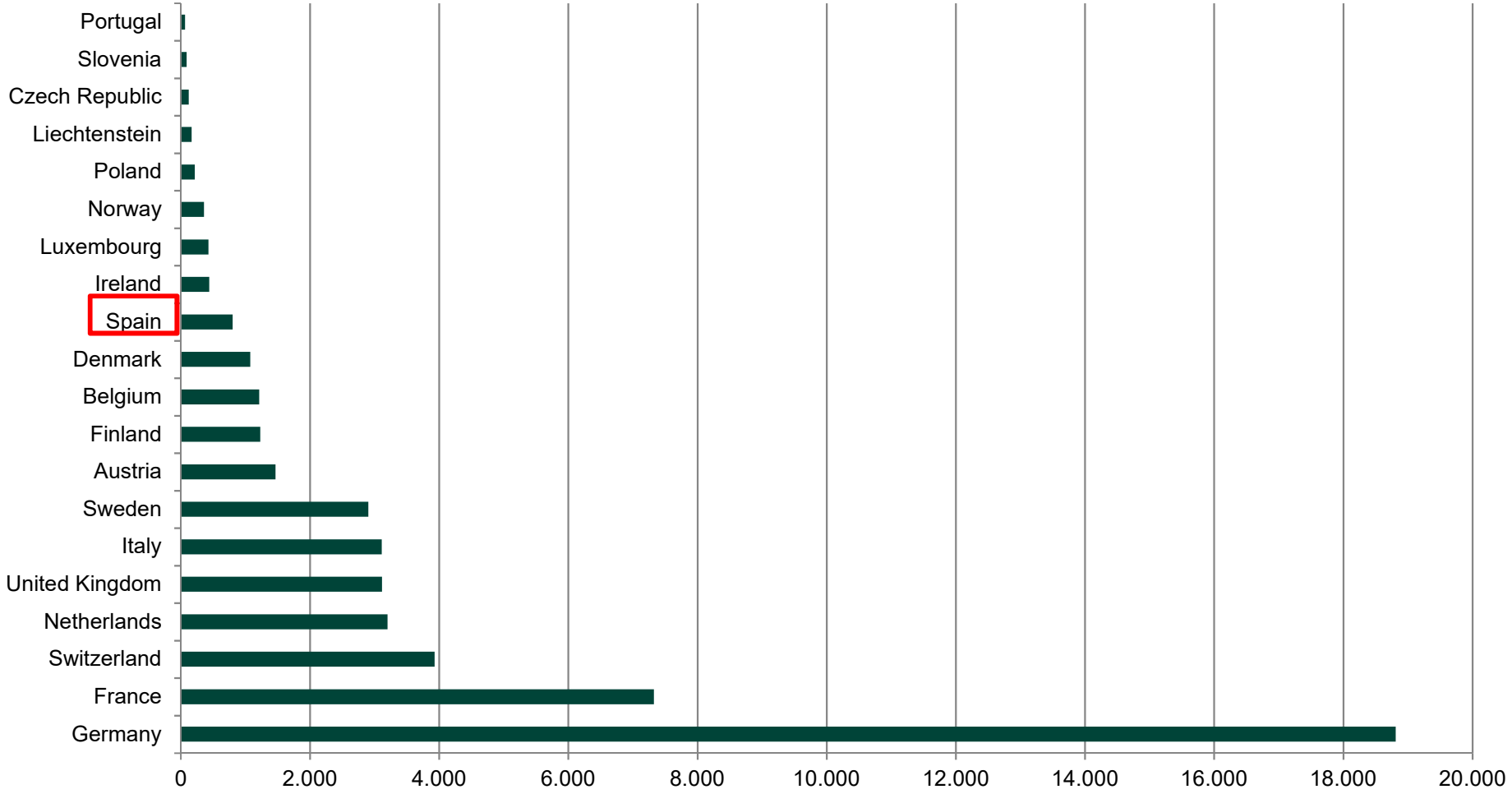
# The importance of protecting knowledge

## Granted patents (Europe)



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# The importance of protecting knowledge

## Top Technology fields




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# Different IP rights

Intellectual Property

Copyright

Droit d'auteur

Neighboring rights

Industrial Property

Inventions

Patents

Utility models

Designs

Distinctive Signs

Trademarks

Trade names

Procter and Gamble

Other similar Rights

Trade secrets

Business Information Know-how




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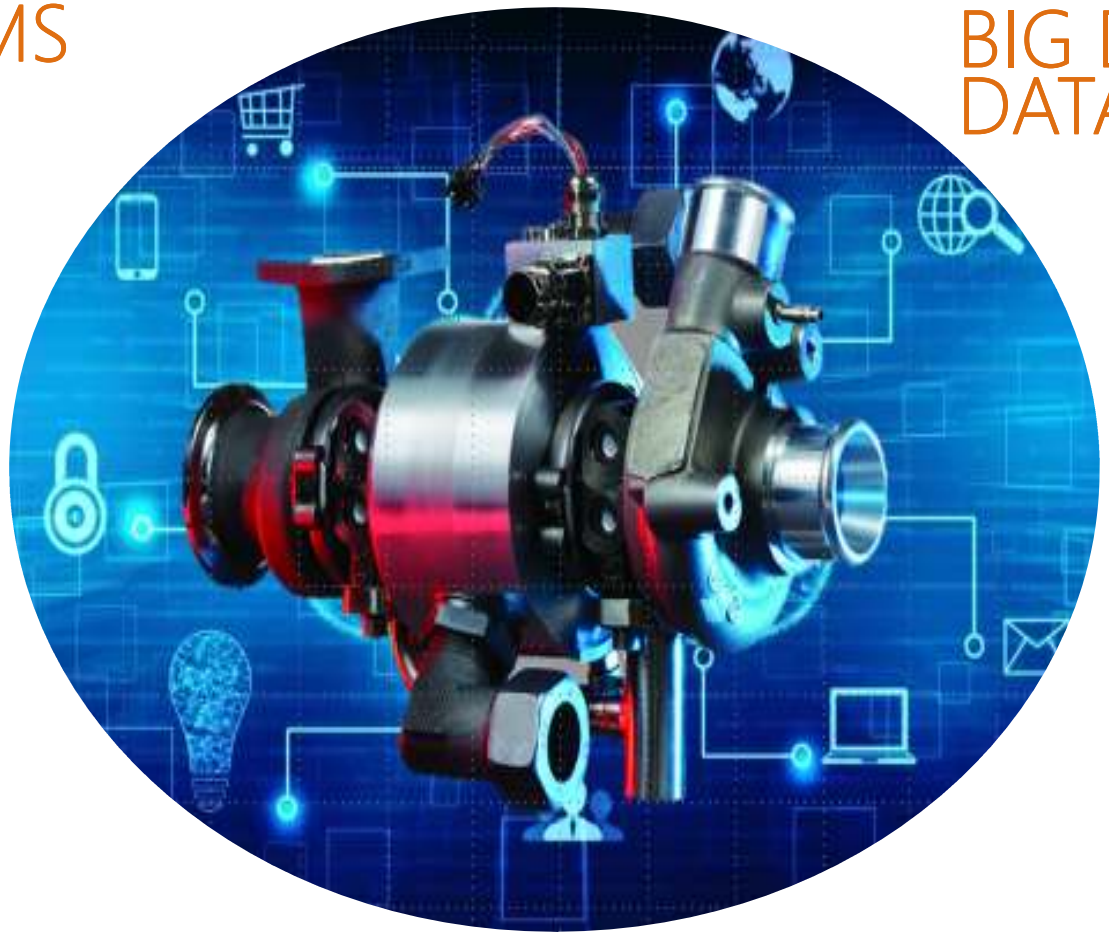
## What are the relevant rights?

KNOW-HOW

ALGORITHMS

BIG DATA/
DATABASE



PATENTS

SOFTWARE

UTILITY
MODELS



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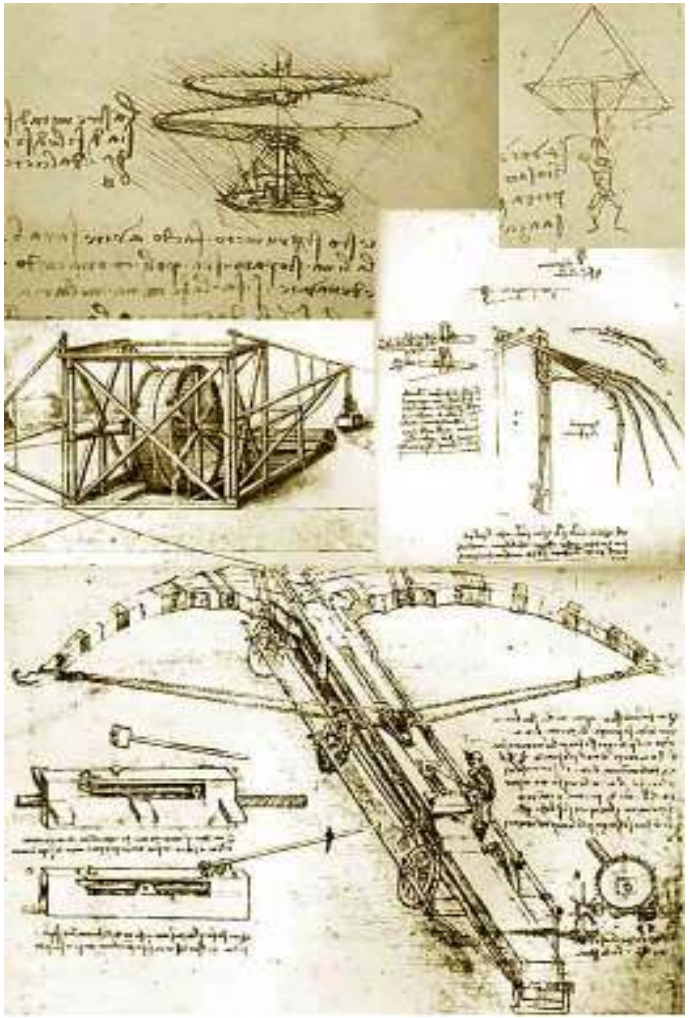
# Main features of Patents and Utility Models



## How do I protect an invention?



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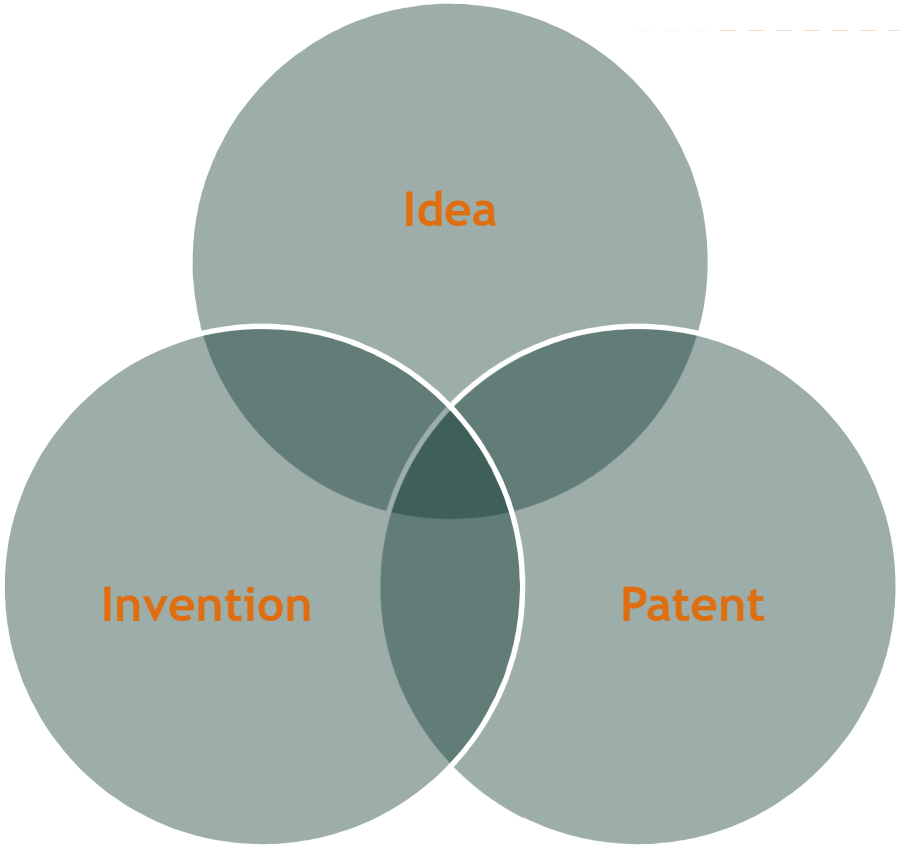
# Main features of Patents and Utility Models

- **INVENTION:** Development of a technical solution to a technical need or problem
- **PATENT**: Monopoly granted by the State in exchange for the disclosure of the invention




**IDEAS CAN NOT BE PROTECTED**



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# Main features of Patents and Utility Models

Not to be regarded as inventions:

- (a) discoveries, scientific theories and mathematical methods;
- (b) aesthetic creations;
- (c) schemes, rules and methods for performing mental acts, playing games or doing business, and programs for computers;
- (d) presentations of information.

# Main features of Patents and Utility Models

- **Term:**
  - Patent: 20 years from the filing date
  - Utility model: 10 years from the filing date
- **Requirements:**
  - Novelty (worldwide), inventive step (not evident/not very evident) and industrial application
- **Type of protection:**
  - Patent: Products and Procedures
  - Utility model: Products
- **Territorial rights**
- **Ius Prohibendi:** The right conferred is limited to prohibiting unauthorized third-parties from exploiting the protected invention (FTO is useful)
- **Revocation:** **A patent or utility model can be revoked after being granted** (Insufficient disclosure, added matter, not new, not inventive or no industrial application)

# Main features of Patents and Utility Models

- **Classification of patents:**
  - Based on its object:
    - Product/ Composition patentes, referring to an object that constitutes the invention
    - Method patents: Starting from a composition/ product, is the sequence of ordered steps tending to obtain another product
    - Aplication or use
  - Based on the prosecution procedure:
    - National patents
    - European patents, granted according to a common grant procedure at the EPO: after grant it is necessary to validate it in each country converting the European Patent in national patents
    - PCT Applications, result of the Patent Cooperation Treaty (PCT). After an international phase the applicant should elect the countries of interest where he wants to obtain a Patent. The international application converts into independent national Applications.
    - European Patent with Unitary Effect (pending approval)

# Main features of Patents and Utility Models

- **NOVELTY**

  - An invention is considered new when it is not included in the state of the art
  - The state of the art is everything that has been made accessible to the public in any part of the world through a **written description** (any document in any language) or **verbally** (a conference, conversation, interview, etc.), **through use** (production, offer, marketing or another form of exploitation) **or in any other way** before the patent application is filed
    - Exception envisaged for disclosures made in the 6 months before the filing date, in official exhibitions or exhibitions that are officially recognized within the meaning of the Convention Relating to International Exhibitions
  - **Therefore the concept of "absolute novelty" requires prior non-disclosure of the results of the investigation. Even disclosure made by the actual inventor can destroy novelty**

# Main features of Patents and Utility Models
## Novelty US

- Disclosure: in the US, a patent application must clearly identify the state of the art by means of a declaration. In Europe it is not essential, but rather it is the Office that carries out this task during the application process.

- Certain disclosures do not destroy novelty in the US, provided that it is evidenced that:
  - The disclosure was made one (1) year before the priority date.
  - The disclosure was made by the actual inventor.

- Careful! Such disclosures could endanger novelty in other areas such as in Europe for example.

# Main features of Patents and Utility Models

- **INVENTIVE STEP**

  - Patents: An invention shall be considered as involving an inventive step if, having regard to the state of the art, it is not obvious to a person skilled in the art.

  - Utility models: It is not very obvious …

*Subjective concept that implies the application of established methodology for its evaluation: (problem – solution approach)*

# Main features of Patents and Utility Models

**¿How to determine the prior art?**

- ESPACENET. Is the database of the European Patent Office ("**EPO**"), and contains information about patents and Patent Applications from different countries specially European patents and PCTs.
- PATENTSCOPE. Is the database of the World Intellectual Property Office ("**WIPO**"), with Access to PCT applications.
- INVENES. Is the database of the Spanish Patent and Trademark Office ("**OEPM**"), with Access to Spanish patents and Patent applications.
- USPTO. Is the database of the United States Patent and Trademark Office ("**USPTO**"), with information about US patents and applications.
- GOOGLE PATENTS. It is the Google search engine for patents.

***The databases only show Patent information once it has been published***

# Main features of Patents and Utility Models

- **INDUSTRIAL APPLICATION**

An invention shall be considered as susceptible of industrial application if it can be made or used in any kind of industry, including agriculture.



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# Main features of Patents and Utility Models

## PATENT DOCUMENT: Structure and content of the specification

- Title
- Technical field to which the invention relates
- State of the art
  - Technical problem to solve
  - Advantage
- Explanation of the invention
- Description of the drawings
- Detailed explanation of at least one embodiment of the invention, with expression of examples if applicable
- Claims
- Summary
- Drawings/ Figures

# Main features of Patents and Utility Models

US 20160141756A1

(19) **United States**

(12) **Patent Application Publication**

**ANGUERA PROS et al.**

(10) **Pub. No.: US 2016/0141756 A1**

(43) **Pub. Date: May 19, 2016**

(54) **ANTENNALESS WIRELESS DEVICE**

(71) Applicant: **Fractus Antennas, S.L.**, Sant Cugat del Valles (ES)

(72) Inventors: **Jaume ANGUERA PROS**, Vinaros (ES); **Aurora ANDUJAR LINARES**, Sant Cugat del Valles (ES); **Carles PUENTE BALIARDA**, Sant Cugat del Valles (ES); **Josep MUMBRU**, Asnieres-sur-Seine (FR)

(21) Appl. No.: **15/004,151**

(22) Filed: **Jan. 22, 2016**

**Related U.S. Application Data**

(63) Continuation of application No. 14/738,115, filed on Jun. 12, 2015, now Pat. No. 9,276,307, which is a continuation of application No. 13/476,503, filed on May 21, 2012, now Pat. No. 9,130,259, which is a continuation of application No. 12/669,147, filed on Jan. 14, 2010, now Pat. No. 8,203,492, filed as application No. PCT/EP09/05579 on Jul. 31, 2009.

(60) Provisional application No. 61/086,838, filed on Aug. 7, 2008, provisional application No. 61/142,523, filed on Jan. 5, 2009.

(30) **Foreign Application Priority Data**

Aug. 4, 2008 (EP) ..... 08161722.7
Jul. 13, 2009 (ES) ..... P200930444
Jul. 24, 2009 (ES) ..... P200930499

**Publication Classification**

(51) **Int. Cl.**
***H01Q 9/04*** (2006.01)
***H01Q 1/50*** (2006.01)

(52) **U.S. Cl.**
CPC ..... ***H01Q 9/0407*** (2013.01); ***H01Q 1/50*** (2013.01)

(57) **ABSTRACT**

A radiating system of a wireless device transmits and receives electromagnetic wave signals in a frequency region and comprises an external port, a radiating structure, and a radiofrequency system. The radiating structure includes: a ground plane layer with a connection point; a radiation booster with a connection point and being smaller than 1/30 of a free-space wavelength corresponding to a lowest frequency of the frequency region; and an internal port between the radiation booster connection point and the ground plane layer connection point. The radiofrequency system includes: a first port connected to the radiating structure's internal port; and a second port connected to the external port. An input impedance at radiating structure's disconnected internal port has a non-zero imaginary part across the frequency region. The radiofrequency system modifies impedance of the radiating structure to provide impedance matching to the radiating



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# Main features of Patents and Utility Models

What is claimed is:

**1**. A wireless device comprising:

a radiating system configured to transmit and receive electromagnetic wave signals in a first frequency region, the radiating system comprising:

an external port;

a radiating structure comprising:

a ground plane layer including a connection point;

a radiation booster including a connection point and having a maximum size smaller than 1/30 times a free-space wavelength corresponding to a lowest frequency of the first frequency region; and

an internal port defined between the connection point of the radiation booster and the connection point of the ground plane layer; and

a radiofrequency system comprising:

a first port connected to the internal port of the radiating structure; and

a second port connected to the external port;

wherein an input impedance of the radiating structure at the internal port, when disconnected from the radiofrequency system, has an imaginary part not equal to zero for any frequency of the first frequency region; and

wherein the radiofrequency system modifies impedance of the radiating structure to provide impedance matching to the radiating system within the first frequency region at the external port.

**2**. The wireless device according to claim **1**, wherein:

a ground plane rectangle is defined as being a minimum-sized rectangle that encompasses the ground plane layer, so that sides of the ground plane rectangle are tangent to at least one point of the ground plane layer; and

a ratio between a side of the ground plane rectangle and the free-space wavelength corresponding to the lowest frequency of the first frequency region is greater than 0.1.

**3**. The wireless device according to claim **1**, wherein:

the radiating structure, when disconnected from the radiofrequency system, has a first resonance frequency measured at the internal port; and

a ratio between said first resonance frequency and a highest frequency of the first frequency region is greater than 3.

**Claims**



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# Main features of Patents and Utility Models

**PATENT DOCUMENT: CLAIMS**

- Function:
  - They define the object for which the protection is requested, indicating the technical characteristics of the invention and determine the extent of the protection conferred by the patent or by the patent application.

- Types:
  - Product / Procedure
  - Independents / Dependents
  - Structural / Functional

- Structure:
  - Preamble
  - Characteristic part

# Main features of Patents and Utility Models

## The most important: “The CLAIMS”

- **Are the definition of what is to be protected**
- **Determine the protection of the patent**
- **They should be clear and limited to the invention**

# Main features of Patents and Utility Models

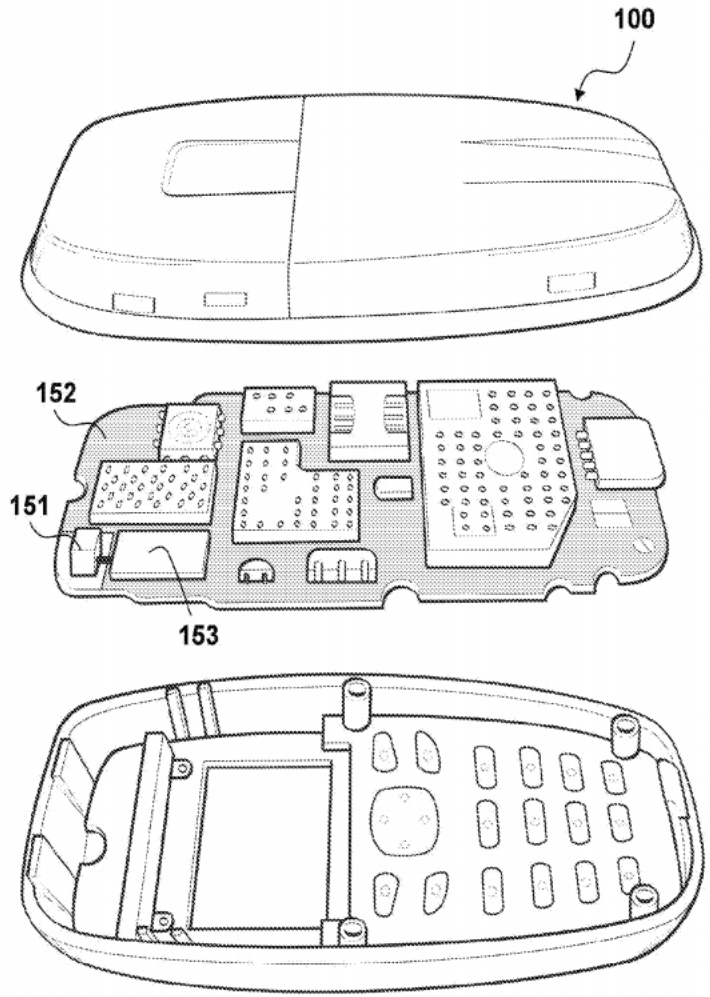


FIG. 1A

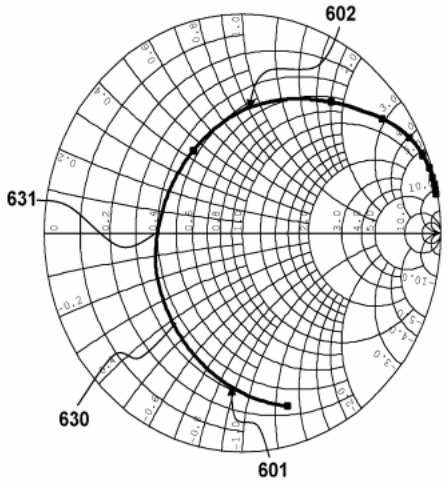


FIG. 6B

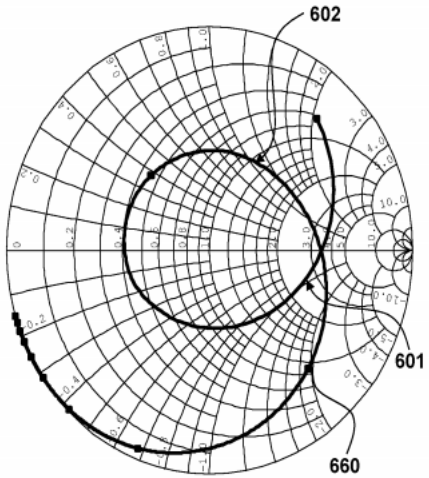


FIG. 6C



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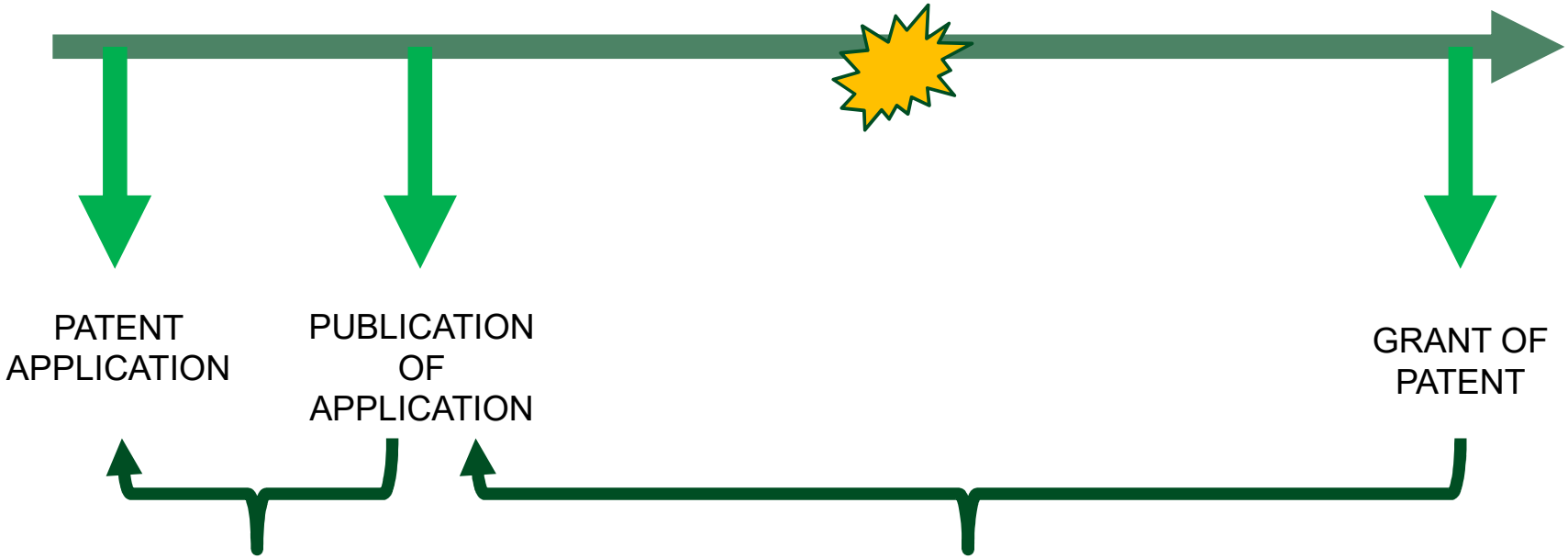
# Main features of Patents and Utility Models

## Priority Right

- The right of priority is stablished in Art. 4 of the Paris Convention for the Protection of Industrial Property.
- Said article states:
  - An application for a patent, a utility model or a utility certificate, or his successor in title, shall enjoy, for the purpose of filing a patent application in respect of the same invention, a right of priority during a period of twelve months from the date of filing of the first application
  - The Applications in other countries that claim priority of the priority application (first application) will not be invalidated due to acts that happended in said interval, and said acts cannot give rise to any rights of third parties.

# Main features of Patents and Utility Models

## Provisional PROTECTION




Provisional protection if filing and content (claims) is notified

Provisional protection = Reasonable indemnification for unauthorized use of the patent if the patent is granted



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# Main features of Patents and Utility Models

## Main / common phases of a patent application

- Request
  - Composed of the documents detailed above
- Search report (SR)
  - Document in which the documents of the state of the art found during the search are cited
  - Indicates the relevance of the documents and to which claims of the application affect
  - Common categories of classification of documents according to their relevance to patentability: X, Y, A.
- Background exam
  - During this process, the patent office technician (Examiner) analyzes the background of the application (compliance with patentability requirements) and sends the objections (if any) to the applicant.
  - The applicant can respond to the objections of the examiner by arguing or modifying
- Resolution
  - After a substantive examination the application is granted or denied

# Main features of Patents and Utility Models

## Legislation and procedures for obtaining patents

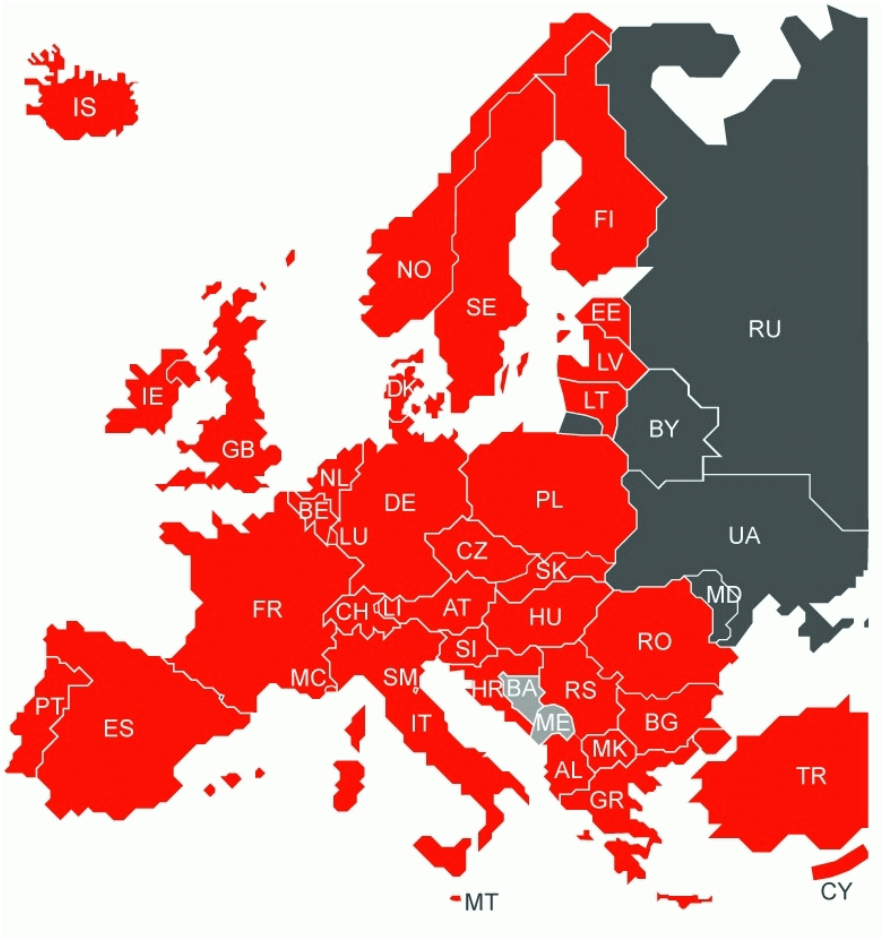
- National system (In Spain Patent Law 24/2015, of July 24. In force since April 1, 2017)
  - It is governed mainly by the National Patent Law
  - Paris Convention for the Protection of Industrial Property
  - Organization: National Office of Industrial Property
- European system
  - It is governed by the Munich European Patent Convention of 1973 modified by the EPC 2000, in force since December 13, 2007 and its Regulations.
  - Paris Convention for the Protection of Industrial Property
  - It establishes a procedure for granting a European patent that must be transformed into a national patent right in those member countries of interest.
  - Organization: European Patent Office (www.epo.org)
- International system - PCT
  - It is governed by the Patent Cooperation Treaty (PCT) of June 19, 1970 and its Regulations.
  - Paris Convention for the Protection of Industrial Property
  - It establishes a single application procedure that will facilitate subsequent processing in the member country of interest.
  - Organization: World Intellectual Property Organization (www.wipo.int)

# Main features of Patents and Utility Models
## European patent grant procedure

**Member states**

38 member states

2 extension states



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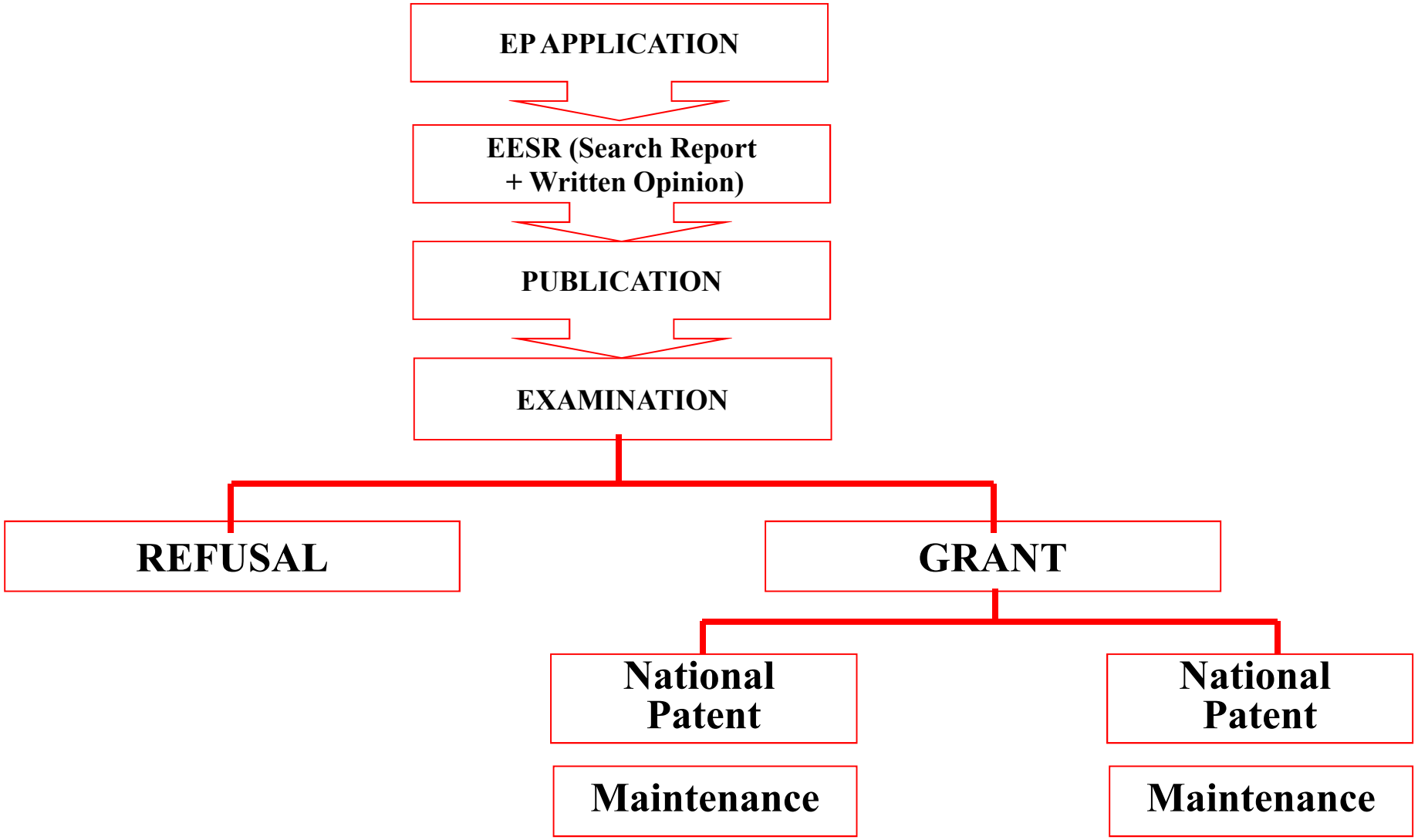
# Main features of Patents and Utility Models



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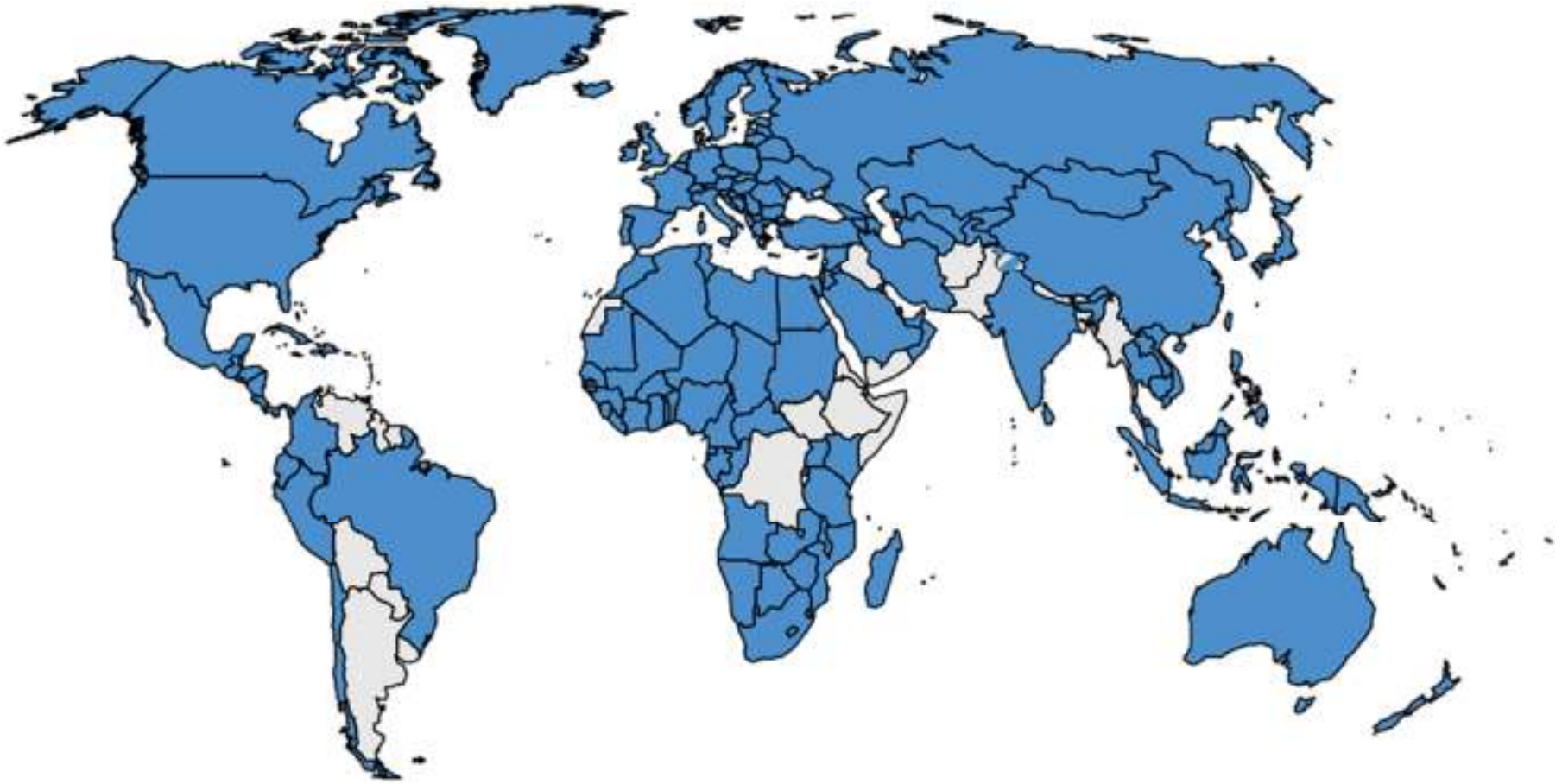
# Main features of Patents and Utility Models
## PCT application procedure



152 Member states since June 9, 2017



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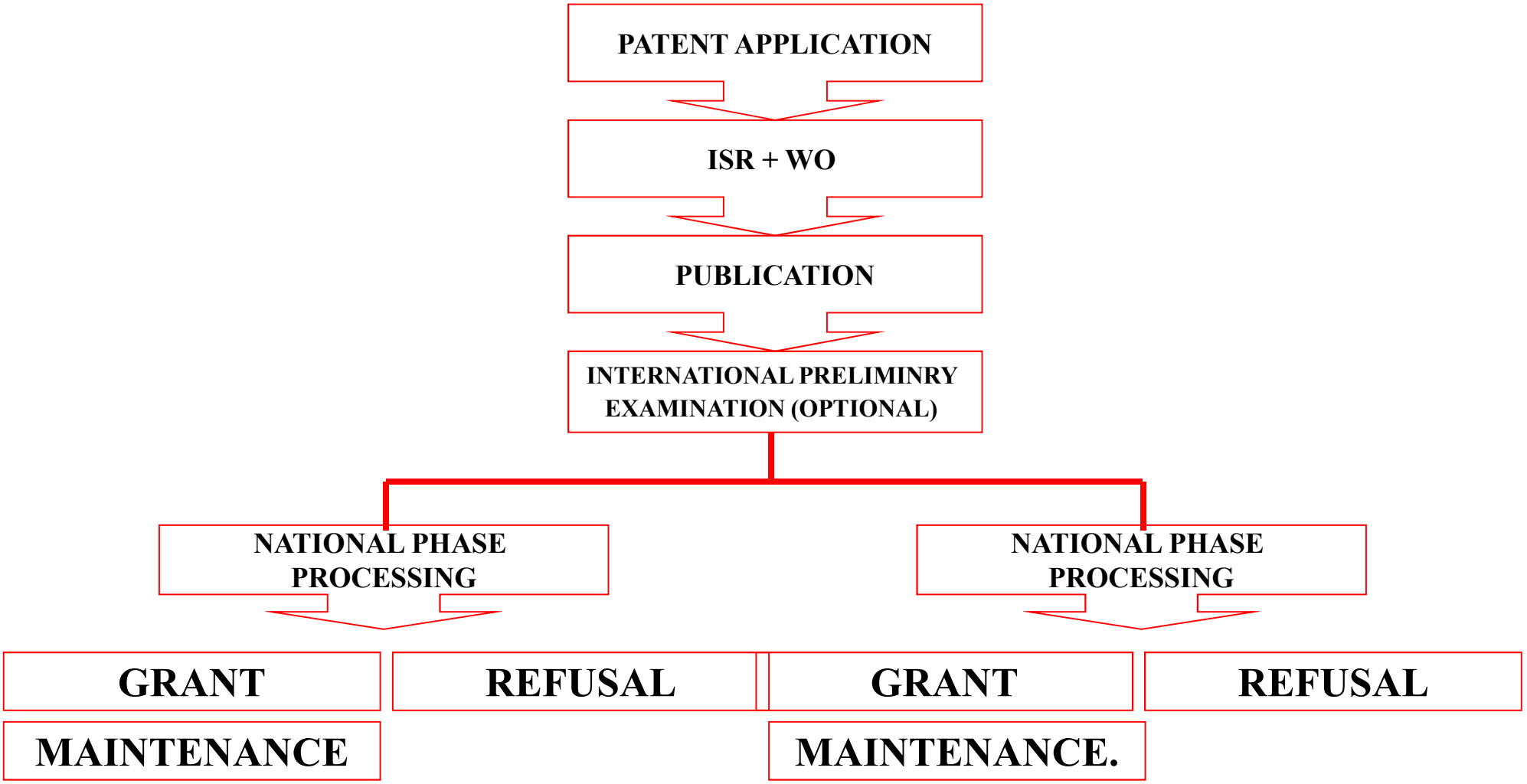
# Main features of Patents and Utility Models



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# Main features of Patents and Utility Models
## PCT application procedure

- ¿When is it interesting to opt for the PCT route?
  - When you want to have open the possibility of obtaining protection for an invention in several countries and not all are European
  - When you want to evaluate the possibilities of protecting an invention before incurring substantial expenses in foreign countries
  - When you want to keep all options open to protect the invention, and in the meantime investigate economic and financial possibilities
  - When you want to obtain strong patents

# Main features of Patents and Utility Models
## European patent system with unitary effect

- On December 31, 2012, Regulation (EU) 1257/2012, of December 17, establishing a reinforced cooperation for the creation of a unitary patent protection, was published in the ECOD (European Community Official Diary).
- It is required to request and obtain, in the first place, a European Patent, for, next, and within a month from the publication of the concession, request the unitary protection
- Applicable from the date of entry into force of the Agreement on the Unified Patent Court
- Unitary protection may be requested for any European patent granted as of that date
- Organization: European Patent Office (www.epo.org)

# Main features of Patents and Utility Models

- **European patent system with unitary effect**

That Spain does NOT participate in the enhanced cooperation for the creation of the European patent with unitary effect

**IT DOES NOT MEAN THAT**

INDIVIDUALS AND SPANISH COMPANIES CANNOT BE OWNERS OF A EUROPEAN PATENT WITH UNITARY EFFECT OR THAT THEY WILL NOT BE IN THE NEED TO LITIGATE AT THE UNIFIED PATENT COURT

# Main features of Patents and Utility Models
## Nullity of the patent

(a) the patent does not meet any of the patentability requirements

(b) the patent does not disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art;

(c) the subject-matter of the patent extends beyond the content of the application as filed,

(d) The holder of the patent is not entitled to the right (not the inventor or his successor in title)

## Main features of Patents and Utility Models

### Example questions – Question 1

Your company has just discovered a novel device that allows improving the transmission of data over a fiber optic network. The company decides to apply for a patent before the Spanish Office that is finally granted

After a while, it is discovered that another company is selling the same device in the US and Japan

Do you have legal arguments to prohibit this commercialization?

## Main features of Patents and Utility Models

### Example questions – Answer 1

The patent rights are territorial, so a Spanish patent is limited to Spain, and has no effect in other jurisdictions

Therefore, these companies could not be sued. You could only try to register the patent there (within a limited time frame)

## Main features of Patents and Utility Models

### Example questions – Question 2

Your company is doing some interesting research to obtain a patent on a new data transmission system using low radio frequencies.

The head of the laboratory finally manages to design the system and check that it works. Excited, he publishes an extensive study in the journal Science where he explains how it works.

Would it be possible to patent that system? What if instead of Science he had explained to his wife how it works?

## Main features of Patents and Utility Models

### Example questions – Answer 2

The novelty (worldwide) is an essential requirement of patents

If the inventor publishes an article before applying for the patent, the novelty is destroyed, because the knowledge that is made public is included in the State of the World Technique.

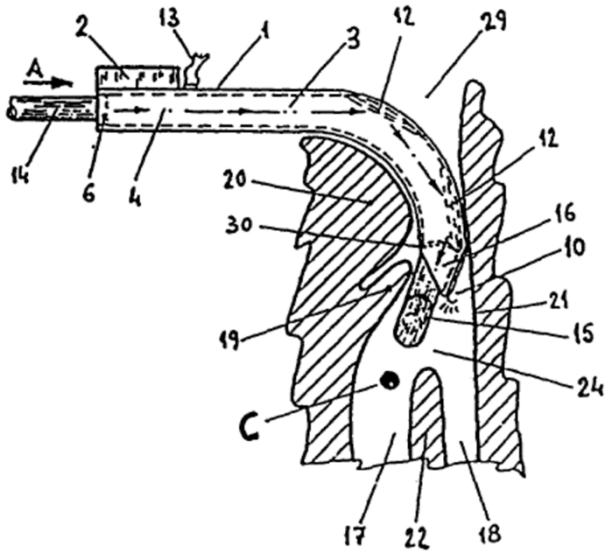
To reveal to his wife the functioning of the invention would be understood as a harmless revelation and would not destroy the novelty.

# CASE STUDY – PATENT PROSECUTION 1

- The first step that should be carried out before starting the prosecution of a patent application is conducting a search to assess the patentability of the invention. This search also serves to know what is the state of the art and write the patent specification.
- Once it has been verified that there is patentable subject matter, we proceed to the writing of the specification, paying special attention to the claims, which is the part of the patent application that determines the object of the invention and the scope of protection thereof. This means that the content of the claims will determine:
  - If the invention is patentable
  - If the patent is infringed
- The detailed example below refers to an optical-luminous laryngoscope

# CASE STUDY – PATENT PROSECUTION 2

- Application PCT/ES2000/000376 – "OPTICAL-LUMINOUS LARYNGOSCOPE"
  - Background:
    - The PCT application is drafted starting from two prior Applications filed in Spain
  - Info:
    - Filing date: October 4, 2000
    - Priority date: April 18 , 2000
    - Publication No.: WO2001078582 A1
    - Publication date: October 25, 2001



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# CASE STUDY - PATENT PROSECUTION 3

1. Optical-light emitting laryngoscope with a 55 ral-tracheal guide, of the type used in surgical operations and emergency interventions for visualising the opening of the trachea by means of inserting the same into the mouth of the patient, so that different instruments may then be inserted into the patient, characterised by the fact that it is composed of a main body which works as a frame with means of holding it onto the body of the patient, and equipped with two independent internal parallel ducts separated by a wall: one duct for visualisation by means of certain optical elements suitable for transmitting the image of a target point to the end of the laryngoscope where an observer is located, while the other duct is a guide duct for the insertion of instruments for diagnosis and treatment, this said main body which functions as a frame having a first section that is straight and a second section that is anatomical curved in shape, adaptable to the inside of the mouth and the zone of access to the larynx, its interior end being equipped with a light source and finishing in certain angled walls that guide the said instrument which has been inserted.

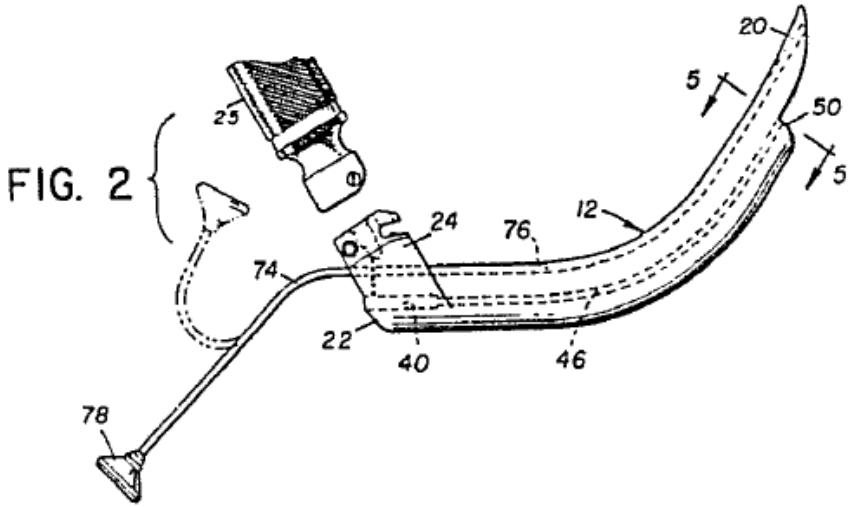
# CASE STUDY- PATENT PROSECUTION 4

2. Simplified optical-light emitting laryngoscope, characterised by the fact that it is composed of a main body which functions as a frame with means of holding it onto the body of the patient, and equipped with a single duct for visualisation by means of certain optical elements suitable for transmitting the image of a target point to the end of the laryngoscope where an observer is located, the main body of which functions as a frame having a first section that is straight and a second section that is anatomical curved in shape, adaptable to the inside of the mouth and the zone of access to the larynx, its interior end being equipped with a light source.

# CASE STUDY- PATENT PROSECUTION 5

- PCT Application – Opinion of the Examiner
  - The Examiner considered that the claims lacked inventive step in view of the following documents:

EP0030014

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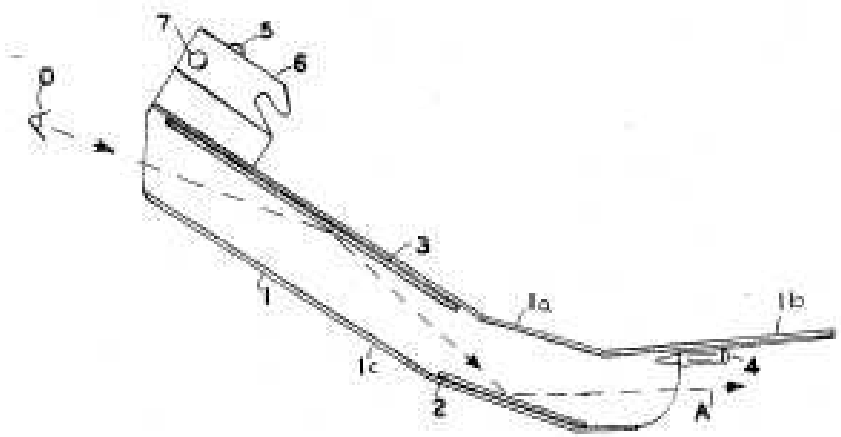





GARRIGUES

# CASE STUDY- PATENT PROSECUTION 6

- Amendment of the claim to reply to the opinión of the Examiner, and was amended afterwards again, in the national phase.

1.- An optical-light emitting laryngoscope for naso-tracheal and/or oral-tracheal intubation and/or for visualizing the opening of the trachea, of the type comprising a tubular main body having a first section that is straight and a second section that is anatomically curved in shape adaptable to the inside of the mouth and the zone of access to the larynx and finishing in angled walls, its interior end being equipped with a light source, characterized in that said main body is equipped with an internal independent visualization duct comprising:

- a magnification lens located at the exterior or inlet end of the visualization duct; and

- a first and a second optical and/or reflecting elements located adjacent to each other in the section that is anatomically curved of the visualization duct;

the said optical and/or reflecting elements being made of glass and/or plastic mirrors.

# CASE STUDY – PATENT PROSECUTION 7

- European patent No. EP1285623 B1
  - Filing date: October 4, 2000
  - Grant date: June 7, 2006
  - Comes from international application PCT/ES2000/00376

# CASE STUDY – PATENT PROSECUTION 8

- Granted independent claim

1. An optical-light emitting laryngoscope for naso-tracheal and/or oro-tracheal intubation and/or for visualizing the opening of the trachea, of the type used for intubations in neutral position of the neck, avoiding hyperextension of the neck, comprising a tubular main body (1) having an exterior end (6, 7) and an interior end (8,9) such that starting from the exterior end (6, 7) the said main body (1) has a first section that is straight and a second section that is anatomically curved in a shape for insertion into the inside of the mouth and the access zone of the larynx, its interior end (8,9) being equipped with a light source (10), wherein said tubular main body (1) is hollow and includes a closed cross section visualization duct (4) positioned within the main body (1) which extends from the exterior end (6, 7) to the interior end (8,9) of the main body, said visualization duct (4) comprising:

- a magnification lens (6) located at the exterior end (6, 7) of the visualization duct (4), and
- a first and a second planar reflecting element (12) for transmitting the image of a target point to the exterior end of the main body, positioned in a spaced relationship one after the other along the anatomically curved section on the interior surface of the visualization duct (4) and angled in a way suitable for direct observation of the target point to enable viewing of reflected light and images through the external end (6, 7) during insertion of the laryngoscope into the mouth and the access zone of the larynx.

# CASE STUDY- PATENT PROSECUTION 9

- United States Patent US6843769

1. An optical-light emitting laryngoscope for naso-tracheal and/or oral-tracheal intubation and/or for visualizing the opening of the trachea, of the type comprising:

a hollow, tubular main body having proximal end and a distal end such that proceeding from the proximal end is a first section that is straight and which continues to a second section that is anatomically curved in a shape for insertion into the inside of the mouth and the access zone of the larynx and terminating at the distal end which has angled walls; and

a light source positioned at the distal end of the main body,

wherein said main body provides an uninterrupted internal pathway for introduction of a device from the proximal end to the distal end thereof and wherein the main body includes a separate visualization duct positioned within the main body which extends from the proximal end to the distal end of the main body, the visualization duct comprising:

an eyepiece lens located at the proximal end of the visualization duct; and

a first and a second planar reflecting elements positioned in spaced apart relationship on an interior surface along the anatomically curved section of the visualization duct to enable viewing of reflected light and images through the proximal end during insertion of the laryngoscope and during insertion of any device into the trachea through the uninterrupted internal pathway.

# GENERAL ASPECTS: COMPUTER PROGRAMS/ SOFTWARE

- **Software:**
  - "Any sequence of instructions intended to be used directly or indirectly, in a computer system to perform a function or a task to obtain a determined result, whatever its form of expression or fixation"
- **Software protection / Computer implemented inventions**
  - Any type of software: Intellectual Property / Copyright
  - Under certain conditions: Patent
    - European Directive 11979/1/04 of 03/07/2005: "Inventions that use computer programs (...) that do not produce technical effects, apart from the normal physical interaction between a program and the computer, network or programmable device, will not be patentable. of another type in which it is executed ".
    - EPO Guidelines G-II, 3.6: "A computer program claimed by itself is not excluded from patentability if it is capable of bringing about, when running on or loaded into a computer, a further technical effect going beyond the "normal" physical interactions between the program (software) and the computer (hardware) on which it is run (T 1173/97 and G 3/08). The normal physical effects of the execution of a program, e.g. electrical currents, are not in themselves sufficient to lend a computer program technical character, and a further technical effect is needed. The further technical effect may be known in the prior art."

# GENERAL ASPECTS: COMPUTER PROGRAMS/ SOFTWARE

- According to the above, it is not considered an invention (it will not be patentable) what we want to protect and refers to a pure computer program or computer program "as such".

- Regarding the patentability of computer programs, the criteria of the European Patent Office (EPO) are followed in the Spanish Patent and Trademark Office.

- The EPO considers a computer program as such if it has no technical effect (T1173 / 97), that is, if the program has a technical effect (outside of the normal technical effects of interaction between the program and the computer to execute the program) It is patentable.
  - If the program has a technical effect, it is not an exception of patentability.
  - If the program solves a technical problem, it is proof that it has a technical effect.

# GENERAL ASPECTS: COMPUTER PROGRAMS/ SOFTWARE

- **Technical effect in a program**
  - When it affects a physical magnitude, physical or technical functioning of a device
  - Process data that are operating parameters of a device and whose result depends on the technical operation of said device
  - And in principle, if they solve a technical problem
- **What is considered a technical problem?**
  - Savings of resources
  - Increase / decrease accuracy
  - Increase / decrease speed
- **What is considered a non-technical problem?**
  - Change the aesthetic appearance
  - Change the visual appearance
  - Make recommendations based on personal preferences
  - Manage non-technical information

# GENERAL ASPECTS: COMPUTER PROGRAMS/ SOFTWARE

- Therefore, computer programs that can be patented must solve a technical problem when they are executed, so that they are always associated with a procedure that solves this technical problem, protecting the program due to the execution of a process that solves the technical problem, not protecting the program as such.
- As a claim, the method that executes the technical stages of the program is described and in another claim, the program is described that, when executed, performs the previous method.
- Example:
  - Transmission method where a mobile device measures some parameters; said mobile device calculates another parameter from the previous ones; and sends it to a base station, ...
  - Computer program to perform the steps of the previous claim.
- Due to the above, they are called:

INVENTIONS IMPLEMENTED BY COMPUTER

# GENERAL ASPECTS: COMPUTER PROGRAMS/ SOFTWARE

- **The following computer programs are not patentable (since they do not have a technical effect):**
  - Text processor
  - Image processor
  - Video game
  - Content recommendations
  - Mathematical data processing

- **In general:**
  - It is a complex issue, without rules applicable to all cases. You have to analyze case by case.
  - Sometimes, after the analysis, it can be determined when the proposal has technical characteristics and is patentable or not.

# Main features of Trade Secrets

## What You Need to Know About the European Trade Secrets Directive



GARRIGUES

# Main features of Trade Secrets

- DIRECTIVE (EU) 2016/943 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 8 June 2016 on the protection of undisclosed know-how and business information (trade secrets) against their unlawful acquisition, use and disclosure

- The Directive harmonizes the legislation of the EU Members against the unlawful acquisition, disclosure and use of trade secrets

- This considerably increases the protection of valuable know-how.

- The Directive sets out a minimum level of protection. Member States can offer additional protection

# Main features of Trade Secrets

- ‘trade secret’ means information which meets all of the following requirements:

  (a) it is secret in the sense that it is not, as a body or in the precise configuration and assembly of its components, generally known among or readily accessible to persons within the circles that normally deal with the kind of information in question;

  (b) it has commercial value because it is secret;

  (c) it has been subject to reasonable steps under the circumstances, by the person lawfully in control of the information, to keep it secret;

- It is therefore important to identify the trade secrets belonging to the company and to put appropriate safeguards in place to protect such information from disclosure

# Main features of Trade Secrets

- **Identification of TS: What can be a trade secret?**

  - Inventions (non-patentable inventions, or inventions that have not been patented yet because they are in the development phase or simply inventions which we prefer to maintain secret.)
  - Designs, Formulas, Algorithms, Recipes,
  - Manufacturing Processes
  - Business models, lists of clients and suppliers, marketing strategies, information about prices, costs etc.

# Main features of Trade Secrets

- **How to secure TS?**

  - Limiting disclosure of trade secrets to employees on a need-to -know-basis
  - Confidentiality Agreements with employees, suppliers, collaborators, agents, etc.
  - Before publishing: reviewing of press releases, academic papers, scientific articles
  - Controlling information stored in computers, the cloud, etc.
  - Anti-copying systems
  - Training of employees
  - Implementing internal protocols to act in the event of unauthorized disclosure

# Main features of Trade Secrets

- **In addition it is important to bear in mind that:**

- The exploitation of infringing goods where the person carrying out such activities knew, or should have known that the trade secret was used unlawfully, is illegal.

- Infringing goods are those containing unlawfully obtained TS or that have been produced with a secret manufacturing process obtained unlawfully.

- A company is liable even if it did not know nor should have known that the TS was obtained unlawfully. Good faith only allows to pay pecuniary compensation to avoid injunctions consisting in the prohibition to market the infringing goods.

- The Directive requires Member States to implement measures to preserve the confidentiality of trade secrets throughout legal proceedings in order to protect the confidentiality.

- Trade secrets can be owned by many persons/entities and can be licensed or assigned

# Main features of Trade Secrets

**Patents vs. know-how?**

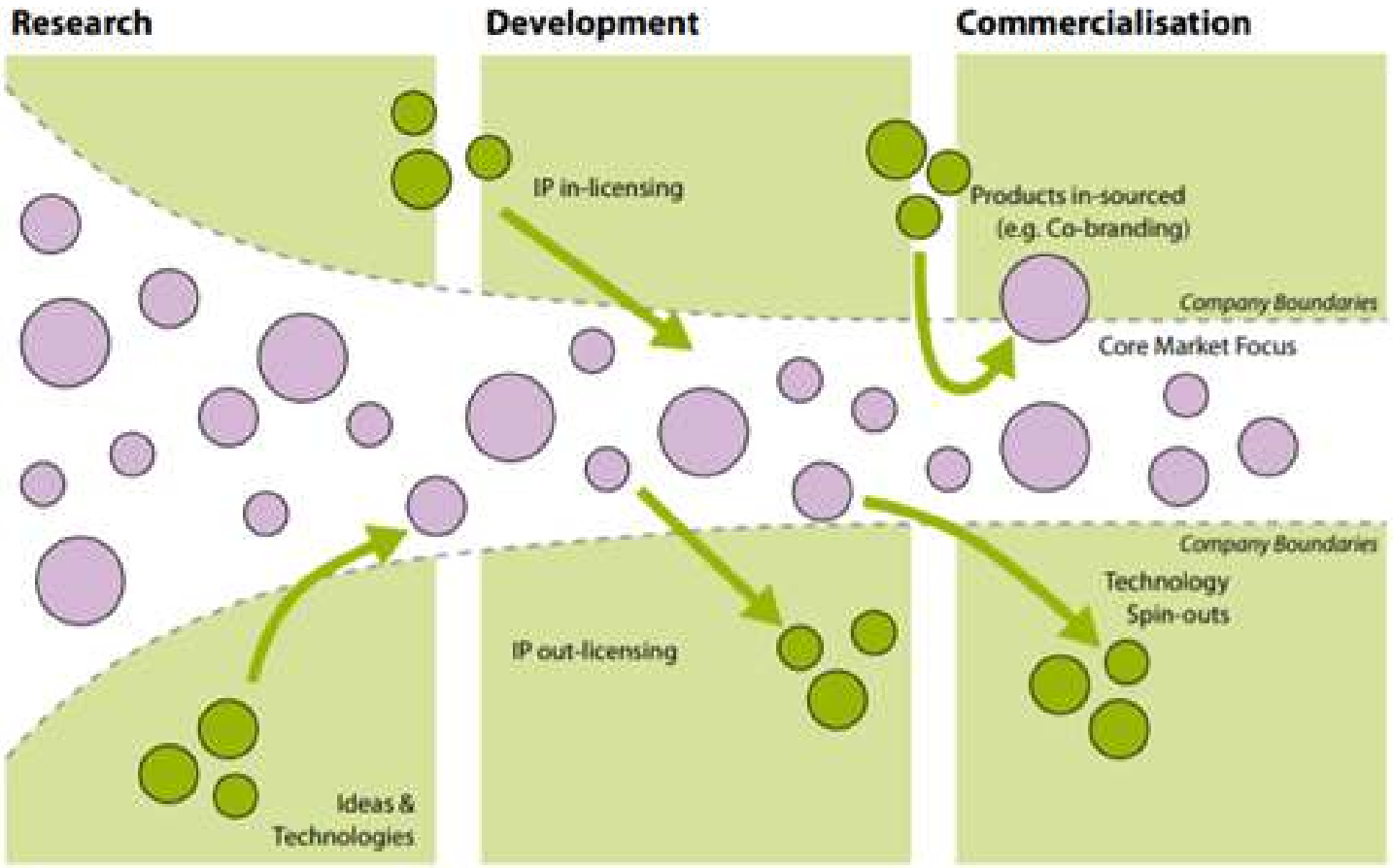
- Protection through a PATENT is preferable when:
  - It is easy to arrive at the invention through reverse engineering
  - Competitors are developing similar inventions
  - The invention can benefit from greater credibility since we have a title that recognizes the value of the invention
  - ~~The inventor wants to license the technology~~
  - Deduct taxes

- Maintaining the invention as **KNOW-HOW** is recommended when:
  - It is difficult to arrive at the invention through reverse engineering and easy to keep it secret
  - The costs of filing and maintaining a patent are greater than the benefits that can be obtained through such protection
  - ~~The inventor does not want to license the technology~~

# Who produces Knowledge?

- Companies (R&D)
- Individuals/freelance
- Startups
- Government Research
- Research institutions
- Universities
- Spin-offs

# Is Open Innovation beneficial?




Source: University of Cambridge How to implement open innovation



GARRIGUES

# What are the main advantages in adopting an open innovation system?

- Reducing product time to market
- Expanding markets, new technologies
- Cost reduction + cost efficiency
- Deducting taxes
- Sometimes only option to exploit own invention

# What are the main barriers in adopting an open innovation system?

- Lack of IP protection
- Lack of licensing experience/ Poorly developed networks
- "NIH syndrome"
- Lack of rewards and no formal method for career progress → No motivation!
- The fear of damaging reputation because of association with certain companies
- No support from top managers
- No resources

## What are the main advantages in adopting an open innovation system? Successful cases

- **Pharmaceutical**: Astra Zeneca (relies on R&D produced by Universities), GSK (has agreements with many partners)
- **Energy & Healthcare**: Siemens, (collaboration with many companies, selecting the best ones and granting licenses to third parties)
- **Fashion and Technology-based companies**: Google and Luxottica
- **Healthcare and lighting:** Philipps created 3 incubator centres (Healthcare, Lifestyle and Technology. New products accounted for 56% of the company's growth




GARRIGUES

# What are the main advantages in adopting an open innovation system? How?

- Create OI teams within the company:

- These teams typically include:
  - ✓ people from R&D (what is needed?),
  - ✓ involvement of top managers (to motivate)
  - ✓ lawyers (negotiating agreements, managing IP, and avoiding a relaxed attitude towards IP protection)
  - ✓ marketing (DD services to identify potential partners),
  - ✓ Involvement of Finance

- In Universities Technology Transfer Offices with expertise in connecting the research and the commercial world to attract corporate collaboration.

# Open innovation PLATTFORM

## Submit your **innovative solutions**

ENGIE is interested in pionneering expertise and solutions to develop future cooperations with innovators. Take this opportunity to develop your innovative solutions in cooperation with ENGIE.

**PROMOTE YOUR EXPERTISE IN THE FOLLOWING AREAS:**

- Sustainable mobility +
- Energy Communities +
- Smart buildings +
- Territories +
- Hydrogen +

## Your collaboration with ENGIE **how does it work?**

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# Ownership of the invention

- There are several types of inventions:

  a) Inventions which belong to the employer

  b) Inventions which belong to the employee

  c) Inventions which can be claimed by the employer

  d) Inventions made at public entities (incl. public universities)

**Any waiver of rights made in advance by the employee may be deemed invalid**

# Ownership of the invention

## a) Inventions which belong to the employer

- Main characteristics:
  - Inventions made by an employee during the term of the contract with a company which
  - are the result of research that explicitly or implicitly forms the subject-matter of the contract

- The employee must inform the company about the invention within 1 month
- The employee has no right to additional remuneration for this achievement unless the contribution to the invention and its importance go beyond the explicit or implicit terms of the contract
- The inventor retains the right to appear as the inventor

## b) Inventions which belong to the employee

- Main characteristics: Not related to the work carried out by the employee

# Ownership of the invention

## c) Inventions which can be claimed by the employer

- Main characteristics:

  - When the invention is not a result of research that explicitly or implicitly forms the subject-matter of the contract, but

  - There has been a decisive influence of:
    - knowledge acquired within the company in the creation of that invention, or
    - means provided by the company

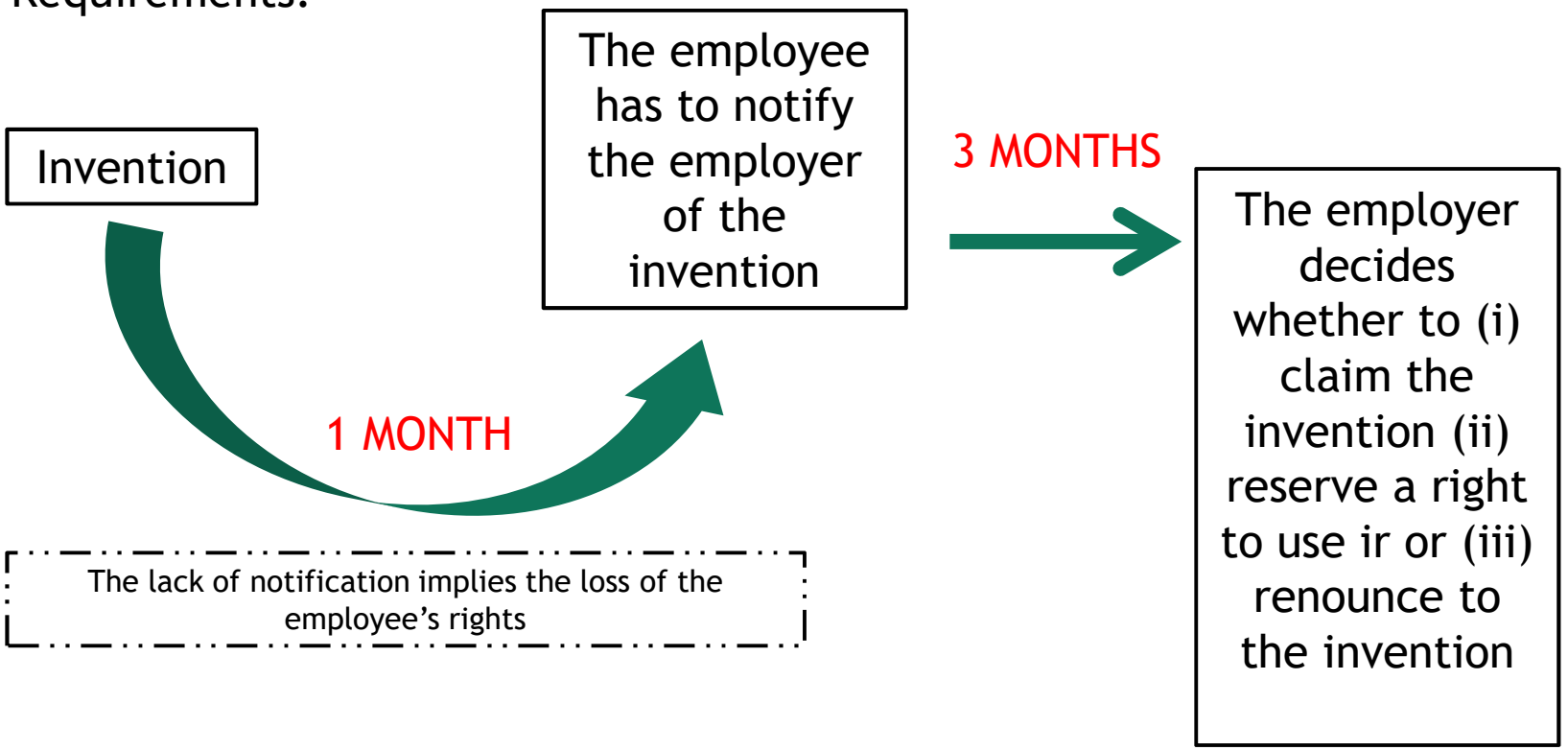
  The employer has the right to:
  - claim ownership of the invention or
  - reserve the right to its use

In this case the employee has to receive remuneration taking into account: the importance of the invention and the contribution to it. He/she will appear as the inventor

# Ownership of the invention

## c) Inventions which can be claimed by the employer

- Requirements:



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# Ownership of the invention

## d) Special case: research staff at public entities

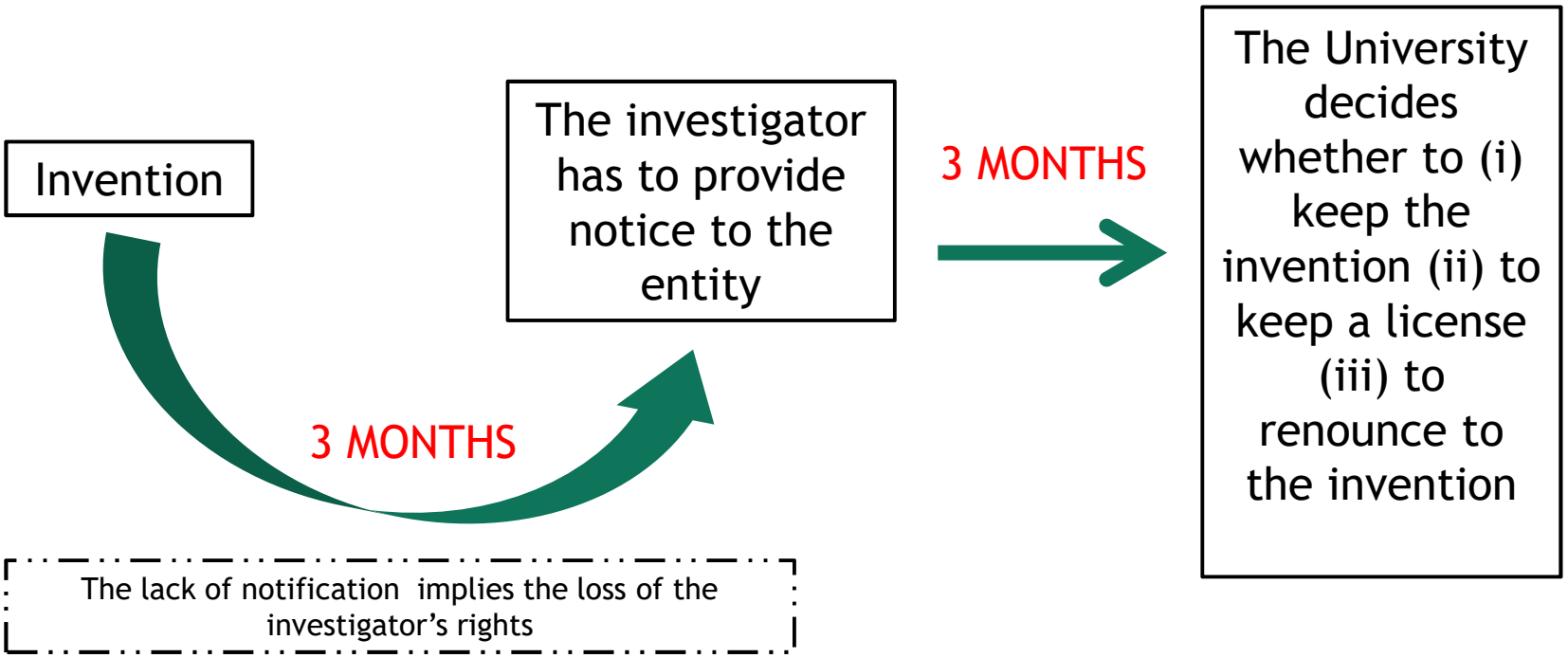
- If the invention was developed by researchers working at the p. University the ownership belongs to the p. University (unless the university not interested)
- Remuneration:

| Who retains title | The other party | Observations |
|---|---|---|
| The University | The inventor will have the right to participate in the benefits | The benefits are in addition to salary.<br><br>Amount to be determined by each entity. |
| The inventor | The University retains a –non exclusive, free-**license** | |

- Inventor retains the right to be named as inventor

# Ownership of the invention

## d) Special case: research staff at public entities






GARRIGUES

# Ownership of the invention

- **NEW!** Employees and investigators may also claim additional remuneration for their inventions when they develop a non-patentable technical improvement that gives the company a certain competitive advantage when exploited as a trade secret.

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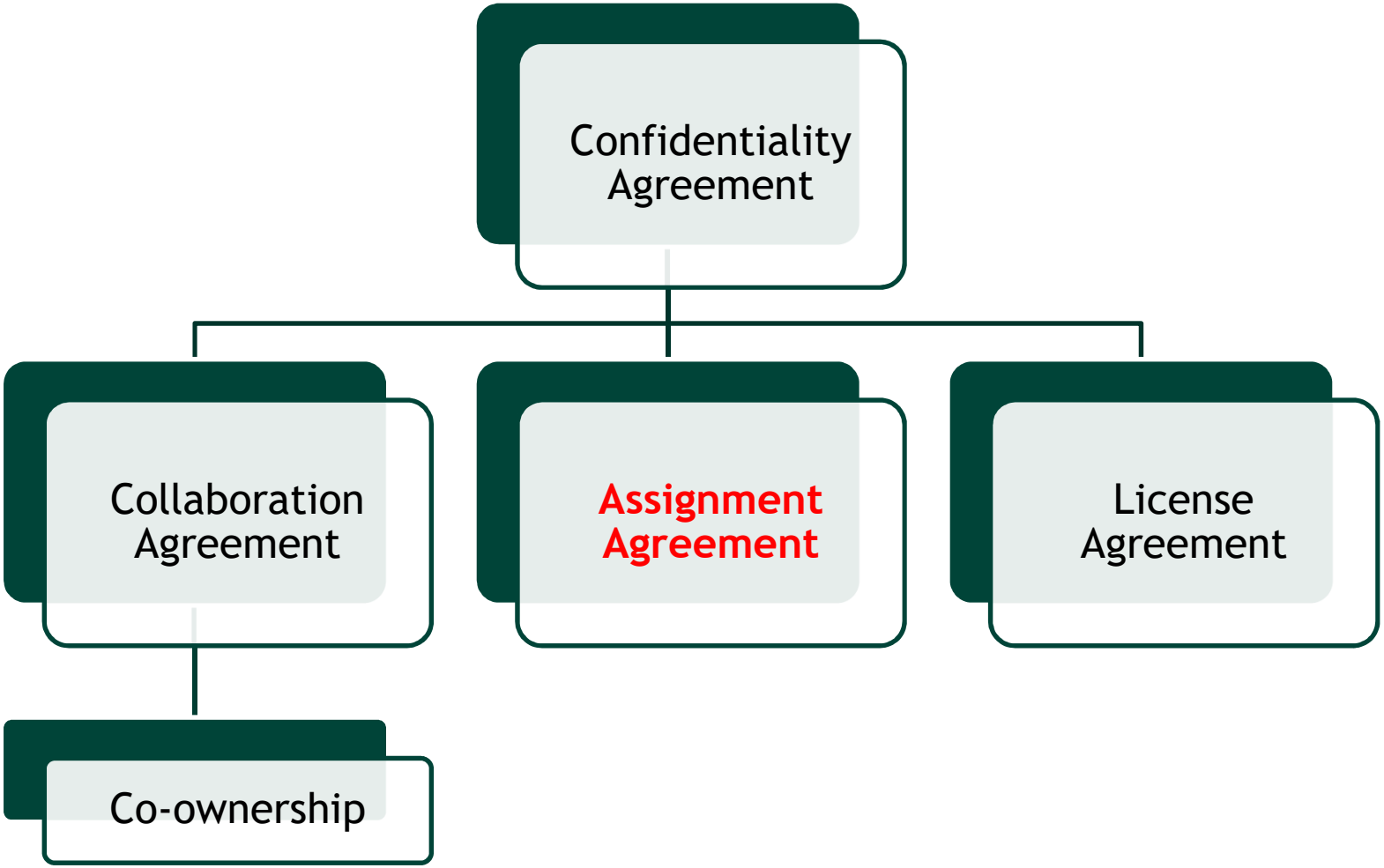
# Case Study

## Technology Transfer. Most relevant contracts



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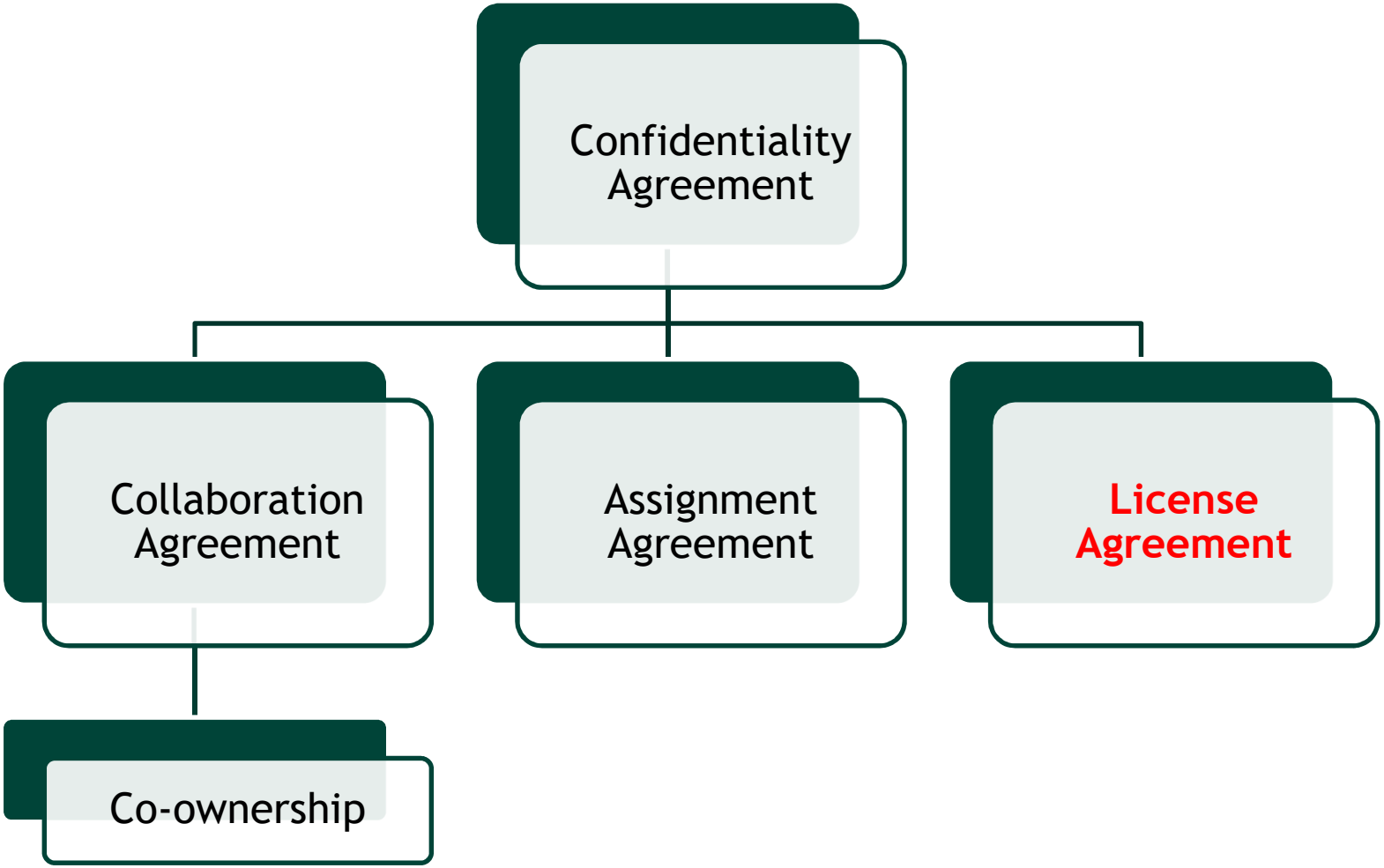
# Contracts

## Technology Transfer. Most relevant contracts. Assignment agreement

- **Purpose**: assignment of the right (change of ownership)
- **Important aspects**:
  - What am I buying? Identification of the right assigned. In the case of patents it is a good idea to carry out an FTO search beforehand. Test technology before buying only under NDA.
  - Usually there is also KH related to the Patent, which has to be disclosed to facilitate the exploitation (unless otherwise agreed).
  - If you buy a part watch out: prospective and retrospective right of first refusal
  - Price
  - Guarantees to be provided by the assignor: it must guarantee that it holds the right, that it is not subject to any charges or licenses and that the sale or use of the product or process assigned will not infringe third parties' rights (although it is difficult for this clause to be accepted). Clauses such as "To the assignor's knowledge third parties' rights will not be infringed when exploiting the patent/KH" and "To assignor's knowledge there are no grounds for invalidating the patents" tend to be included.
  - Indemnity clause in case the patent application is not granted or the KH is disclosed

# Contracts

## Technology Transfer. Most relevant contracts



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# Contracts

## Technology Transfer. Most relevant contracts. License Agreement

- **Purpose**: The right-holder ("licensor") allows someone else ("licensee") to exploit the technology in exchange for royalty payments
- **Important aspects**:
  - Acts of exploitation that are covered by the license and scope (unless agreed otherwise: all the acts included in the exploitation of the invention, in all of its applications)
  - Exclusivity (unless agreed otherwise, the license is not exclusive). Continue investigating
  - To define the time-period and territorial scope of the license (unless agreed otherwise: throughout Spain and for the entire duration of the patent /KH)
  - To determine whether or not sublicenses may be granted
  - Regulation of improvements
  - Confidentiality
  - Publications

# Contracts

## Technology Transfer. Most relevant contracts. License Agreement

- **Important aspects**:
  - Consideration:
    - Royalties for sales by the licensee. Direct exploitation (generally a percentage of the profits))
    - Royalties for income obtained by the licensee for granting sublicenses, etc.
    - It is important to clearly establish the basis for calculation of the royalties (define net fees)
    - Recommendation: establish an exploitation obligation and/or minimum royalties
    - How to determine % of royalties: https://www.royaltyrange.com/ www.brandfinance.com

# Contracts

## Technology Transfer. Most relevant contracts. License Agreement

- **Important aspects**:

  - Audit mechanisms
  - Licensor's guarantees: no infringement of third-parties' rights, no prior licenses, no charges on the patent/KH, validity of the patent. Clauses such as "To licensor's knowledge no third party's rights are infringed nor are there any grounds for invalidating the patent"
  - Maintenance and territorial extension of the IP rights
  - Defense of third parties' rights
  - Causes and consequences of termination of the agreement (returning all confidential information)
  - Conflicts: WIPO rules of arbitration

# THANK YOU


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# ABOUT US

Garrigues is one of the largest international law firms and is among the **top law firms worldwide**.

Operating in **thirteen countries**, it has a team of experts providing business law advice on the most complex and significant deals.


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