

# Intellectual Property Rights and Technology Assessment

*Summer School at ICCUB  
Barcelona 5 June 2025*



**Sancho Moro**

Àrea de Patents,  
Valorització i Llicències

Física – Química –  
Electrònica - Materials

Dr Sancho Moro  
[smoro@fbg.ub.edu](mailto:smoro@fbg.ub.edu)

Valorization and Licensing Unit



Bosch i Gimpera  
UNIVERSITAT DE BARCELONA

# 3 Misions in University



**SCIENCE /  
UNIVERSITY / ACADEMIA**

**Teaching**



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**Research**



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**Innovation &  
Transfer**



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**SOCIETY / INDUSTRY /  
MARKET**



## Invention identification & assessment

You have an idea and you  
have obtained some  
results/data/preliminar  
prototype



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# Take-home messages

- **Don't start your R&D until you have done a search!**
- If you think you have interesting results:
  - Before **publishing**, sharing them in **conferences, oral communications, doctoral thesis** dissertations,... talk to your Tech or Knowledge Transfer Office (TTO or KTO)
  - Before sharing sensitive information with a third party (e.g. Company) sign an Non-disclosure Agreement (NDA)
- Without a protection (IP) most likely nobody will invest in the development of your product.
- A Proof-of-concept is the way to attract potential investors
- License is a way to reimburse the investment of your technology and efforts
- Company could be a vehicle to finance a development to a stage that is attractive for the acquisition of a larger company & you need people that shares your motivation
- And the most important one....**Sit down and think which will be your next invention!**



## Innovation & Transfer

# Technology Transfer Office (TTO) or Knowledge Transfer Office (KTO)

- TTOs work as an interface and facilitator to promote the collaboration with industry and to utilize the funding sources effectively
- TTOs assist inventors, innovators and entrepreneurs in the process of converting their ideas into implementation and creating an economic value from which both society and university benefit mutually.

- Intellectual property & Licensing
- Spin Off creation
- Promotion of collaborations with companies

*“TTOs could focus on building the scientific and cultural bridges between disciplines and, most importantly, between knowledge creation in laboratories and knowledge used in society”  
(Argyropolou et al. 2018)*



Protection and License of  
Technologies and  
Knowledge



Spin Off Creation

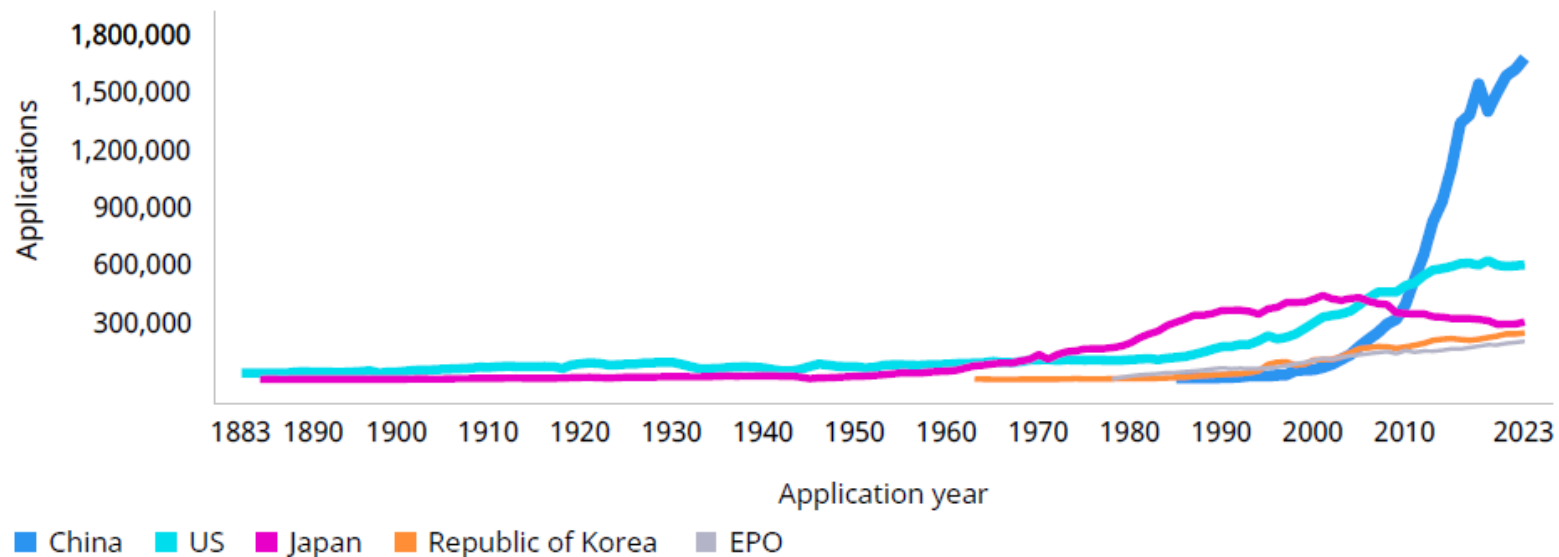


Contract Search  
Collaborative Projects  
University - Company /  
institutions

## European Paradox

One of the most common indicators for measuring technological output of R&D are patents

### Trend in patent applications for the top five offices, 1883–2023



Source: WIPO Indicators Report 2024

## European Paradox

One of the most common indicators for measuring technological output of R&D are patents.

Higher Education Institutions are responsible for **less than 10%** of patents filed in Europe



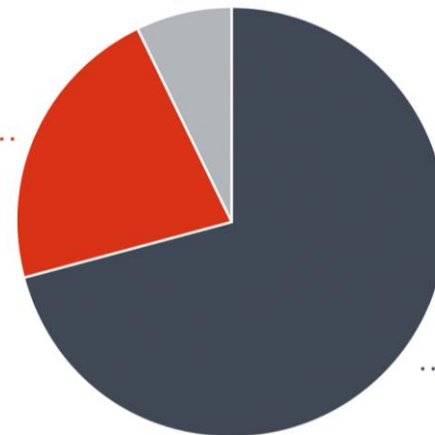
**22%**

SMEs<sup>2</sup> and individual inventors



**7%**

Universities and public research organisations<sup>3</sup>



**71%**

Large enterprises

Source: EPO.

Status: 3.2.2025.

1 This breakdown is based on a large representative sample of patent applications filed with the EPO in 2024 by applicants located in member states of the European Patent Organisation.

2 SMEs have been identified based on the European Commission definition of SMEs (2003/361/EC). According to this definition, an SME is i) an independent company with ii) less than 250 staff and iii) a turnover below €50 million and/or a balance sheet below €43 million. Detailed financial data and company ownership data from the BvD Orbis database have been used to enable a strict application of this definition.

3 This category includes technology transfer offices that while registered as corporate entities are clearly affiliated to a university or public research



## IP generation & Tech Transfer pathway



Invention  
identification &  
assessment

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IP  
management  
&  
Proof of  
concept /  
valorization  
& marketing



License

Spin-off creation



Technology  
commercialization

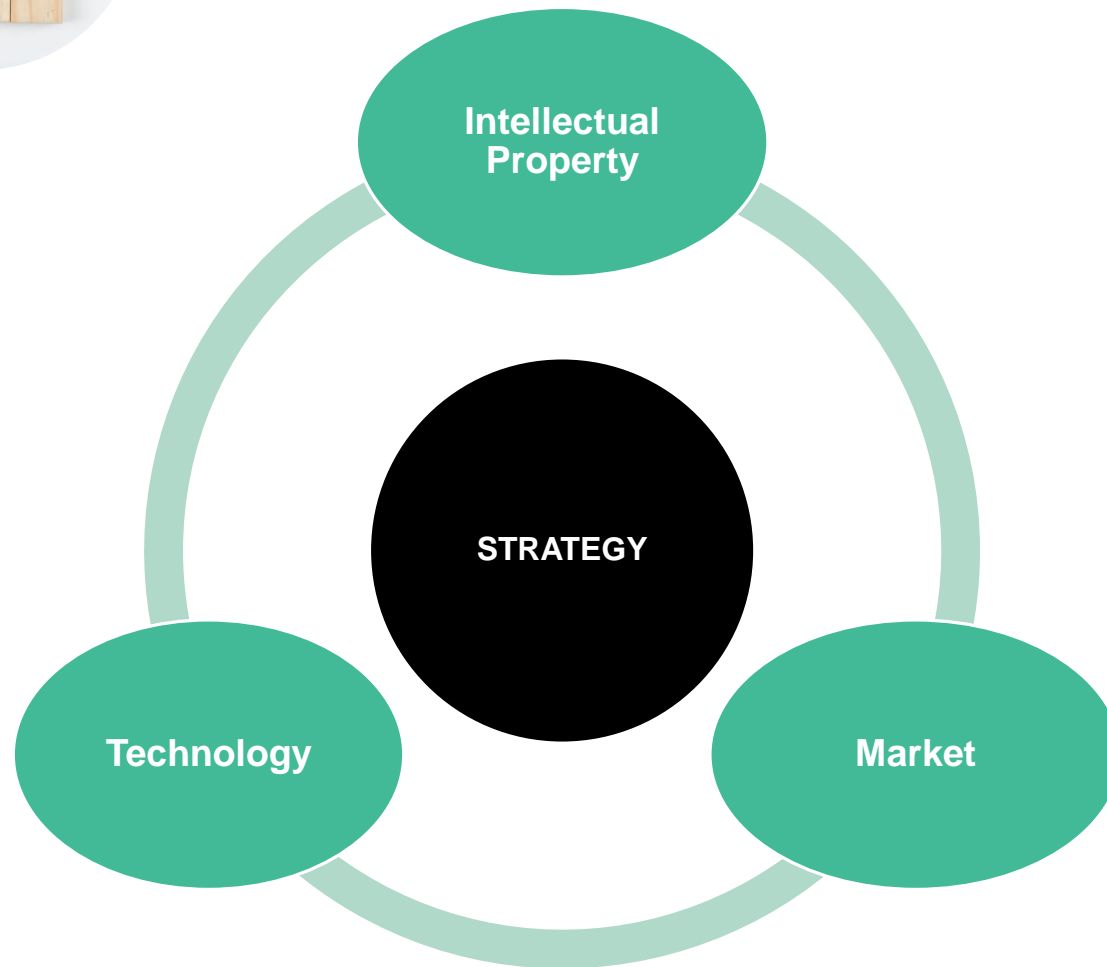
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## Invention identification & assessment





## Invention identification & assessment

You have an idea and you have obtained some results/data/preliminar prototype

Search prior art:

- [Google Patents](#)
- [EspaceNet](#)
- [lens.org](#)



# The **IMPORTANCE** of Searching the Prior Art

# The IMPORTANCE of Searching the Prior Art

Patents are published often before the articles and contain more technical specifications

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
4 December 2003 (04.12.2003)

PCT

(10) International Publication Number  
WO 03/100068 A1

(51) International Patent Classification<sup>7</sup>: C12N 15/82

(21) International Application Number: PCT/IB03/02081

(22) International Filing Date: 30 May 2003 (30.05.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
PA200200823 29 May 2002 (29.05.2002) DK

(71) Applicant (for all designated States except US): ARESA  
BIODETECTION APS [DK/DK]; Sølvgade 14A,  
DK-1307 Copenhagen K (DK).

(72) Inventor; and

(75) Inventor/Applicant (for US only): MEIER, Carsten  
[DK/DK]; Hjortholms Allé 42, DK-2400 Copenhagen NV  
(DK).

(74) Agent: BUDDE, SCHOU & OSTENFELD A/S; Vestier  
Søgade 10, DK-1601 Copenhagen V (DK).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,

CZ (utility model), CZ, DE (utility model), DE, DK (utility  
model), DK, DM, DZ, EC, EE (utility model), EE, ES, FI  
(utility model), FI, GB, GD, GE, GH, GM, HR, HU, ID,  
IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,  
LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO,  
NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL,  
TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU,  
ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,  
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,  
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report  
— before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments

For two-letter codes and other abbreviations, refer to the "Guide-  
ance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of this publication.

111 páginas

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scienceupdate

updated at midnight GMT today is friday, may 7

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## Plants to uncover landmines

Genetically engineered plants turn red when growing over a mine

29 January 2004

LAURA NELSON



Armies of Arabidopsis could soon be detecting landmines.

© Aresa Biodetection

University of Copenhagen, Denmark, who served as scientific adviser to Aresa, the Danish company that developed the plant.

A genetically engineered plant that detects landmines in soil by changing colour could prevent thousands of deaths and injuries by signalling where explosives are concealed.

The plant, a modified version of thale cress (*Arabidopsis thaliana*), is sensitive to nitrogen dioxide gas, which is released by underground landmines. The leaves of the plant change from green to red after three to five weeks of growth in the presence of this gas. "They are easy to spot," says Carsten Meier of the

## news

### related stories

• A Taste for Heavy Metal  
28 July 2003

• Don't eat yellow worms  
27 February 2003

• Vital signs  
29 June 2001

• Smelling trouble at sea  
4 June 2001

• First plant genome sequenced  
14 December 2000

### linksout

• Aresa Biodetection  
• Land Mine Action

### more news

• Malaria battle needs new tactics  
7 May 2004

• 'Junk' DNA reveals vital role  
7 May 2004

• Plastic particles surf polluted waves  
7 May 2004

• Particle no-show

3 páginas

# The IMPORTANCE of Searching the Prior Art

Patents provide information about how a field is evolving

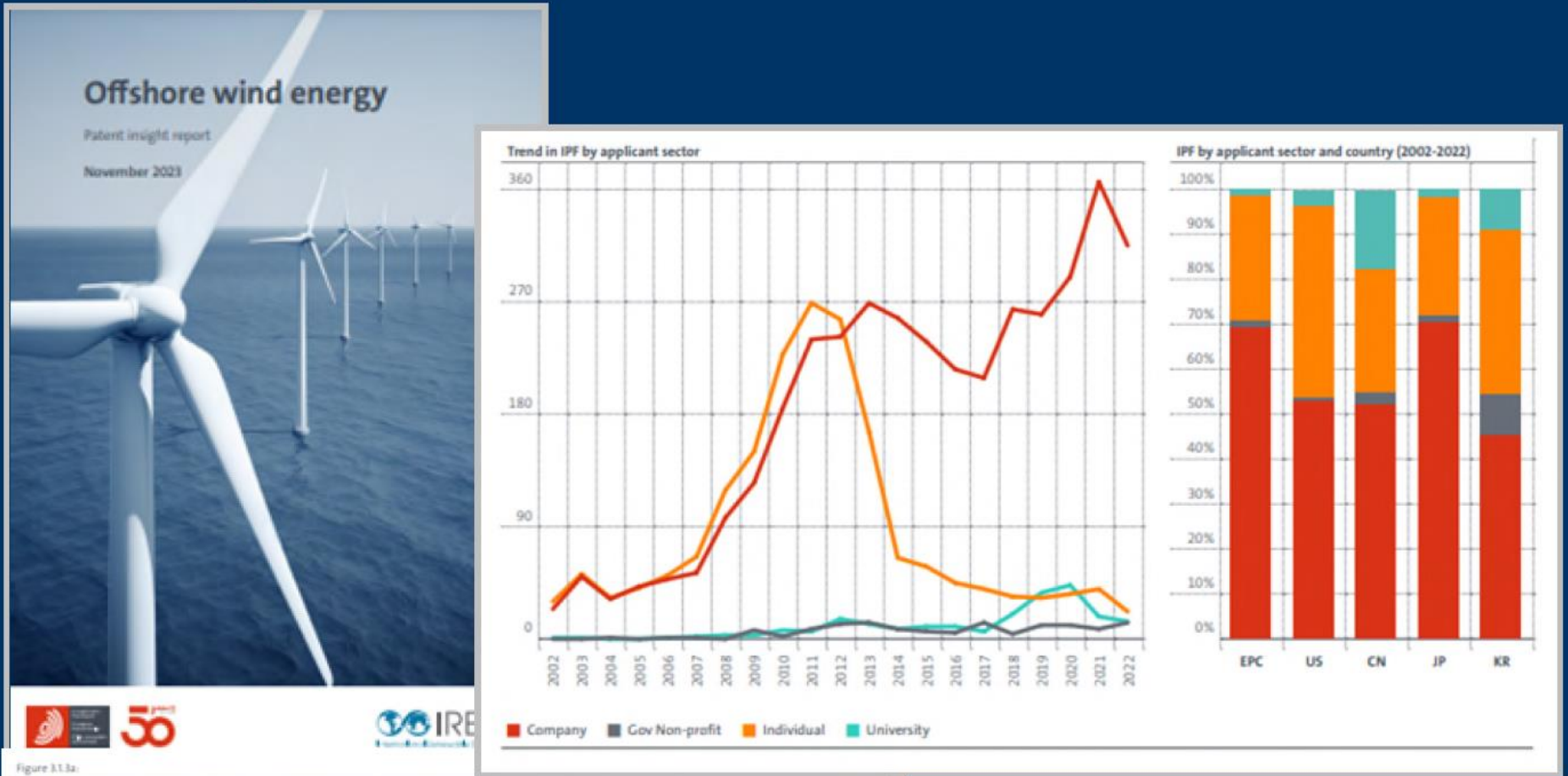


Figure 3.1.3a:

<https://worldwide.espacenet.com/patent>



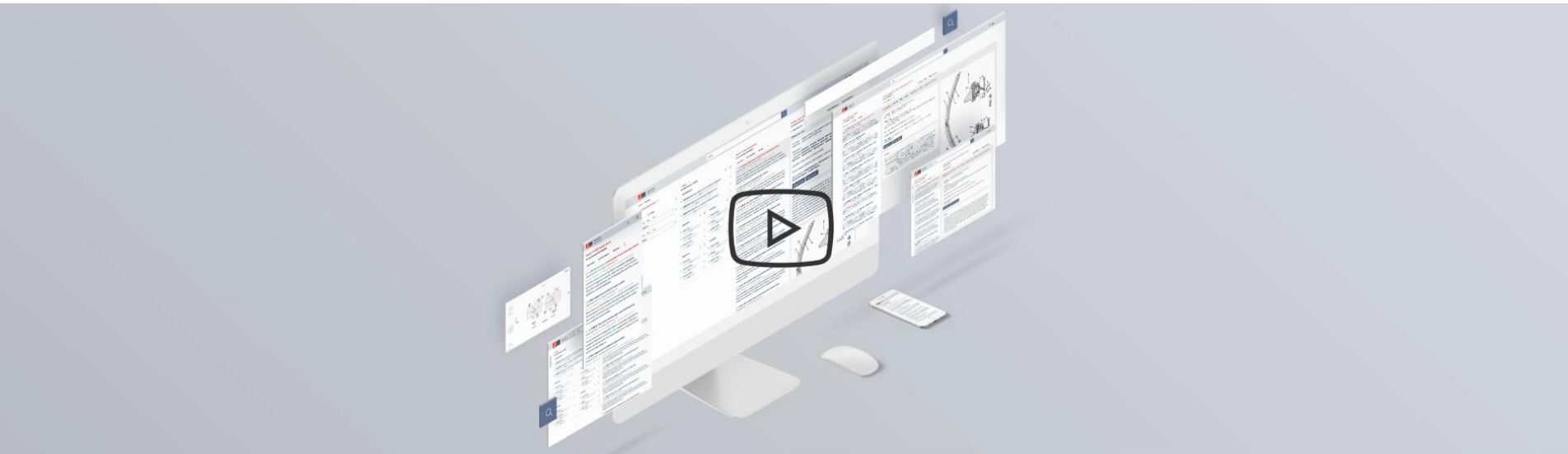
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(puls\* OR impuls\*) laser\*

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Filters



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722 099 results found

1 884 688 publications meet the search and filter criteria

publicaciones

invenciones

List content



All

Sort by



Relevance



☐ (0 patents selected) Select the first 20 results

☐ 1. PULSE LASER ARRANGEMENT AND METHOD FOR SETTING PULSE LENGTH F...

WO2004010550A1 • 2004-01-29 • JENOPTIK LASER OPTIK SYS GMBH

Earliest priority: 2002-07-12 • Earliest publication: 2004-01-29

...The invention relates to a pulse laser arrangement and a method for setting pulse length for laser pulses with the aim of changing the pulse length over a wide range essentially independently of the laser output power, in particular to...-switching solid body laser oscillator with variable oscillator power, for the production of oscillator

☐ 2. Impulse stabilisation of a Q-switched solid-state laser

EP2056414A1 (B1) • 2009-05-06 • TRUMPF LASER GMBH

Earliest priority: 2007-10-30 • Earliest publication: 2009-05-06

...The laser (1) has a laser resonator (6) in which a laser medium (7) e.g. yttrium aluminium garnet crystal... fluorescent light (10) emitted by the pumped laser medium. A regulation unit (14) adjusts pulse energy of a laser pulse... pulse. An independent claim is also included for a method for controlling pulse energy of a laser pulse of

☐ 3. PULSE LENGTH ADJUSTMENT UNIT, LASER SYSTEM AND METHOD FOR ADJUSTI...

WO2019201791A1 • 2019-10-24 • TRUMPF LASER GMBH

Earliest priority: 2018-04-19 • Earliest publication: 2019-07-11

...A pulse length adjustment unit (7, 7') for a pulsed laser beam (5) with a spectral width comprises a first... of the laser beam (5), at least some sections of said optical paths running at an angle to one another. The pulse length adjustment unit (7, 7') also comprises a first and second 3-surface reflector (9A, 9B), wherein each ...

PULS/PULSE: busca también en fulltext en aleman  
IMPULS\*: busca también en fulltext en frances (impulsion/s)



puls\*



impuls\*



laser\*



ursula



keller



## 25 results found

70 publications meet the search and filter criteria

List view

List content

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Text and thumbnails

All

Relevance

☐ (0 patents selected) Select the first 20 results



- ☐ 1. OPTICAL COMPONENT FOR GENERATING PULSED L  
EP0826164A1 (B1) • 1998-03-04 • KELLER WEINGARTEN  
Earliest priority: 1995-05-19 • Earliest publication: 1996-11-21  
No abstract available



- ☐ 2. PASSIVELY MODE-LOCKED OPTICALLY PUMPED SEMIC  
WO0159895A1 • 2001-08-16 • KELLER URSULA  
Earliest priority: 2000-02-11 • Earliest publication: 2001-08-16  
...A passively mode-locked optically pumped semiconductor vertical-external-c  
laser (OPS-EXSEL) is disclosed. The laser is...quality limitations of edge-emit  
power restrictions of electrically pumped surface-emitting lasers are overcome



- ☐ 3. OPTICALLY NON-LINEAR SEMICONDUCTOR MATERIAL  
WO9957603A1 • 1999-11-11 • KELLER URSULA  
Earliest priority: 1998-04-30 • Earliest publication: 1999-11-11  
...linear optical applications such as optical information processing, optical cor  
short pulse laser physics.

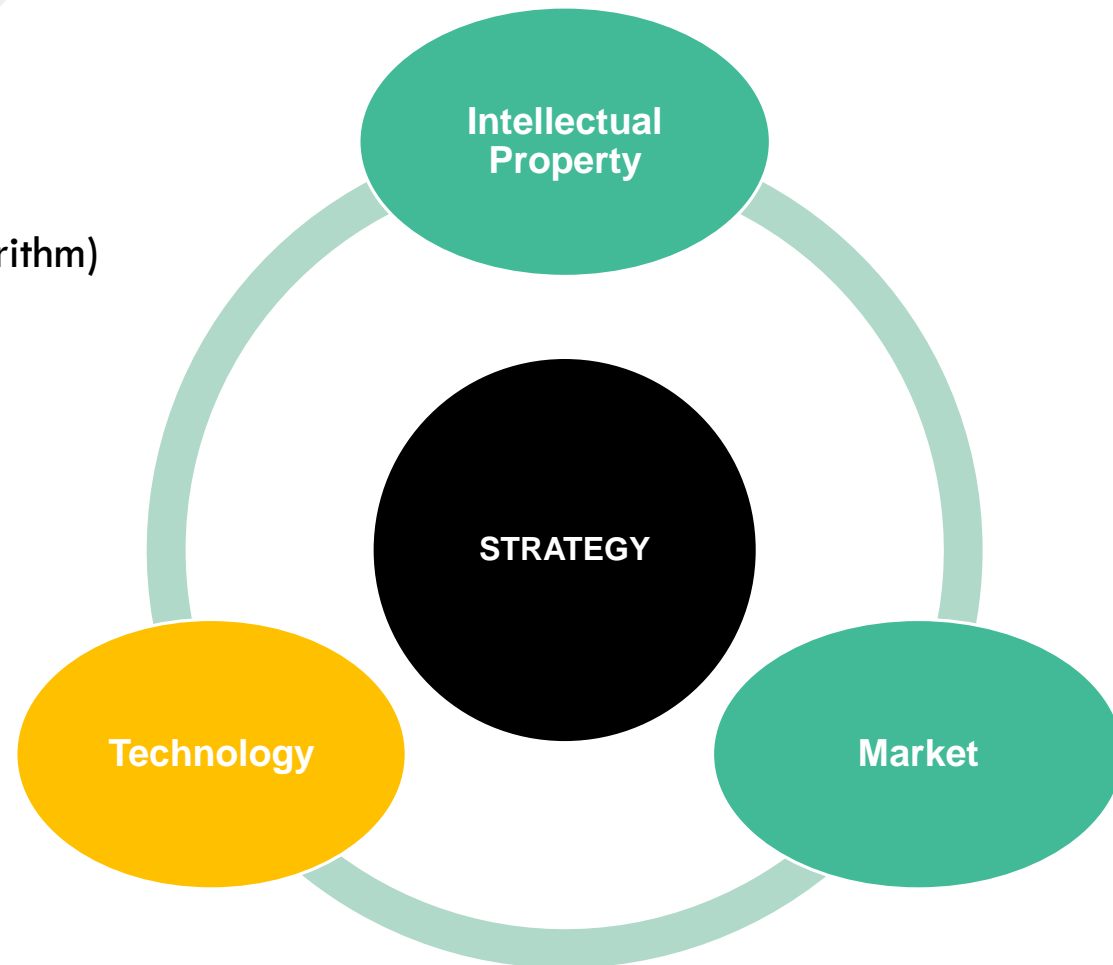
- ☐ 4. PULSE-GENERATING LASER



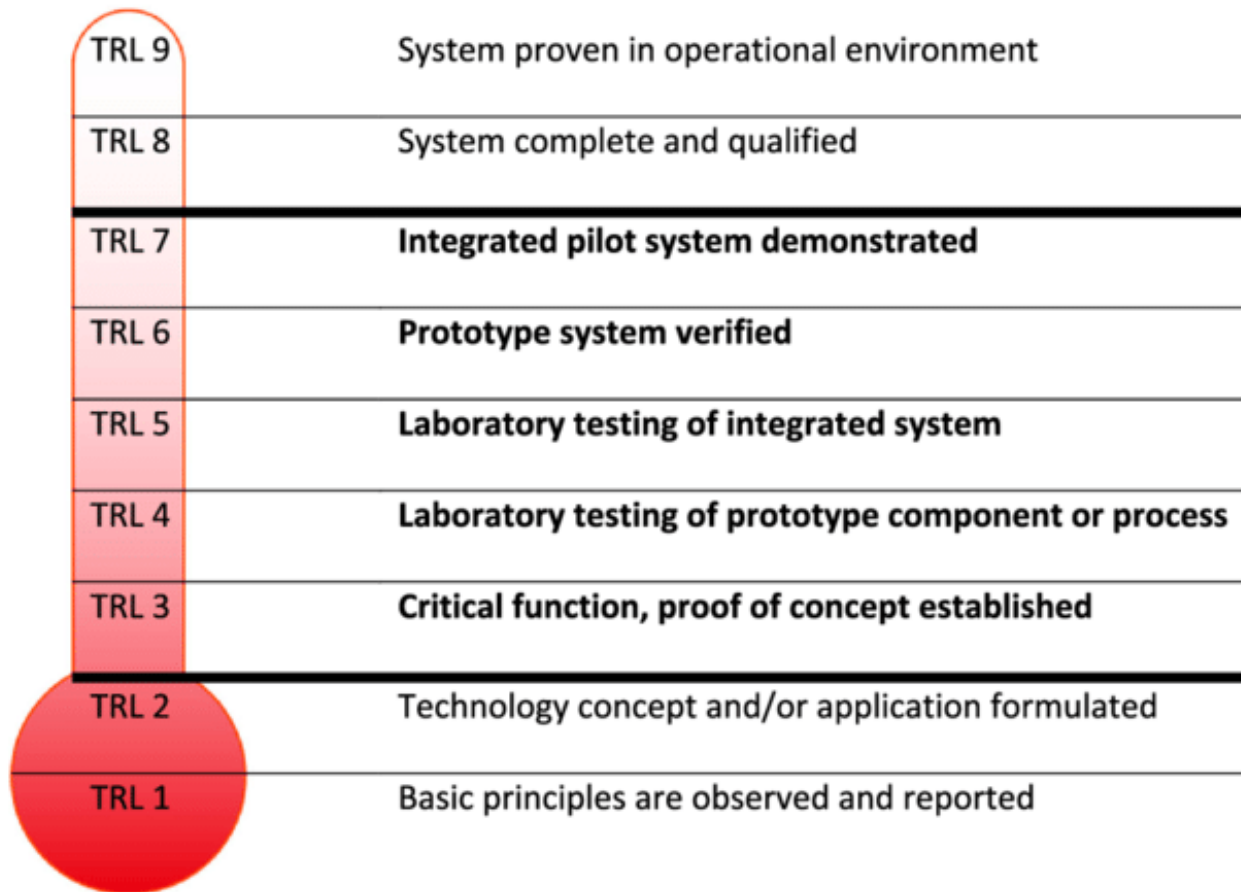


## Invention identification & assessment

- What is it?  
Product (device) / Method (algorithm)
- Development stage: Technology  
Readiness Level (TRL)
- Next stages of development?  
Cost / duration of each step?
- Applications:  
New applications? Technology  
platform?



## Technology Readiness Levels (TRL)



Defining early with Technology Readiness Levels (TRL) based on early NASA model  
Fasterholdt, I., Lee, A., Kidholm, K. et al. BMC Health Serv Res 18, 837 (2018).  
<https://doi.org/10.1186/s12913-018-3647-z>

## TRL 9

- Actual system “flight proven” through successful mission operations

## TRL 8

- Actual system completed and “flight qualified” through test and demonstration (ground or space)

## TRL 7

- System prototype demonstration in a space environment

## TRL 6

- System/subsystem model or prototype demonstration in a relevant environment (ground or space)

## TRL 5

- Component and/or breadboard validation in relevant environment

## TRL 4

- Component and/or breadboard validation in laboratory environment

## TRL 3

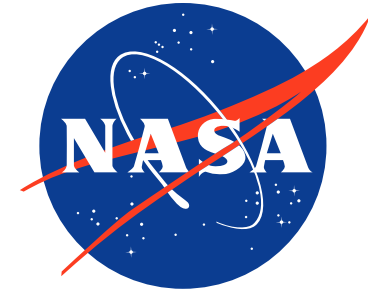
- Analytical and experimental critical function and/or characteristic proof-of-concept

## TRL 2

- Technology concept and/or application formulated

## TRL 1

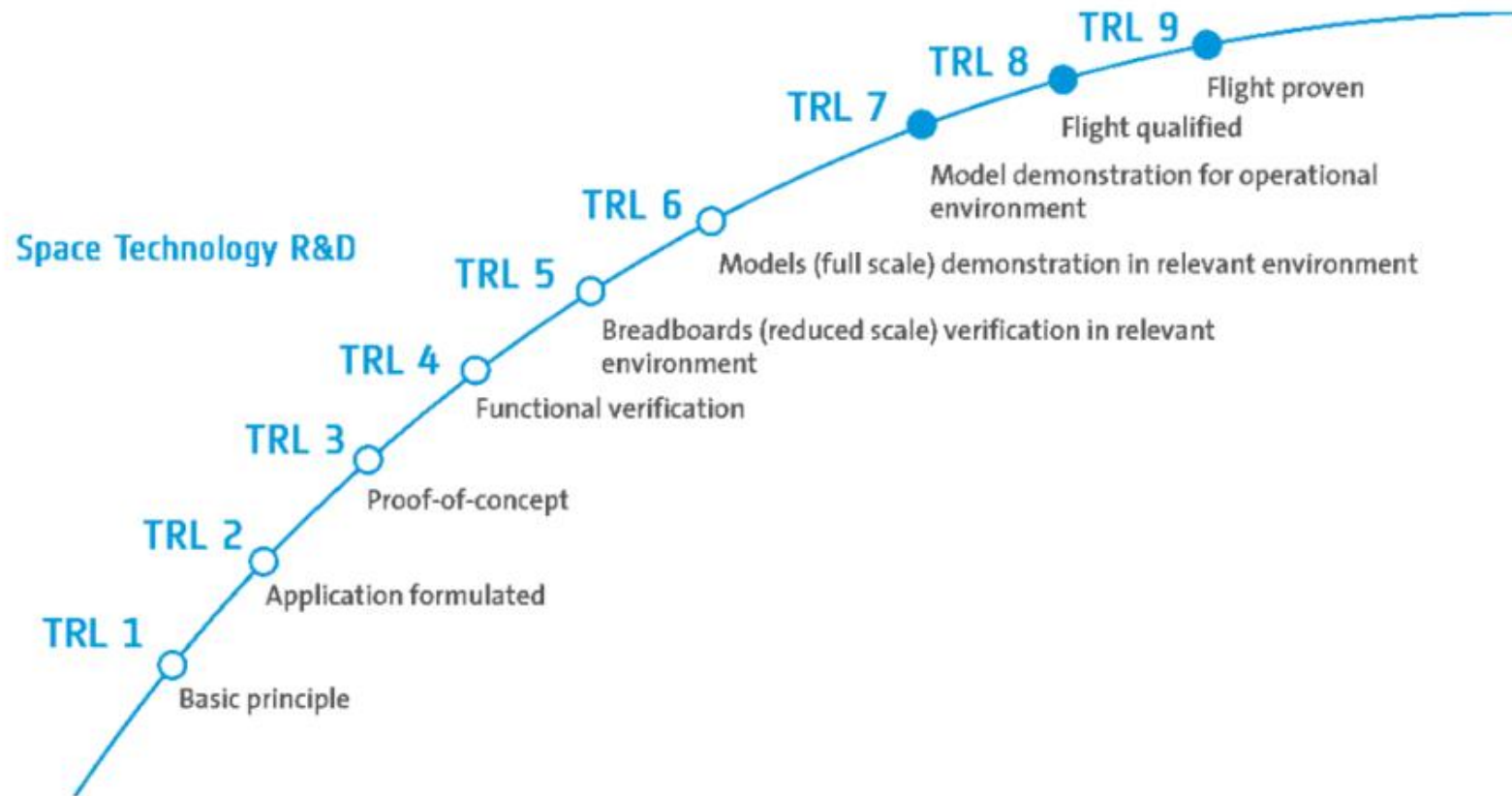
- Basic principles observed and reported



<https://www.nasa.gov/directorates/somd/space-communications-navigation-program/technology-readiness-levels/>



[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Shaping\\_the\\_Future/Technology\\_Readiness\\_Levels\\_TRL](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Shaping_the_Future/Technology_Readiness_Levels_TRL)

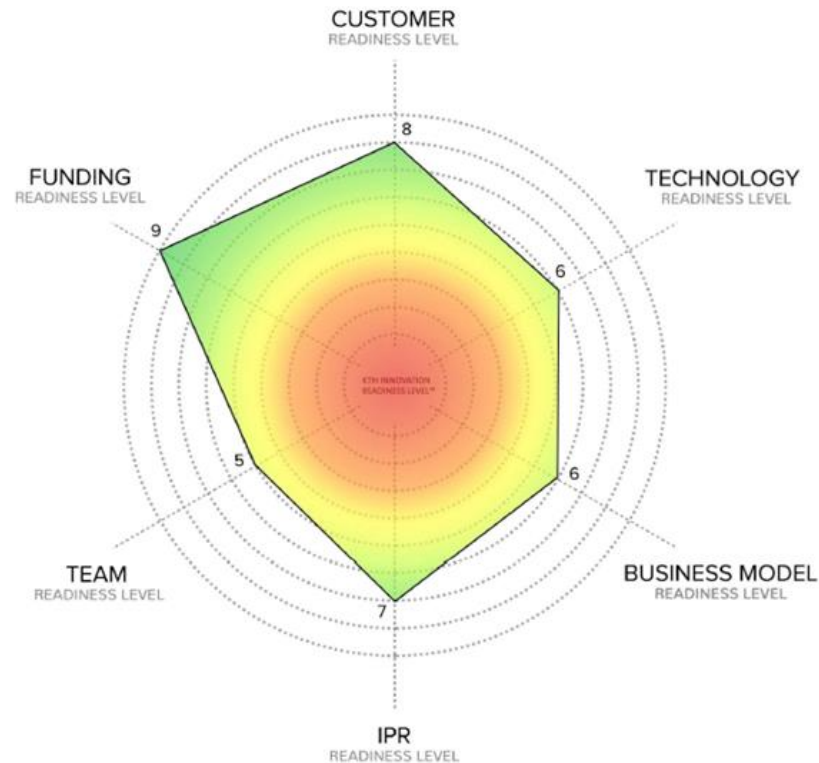


— Technology Readiness Level (TRL) scale levels applied to ESA's Technology Programmes



Royal Institute of Technology  
(Stockholm, Sweden)

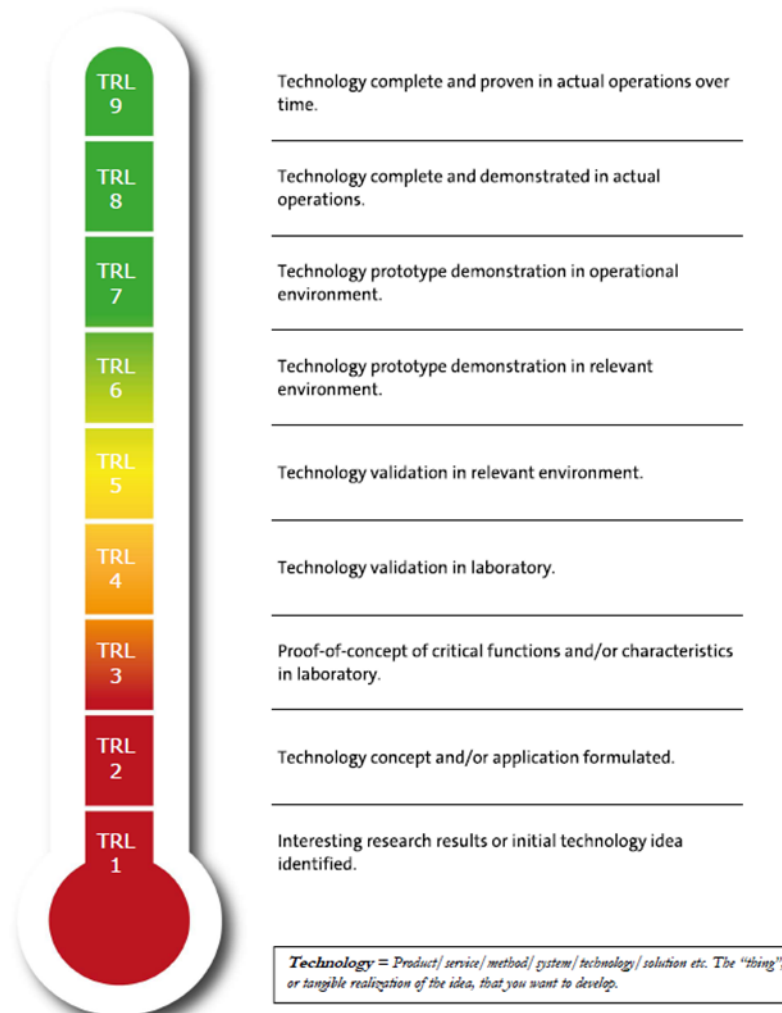
## KTH Innovation Readiness Level™





## KTH Innovation Readiness Level™

### Technology Readiness Level – TRL





## KTH Innovation Readiness Level™

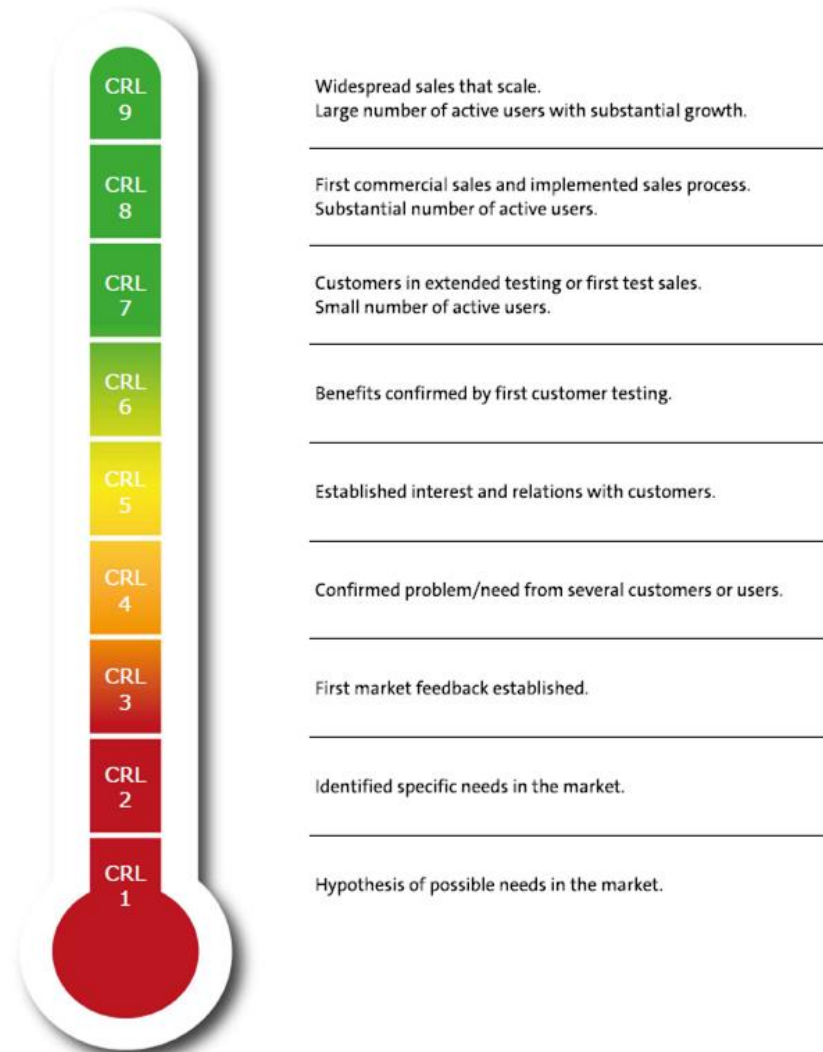
### Business Model Readiness Level – BRL





## KTH Innovation Readiness Level™

### Customer Readiness Level – CRL

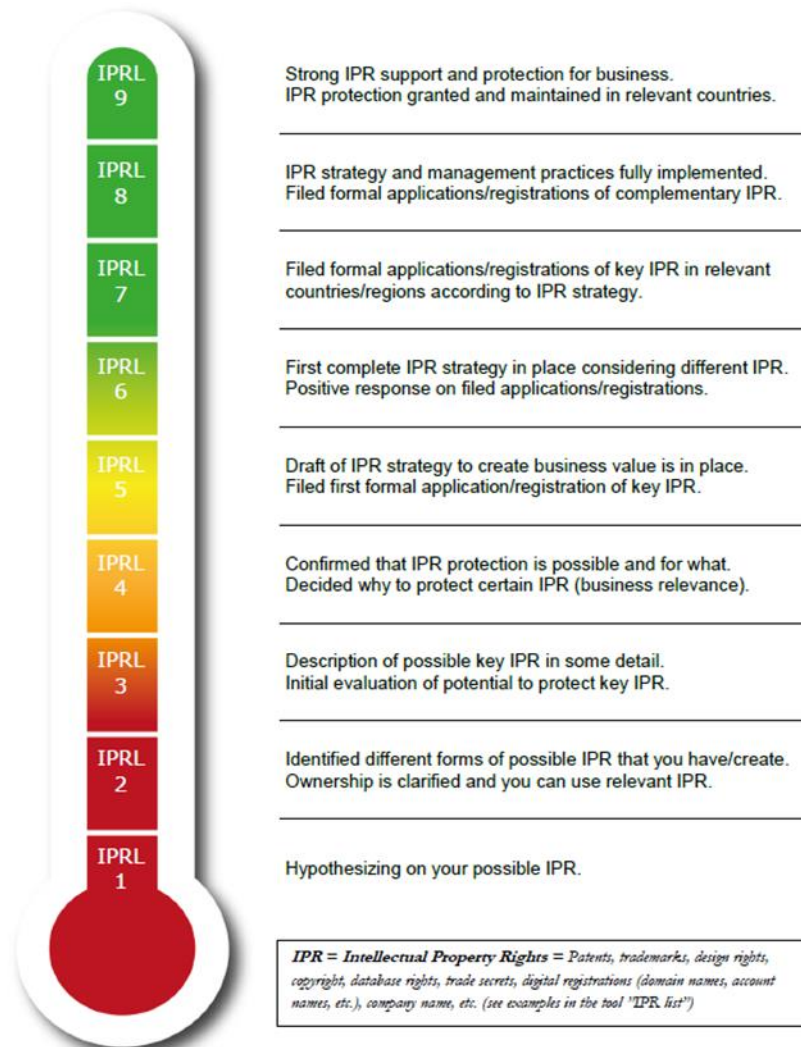






## KTH Innovation Readiness Level™

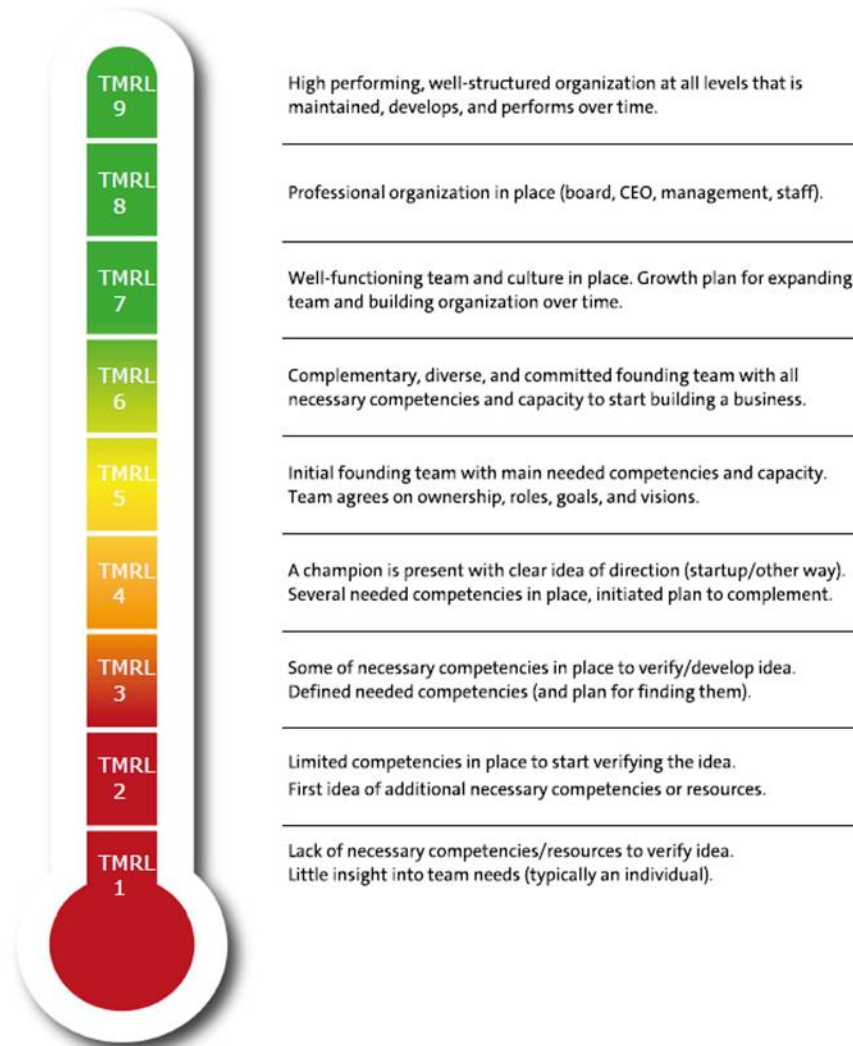
### IPR Readiness Level – IPRL





## KTH Innovation Readiness Level™

### Team Readiness Level – TMRL





## KTH Innovation Readiness Level™

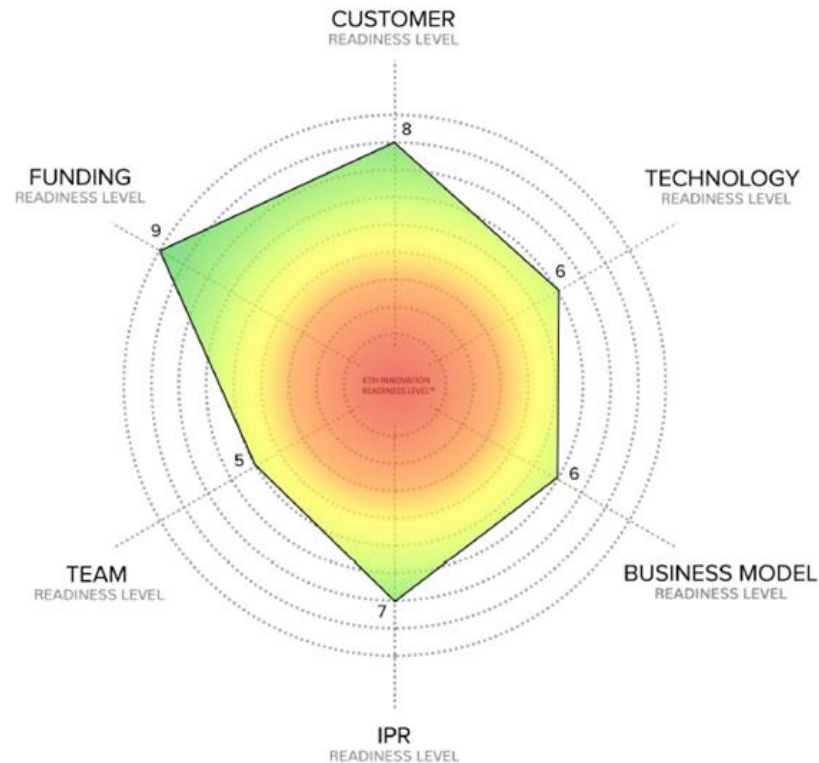
### Funding Readiness Level – FRL

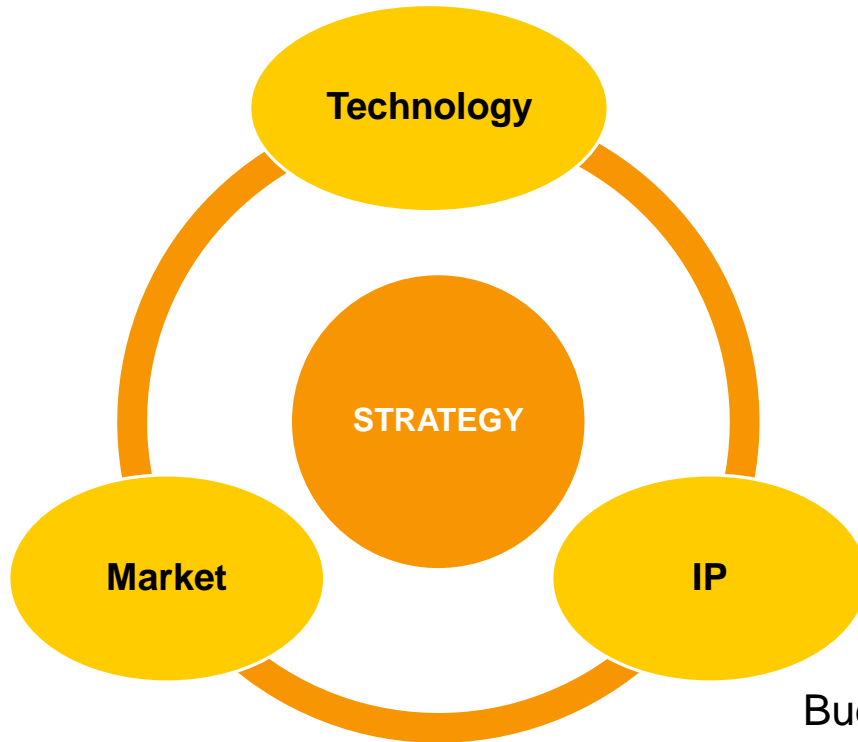




Royal Institute of Technology  
(Stockholm, Sweden)

## KTH Innovation Readiness Level™





Technology assessment / *Due Diligence*

**Decision: go / no go**



Budget for Protection, Valorization, Commercialization

Assessment

Protection

Valorization

Commercialization (Marketing,  
Negotiation, License)



## Invention identification & assessment

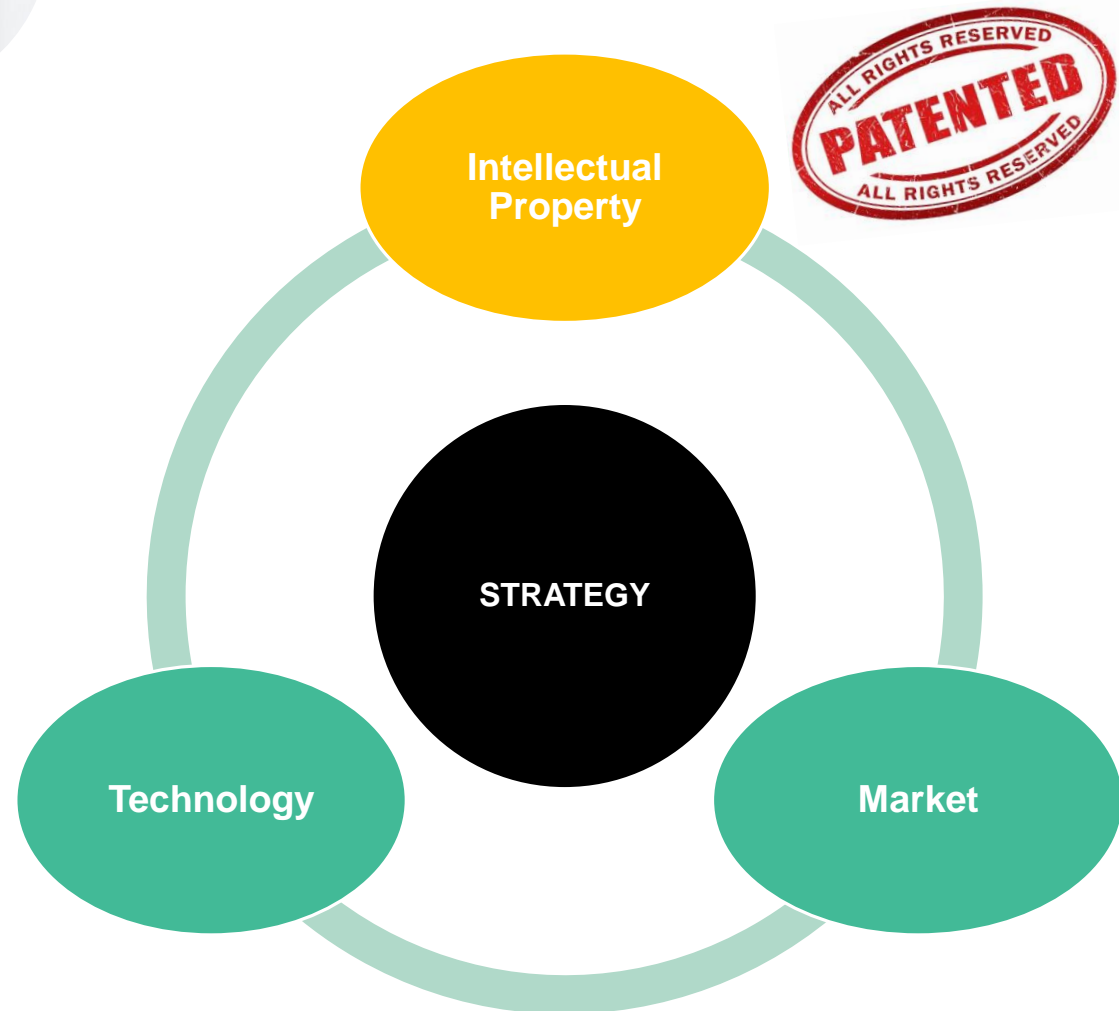
Could a patent application  
be filed ?

Did the invention meet  
basic patent requirements?

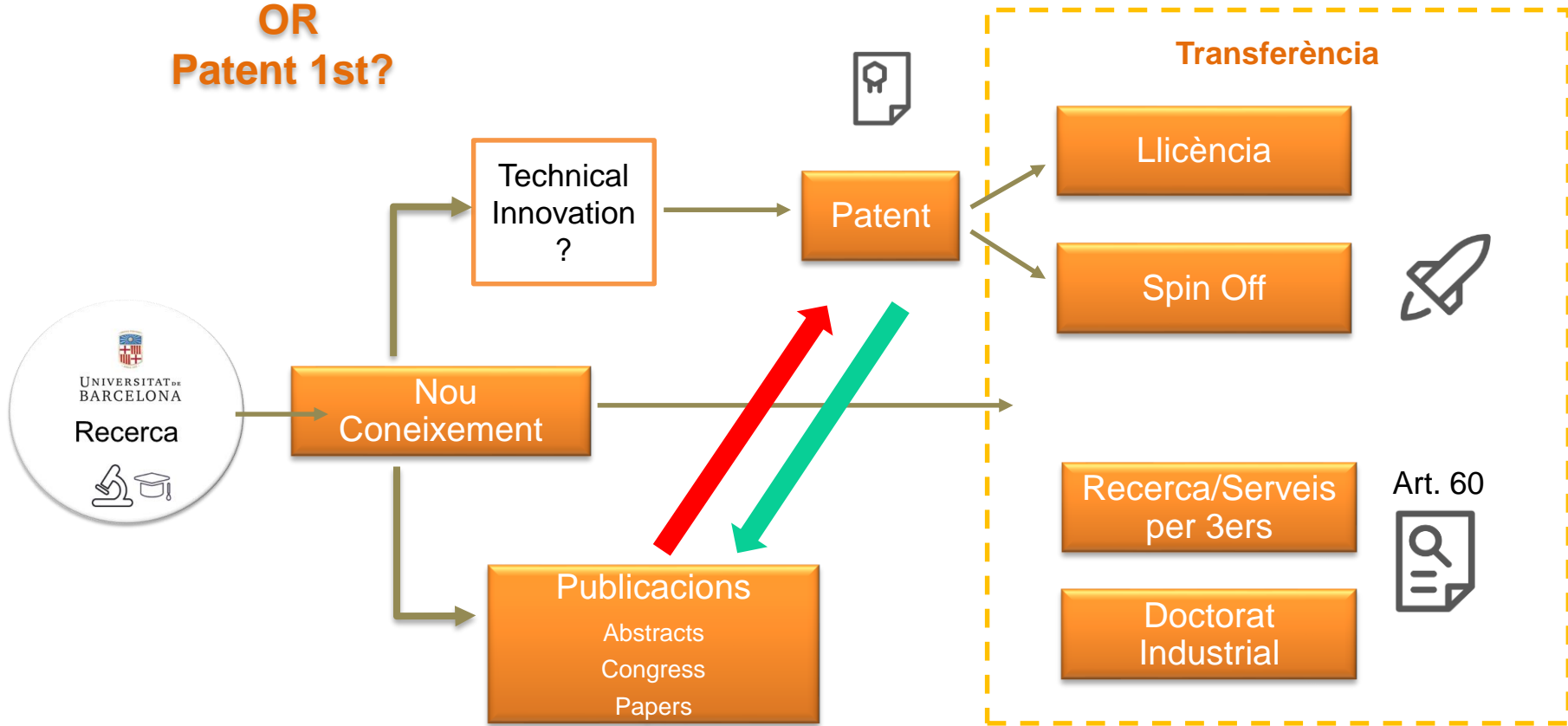
It does make sense to  
protect it?

How is the owner of the invention?

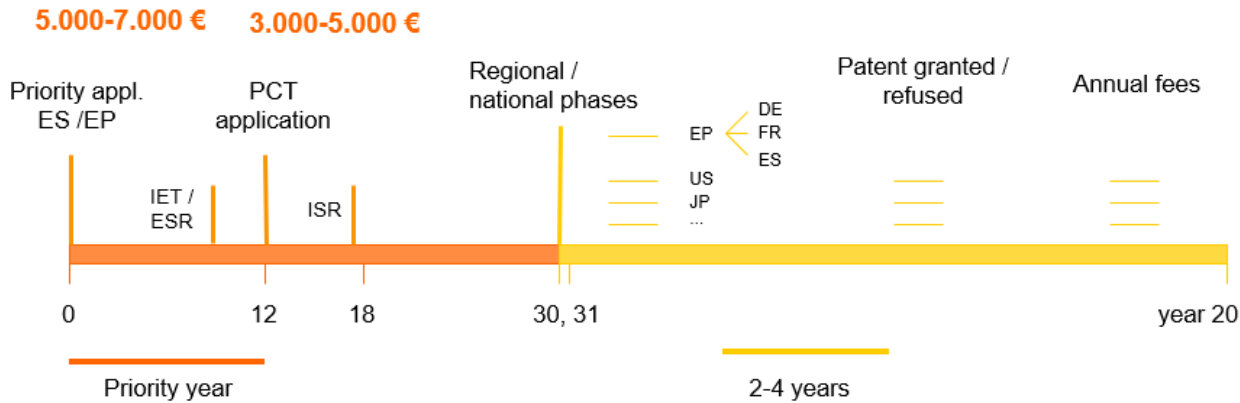
Does your invention incorporate IP  
which you don't own?



# Should I Publish? OR Patent 1st?



## PATENTABILITY TIMELINE & COSTS



### Transfer period: 30 months

**ESR:** This is the examiner's first official communication regarding your application. It could be an allowance (granting the patent) or, more likely, a rejection based on various reasons like lack of novelty, inventive step, or proper claim drafting.

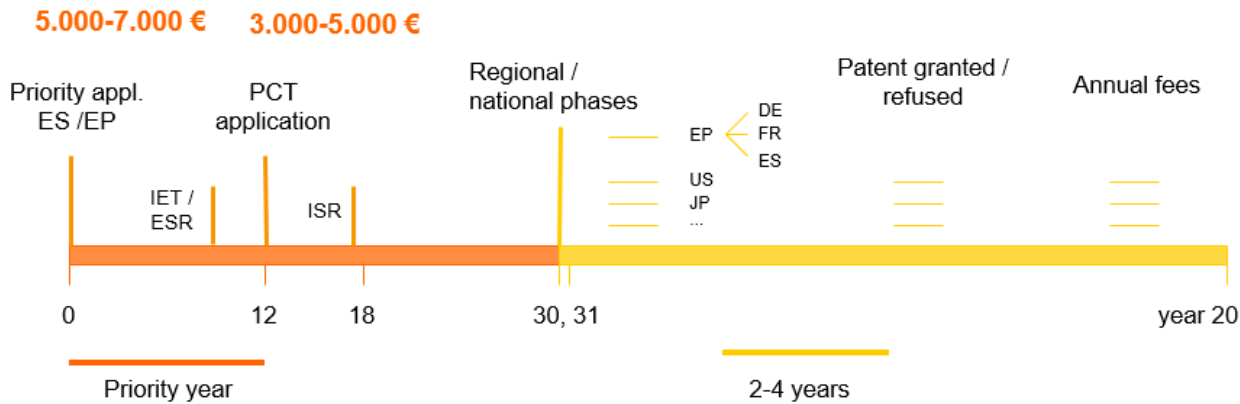
**IET:** This is an optional interview you can request with the examiner to discuss your application and address any potential issues before they issue a formal rejection.

**ISR (International Search Report):** This is a formal report issued by a patent office acting as an International Searching Authority (ISA) under the Patent Cooperation Treaty (PCT). It provides a preliminary analysis of your invention's patentability. The ISR includes:

- **Novelty Search:** Identifies prior art (existing inventions) that might impact your invention's novelty.
- **Inventive Step Search:** Evaluates if your invention involves an inventive step (non-obvious improvement) over existing technology.



## PATENTABILITY TIMELINE & COSTS



Term	Description	Timing	Issued by	Focus
ISR (International Search Report)	Formal report analyzing patentability	After initial PCT application filing	International Searching Authority (ISA)	Novelty & Inventive Step Search
IET (Initial Examiner Interview)	Optional interview with examiner	After initial filing (national office) or after ISR (PCT)	National Patent Office Examiner	Discussion & clarification
ESR (Examiner's First Action)	Examiner's first official communication	After initial filing (national office) or after ISR (PCT)	National Patent Office Examiner	Allowance or Rejection (based on various criteria)

### Transfer period: 30 months

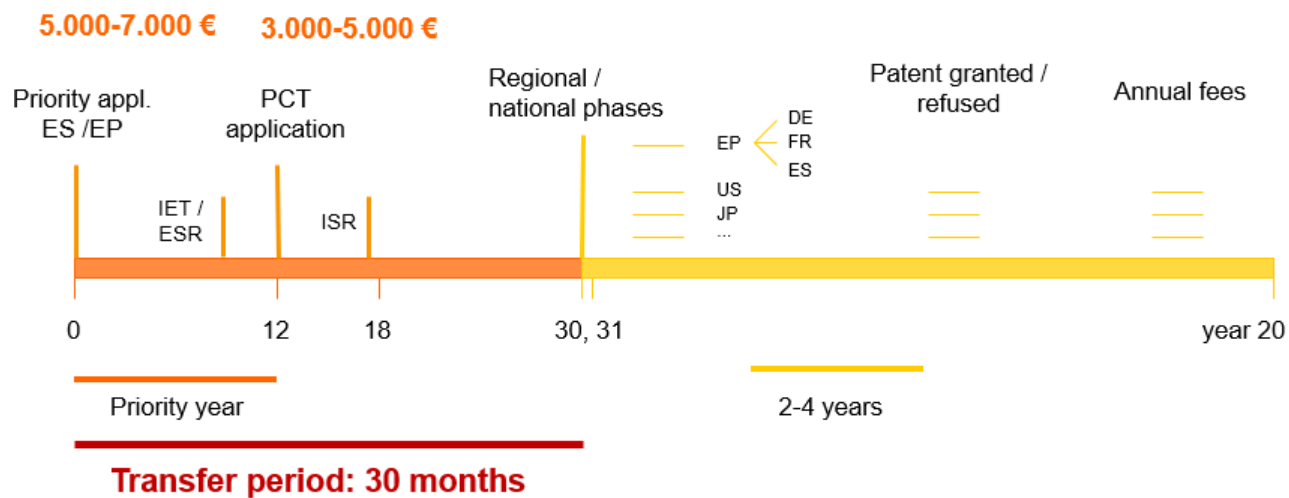
**ESR:** This is the examiner's first official communication regarding your application. It could be an allowance (granting the patent) or, more likely, a rejection based on various reasons like lack of novelty, inventive step, or proper claim drafting.

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## PATENTABILITY TIMELINE & COSTS





## INTELLECTUAL PROPERTY RIGHTS

	Type	What does it protect	Requirement	Duration
INTELLECTUAL PROPERTY	PATENT	Inventions (products / methods)	<ul style="list-style-type: none"><li>- Novelty</li><li>- Non-obviousness</li><li>- Industrial applicability</li></ul>	20 years
	UTILITY MODEL	Inventions (products)	<ul style="list-style-type: none"><li>- Novelty</li><li>- Non-obviousness</li><li>- Industrial applicability</li></ul>	10 years
	INDUSTRIAL DESIGN	Appearance or aesthetic features	<ul style="list-style-type: none"><li>- Originality</li><li>- Non-functionality</li></ul>	5 years, max. 25
	TRADEMARK	Sign	Novelty	10 years, indefinite
	TOPOGRAPHIES OF SEMICONDUCTOR PRODUCTS	Integrated circuits	Novelty	10 years
	TRADE SECRET	Confidential information	Secret	Indefinite
	COPYRIGHT	Original work	Novelty	Author lifetime + 70 years



## INTELLECTUAL PROPERTY RIGHTS

	Type	What does it protect	Requirement	Duration
INTELLECTUAL PROPERTY	<b>PATENT</b>	Inventions (products / methods)	<ul style="list-style-type: none"> <li>- Novelty</li> <li>- Non-obviousness</li> <li>- Industrial applicability</li> </ul>	20 years
	<b>UTILITY MODEL</b>	Inventions (products)	<ul style="list-style-type: none"> <li>- Novelty</li> <li>- Non-obviousness</li> <li>- Industrial applicability</li> </ul>	10 years
	<b>INDUSTRIAL DESIGN</b>	Appearance or aesthetic features	<ul style="list-style-type: none"> <li>- Originality</li> <li>- Non-functionality</li> </ul>	5 years, max. 25
	<b>TRADEMARK</b>	Sign	Novelty	10 years, indefinite
	<b>TOPOGRAPHIES OF SEMICONDUCTOR PRODUCTS</b>	Integrated circuits	Novelty	10 years
	<b>TRADE SECRET</b>	Confidential information	Secret	Indefinite
	<b>COPYRIGHT</b>	Original work	Novelty	Author lifetime + 70 years

## “INDUSTRIAL PROPERTY”: PATENTS



- **Negative right:** right to prevent others from making, using, offering for sale, selling or importing the invention without the owner's permission
- **Proprietary right:** it has a patrimonial value → can be rented (*licensed*) or sold (*assigned*)
- **Territorial monopoly**
- **Temporal monopoly:** 20 years

## WHAT CAN BE PATENTED?

**Invention:** *Technical* solution to a *technical* problem  
(Technical development with industrial application)

- **Product**
- **Process** (Method / Use)

## WHAT CANNOT BE PATENTED?

- **Discoveries of materials or substances already existing in nature**
- **Scientific theories or mathematical methods**
- [...]
- **Software**
  - US (USPTO): Software patents.
  - UE (EPO): “*Computer Implemented Inventions*”: *is an invention whose implementation involves the use of a computer, computer network or other programmable apparatus; with features realized wholly or partly by means of a computer program*  
(p. ex. Systems for automation of industrial processes, navigation systems, medical vision technology)
  - ES (OEPM): Software *per se* is not patentable

## CONDITIONS OF PATENTABILITY:

### 1.- Novelty (on a worldwide basis)

#### → Any disclosure destroys novelty

(articles, thesis, oral presentations orals, web publication, product in the market)

#### → Prior art search (patent databases and scientific papers)



### 2.- Inventive Step (Non-Obviousness)

→ The invention would not have been **obvious** to a person having ordinary skill in the art

### 3.- Industrial Applicability (Utility)

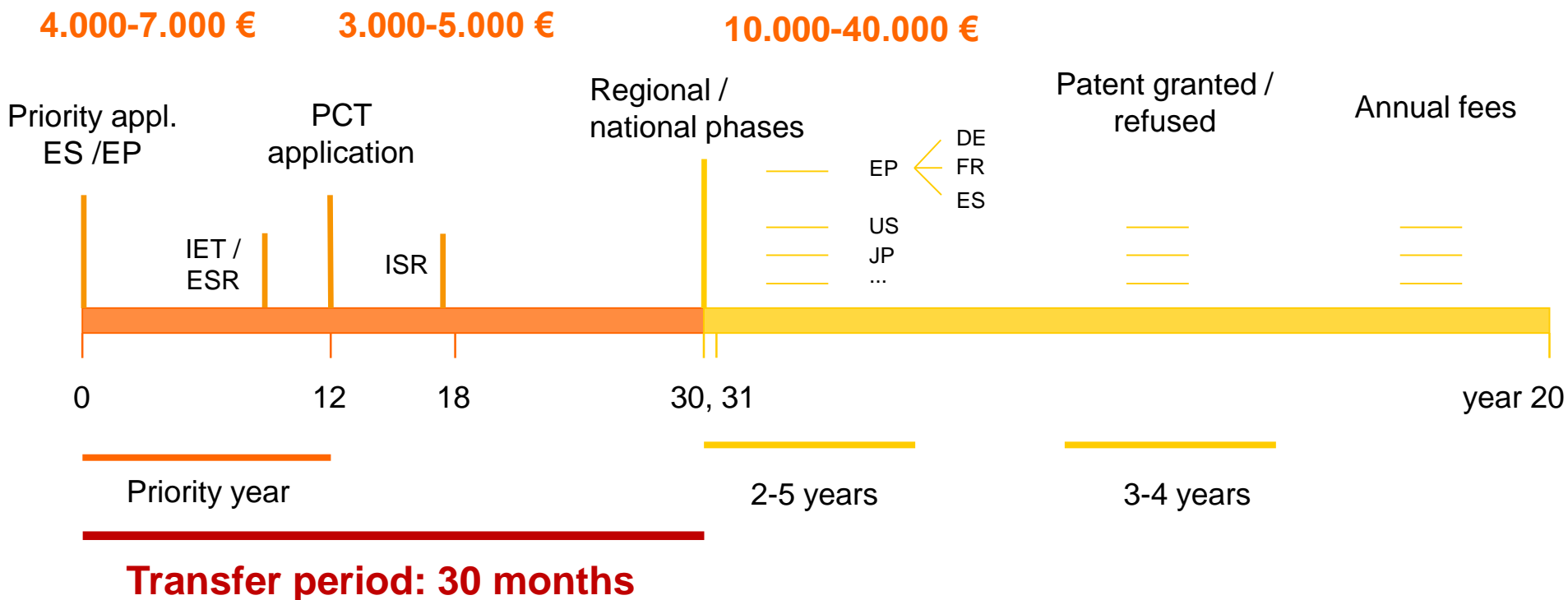
→ It should be possible to **make and manufacture** the invention by **technical means** on a certain **scale**

### 4.- Sufficiency of Disclosure

→ The invention must be disclosed in a manner **sufficiently clear** for it to be carried out by a person skilled in the art



## PATENTABILITY TIMELINE & COSTS







Inventor

## INVENTORSHIP



Inventor: a person who made an *active inventive contribution* to the invention

- Inventorship *is not transferrable*
- Inventor receives a share of any income derived from the patent exploitation

## WHO OWNS THE PATENT RIGHTS?

≠

## OWNERSHIP



Art. 21 Spanish Patent Law  
(2015)

Owner may transfer (assign) the patent or grant licenses



Applicant

**PATENT OWNER IS THE  
UNIVERSITY**

- **Non-permanent personnel:** *Optional rights assignment to the university*
- **Joint inventions / Collb. projects:** *Joint Ownership Agmt. / Consortium Agmt.*
- **Contracts with Industry**



*“When the researcher makes an invention as a result of a contract with a private or public entity, the contract must specify to which of the contracting parties will correspond the ownership of the same”*





## INTELLECTUAL PROPERTY RIGHTS

	Type	What does it protect	Requirement	Duration
INTELLECTUAL PROPERTY	PATENT	Inventions (products / methods)	<ul style="list-style-type: none"> <li>- Novelty</li> <li>- Non-obviousness</li> <li>- Industrial applicability</li> </ul>	20 years
	UTILITY MODEL	Inventions (products)	<ul style="list-style-type: none"> <li>- Novelty</li> <li>- Non-obviousness</li> <li>- Industrial applicability</li> </ul>	10 years
	INDUSTRIAL DESIGN	Appearance or aesthetic features	<ul style="list-style-type: none"> <li>- Originality</li> <li>- Non-functionality</li> </ul>	5 years, max. 25
	TRADEMARK	Sign	Novelty	10 years, indefinite
	TOPOGRAPHIES OF SEMICONDUCTOR PRODUCTS	Integrated circuits	Novelty	10 years
	TRADE SECRET	Confidential information	Secret	Indefinite
	COPYRIGHT	Original work	Novelty	Author lifetime + 70 years



Assessment

Valoritization (Protection, PoC)

Commercialization (Marketing, Negotiation,  
License)

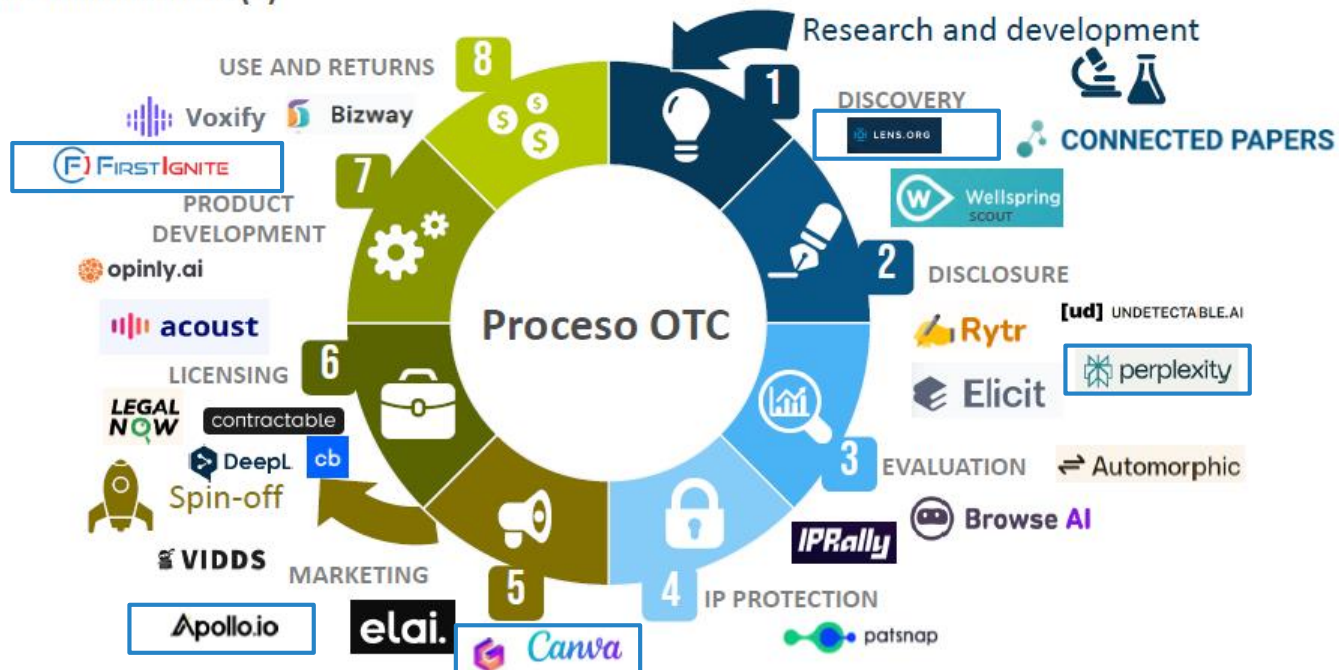
## Steps in Tech Assessment (Software, AI, HW)

1. **Disclosure form**: often software+hardware (e.g. Optics, Electronics, Medical tech), few are purely SW (AI Federated Learning, clothing recommendation system)
2. **IP ownership**: list of authors and affiliations, external institutions?
3. **Analysis of IP**: library dependencies, Open sources licenses.
4. **Software registration** at University repository (source code is kept secret)
5. **Further IP protection**: consider a patent for a CII Computer Implemented method if there is a clear technical effect and inventive step (if commercially viable).
6. **Business exploitation model, Commercialization, spinoff creation**



# AI Tools in Tech Transfer

## Apps para transferencia (2)



II Jornada de las Oficinas de Transferencia de las Universidades

Despite a growing nr of AI tools, we still  
rely mostly on  
**Human Intelligence** subcontracting  
expert agents at each stage

Software Licenses: Example of quick analysis with LLMs <https://choosealicense.com/appendix>

License	Commercial use	Distribution	Modification	Patent use	Private use	Disclose source	License and copyright notice	Network use is distribution	Same license	State changes	Liability	Trademark use	Warranty
BSD Zero Clause License	●	●	●		●						●		●
Academic Free License v3.0	●	●	●	●	●		●			●	●	●	●
GNU Affero General Public License v3.0	●	●	●	●	●	●	●	●	●	●	●		●
Apache License 2.0	●	●	●	●	●		●			●	●	●	●
Artistic License 2.0	●	●	●	●	●		●			●	●	●	●
Blue Oak Model License 1.0.0	●	●	●	●	●		●				●		●
BSD-2-Clause Plus Patent License	●	●	●	●	●		●				●		●
BSD 2-Clause "Simplified" License	●	●	●		●		●				●		●
BSD 3-Clause Clear License	●	●	●	●	●		●				●		●
BSD 3-Clause "New" or "Revised" License	●	●	●		●		●				●		●
BSD 4-Clause "Original" or "Old" License	●	●	●		●		●				●		●
Boost Software License 1.0	●	●	●		●		●				●		●
Creative Commons Attribution 4.0 International	●	●	●	●	●		●			●	●	●	●
Creative Commons Attribution Share Alike 4.0 International	●	●	●	●	●		●		●	●	●	●	●
Creative Commons Zero v1.0 Universal	●	●	●	●	●						●	●	●
CeCILL Free Software License Agreement v2.1	●	●	●	●	●	●	●	●	●		●		●
CERN Open Hardware Licence Version 2 - Permissive	●	●	●	●	●		●			●	●		●
CERN Open Hardware Licence Version 2 - Strongly Reciprocal	●	●	●	●	●	●	●		●	●	●		●
CERN Open Hardware Licence Version 2 - Weakly Reciprocal	●	●	●	●	●	●	●		●	●	●		●

# Software Licenses: using AI to evaluate IP

Prompt >>

As an expert in software licenses,  
under which license will you distribute a new  
software that uses libraries that contain **Boost**  
and **GNU Lesser LGPL** licenses?

Boost Software  
License 1.0

GNU Lesser  
General Public  
License v3.0



As an expert in software licenses, distributing a new software that uses libraries under both the Boost Software License and the GNU Lesser General Public License (LGPL) offers more flexibility than when dealing with the regular GPL. Here's a breakdown of the situation and the likely licensing approach:

## Understanding the Licenses (Recap):

- **Boost Software License:** A very permissive license allowing use, modification, and distribution in both proprietary and open-source software with minimal restrictions (copyright notice and license text inclusion).
- **GNU Lesser General Public License (LGPL):** A more permissive variant of the GPL. It allows you to link your software (which can be proprietary) with LGPL-licensed libraries. The key aspect is that while the LGPL-licensed library itself must remain under the LGPL, your own application code that uses the library can be under a different license, including a proprietary one. However, if you modify the LGPL-licensed library itself, those modifications must also be licensed under the LGPL.

## Compatibility and Licensing Options:

The combination of the Boost license and the LGPL is generally considered compatible and offers you several licensing options for your new software:

1. **Proprietary License for Your Main Software:** This is a strong possibility. The LGPL is specifically designed to allow proprietary software to link and use LGPL-licensed libraries. Since the Boost license is also permissive, it doesn't impose restrictions that would prevent you from using a proprietary license for your own code.
  - **Requirements:** When distributing your proprietary software that links to LGPL-licensed libraries, you will typically need to:
    - Provide a copy of the LGPL license.
    - Attribute the LGPL-licensed libraries.
    - Ensure that users can replace the LGPL-licensed library with their own modified versions (usually by using dynamic linking). This is a key requirement of the LGPL to ensure users' freedom to modify the library.
    - For Boost libraries, you'll need to include the Boost license text and copyright


Gemini

2.5 Flash

## Software Licenses: using AI to evaluate IP

Prompt >>

As an expert in software licenses,  
under which license will you distribute a new  
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**Software IP due diligence analysis is often complicated and subcontracted to legal experts  
but AI can help during the initial assessment**

(in this example the AI guessed correctly but experts provide valid legal reports and documents)



# Steps in Tech Assessment (Software, AI, HW)

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UNIVERSITAT DE  
BARCELONA

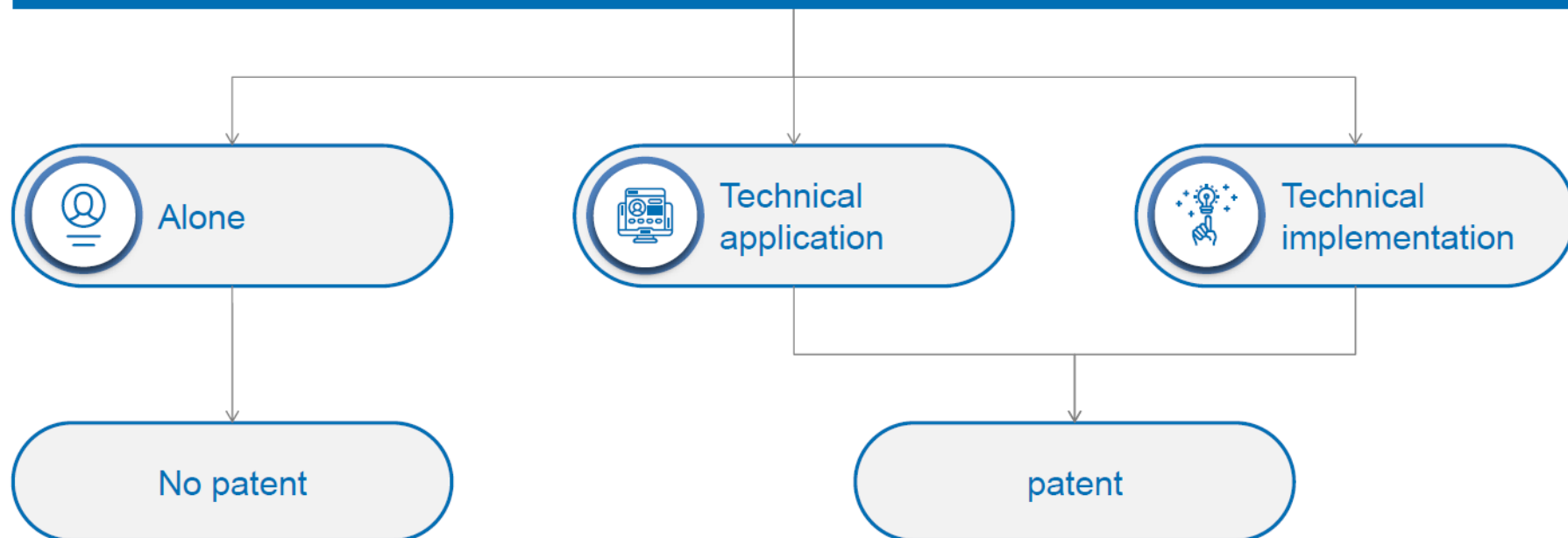


Bosch i Gimpera  
UNIVERSITAT DE BARCELONA



## II. Guidelines for Examination of AI in the EPO (latest update 2025)

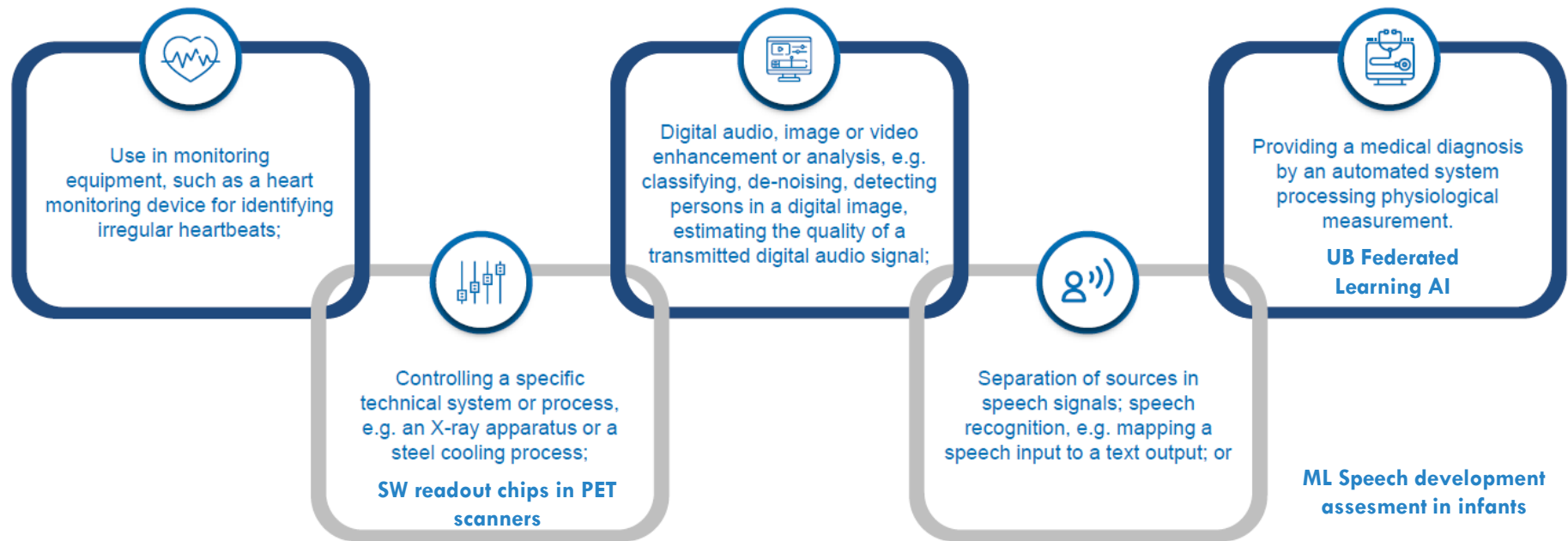
### Examined as inventions involving **mathematical methods**



### CII Computer Implemented Methods



## Examples of Technical Applications Mathematical Models or Computer Implemented Methods



This technical purpose must be specific

Other general examples of patents in AI include ML Classification or Recommendations systems with particular datasets



## Technical Implementation

### Second Case - Technical Implementation of a mathematical model



Mathematical method is **particularly adapted** for that implementation.



Data  
collection



Interaction between  
hardware elements  
to collect the data



## Claiming AI-Related Inventions

AI-related inventions may have three potentially patentable aspects



**Generating** training data for use in training a model, such as an artificial neural network;

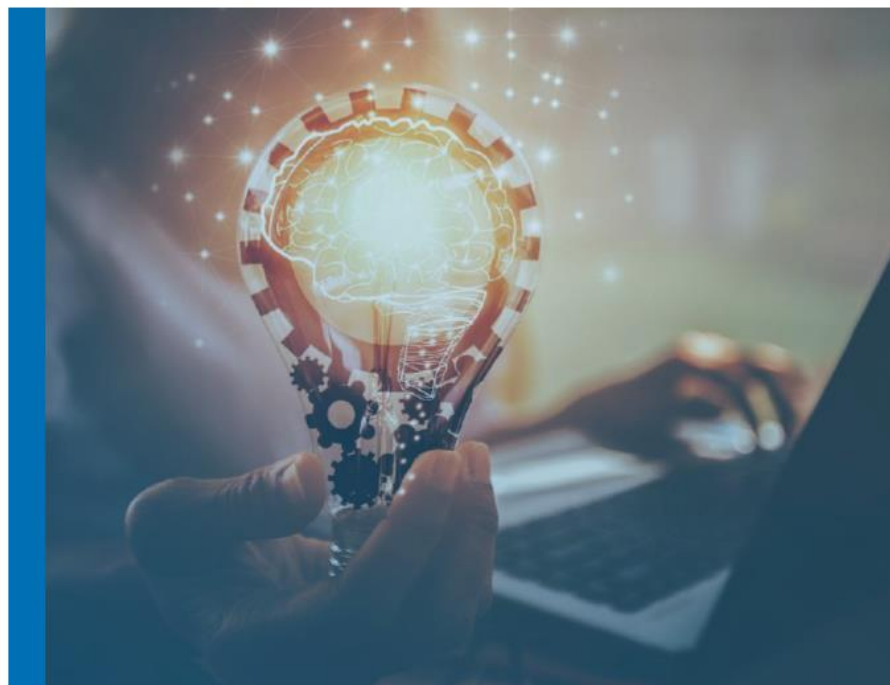


**Training** the model using the training data (machine learning); and



**Using** the trained model to analyze new data

Each of these aspects should have separate independent claims



Picture source: Istock.com





## Inventive Step



Not “could” the skilled person arrive at the invention but “would” they do so?



- Large number of parameters
- No obvious relationship
- Human selection of training parameters



Problem-Solution approach is required  
Solution must be in the technical sphere



## AI as Inventor or Creator

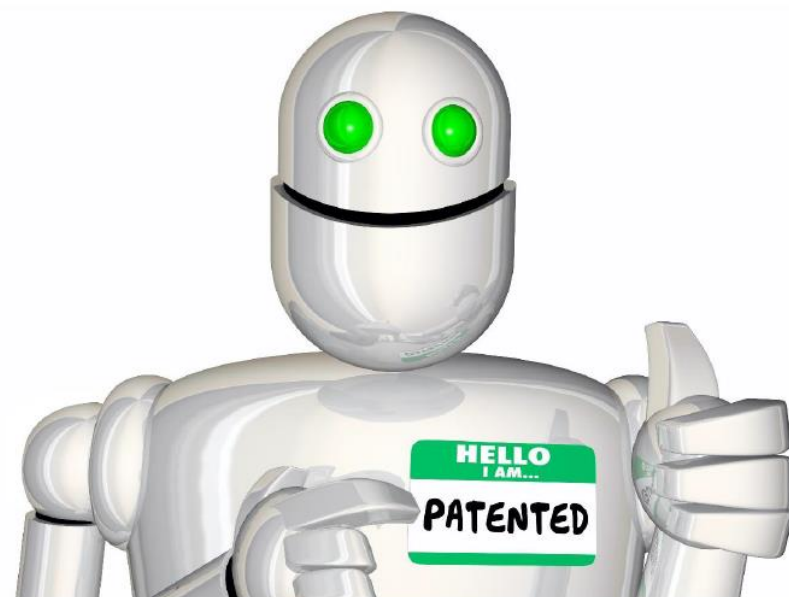


EPO US UK : No (EPO - J0008/20)  
South Africa: Yes  
Germany: No – but include in description



US Copyright Office: Creator must be a  
human being

“...the inventor designated in a European patent must be a natural person ... the understanding of the term inventor as referring to a natural person appears to be an internationally applicable standard, and that various national courts have issued decisions to this effect.”







## Conclusions – Protection of AI Innovations



Dr. Robert Harrison  
Sonnenberg Harrison Partnerschaft mbB  
+49 1511 2066 303  
[www.sonnenbergharrison.law](http://www.sonnenbergharrison.law)  
Email: [consulting@robharrison.eu](mailto:consulting@robharrison.eu)  
Munich | Berlin | Paris | Vienna | Zürich | London  
 <https://www.linkedin.com/in/robertharrison/>



Data can be protected



Copyright for programs



Patenting possible if you can describe  
problem-solution approach

## Further Learning

# Further Learning

<http://www.ec.europa.eu/ip-helpdesk>



European  
IP Helpdesk

ec.europa.eu/ip-helpdesk

## Search past webinars (no fees!)

Filter by

Keywords

Status

1 Past

Filter results

☐ Select all (2)

☐ Upcoming and ongoing

☒ Past

Close

Clear all

Online type

Select

Regions

Select

Search

Clear filters

09  
APR

2025

Training and workshops

[EU - Webinar: IP and Artificial Intelligence](#)

Live streaming available

23  
APR

2025

Training and workshops

[EU - Webinar: IP and Artificial Intelligence - Advanced](#)

Live streaming available

29  
APR

2025

Training and workshops

[EU - Webinar: IP Commercialisation and Licensing](#)

Live streaming available

# Further Learning

<https://e-courses.epo.org>

<https://www.epo.org/en/learning/events/ow06-2025>



 E-Learning Courses/Events


## AI applied to medical science and technology

€ Free 12h


This workshop addresses the challenges of patenting AI-implemented inventions in the field of medical science and medical technologies:


### Summary

 01.10.2025 to 31.12.2025


 Intermediate

 12.00h


 Online

 English

 Free

 Unlimited

 Organised by

 European Patent Academy

## Innovation trends for electrolyzers in hydrogen production, May 2022



## Quantum technologies and space, November 2021



Prepared by the EPO and the European Space Policy Institute (ESPI) in collaboration with the European Space Agency (ESA), this report provides insights into the patenting activities for quantum technologies specifically as they relate to the space sector. These technologies are primarily used in secure communications, in time and frequency transfer, as well as in Earth observation and sensing. This report considers three key quantum technologies that enable these main application areas.

-  [Full report](#)
-  [Supplementary material](#)
-  [Recorded online seminar](#)

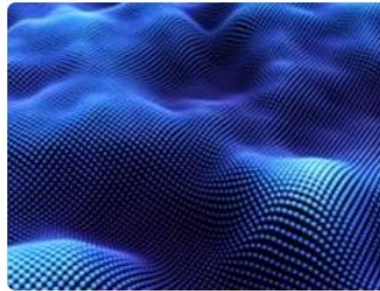
## Quantum metrology and sensing, September 2019



This study conducted by the European Patent Office shows that the number of patent filings for second-generation quantum metrology and sensing devices is still small but has recently started to grow. It also reveals that a large proportion of the patent filings in this field come from academia, suggesting that researchers still account for most knowledge and exploitation of quantum physics.

-  [Full report](#)
-  [Insights](#) (PPT, 2.1 MB)
-  [Data](#) (XLS, 200 KB)
- [→ Recorded online seminar](#)

## Quantum simulation, June 2023

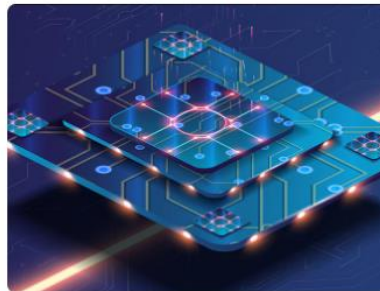


This study follows on from our patent insight report on quantum computing and looks at patenting trends in quantum simulation. We focus on so-called second-generation quantum simulation technologies. These build on the ability to control both the quantum-physical properties of individual or small groups of particles (such as atoms and photons) and how they behave.

 [Full report](#)


 [Data](#) (XLS, 20 KB)

## Quantum computing, January 2023



The report provides, in the light of publicly available patent information, an overview of quantum computing at large and of the following sub-sectors: physical realisations of quantum computing, quantum error correction and mitigation, and technologies related to quantum computing and artificial intelligence/machine learning.

 [Full report](#)

 [Data](#) (XLS, 15 KB)



# Open Science **Open Access**

## Mandatory for Horizon Projects

- Scientific publications
  - Research data
  - 1. Opt out for legitimate reasons
  - 2. Enhances innovation capacity
  - 3. Validates research results and data
- 1. As open as possible, as closed as necessary
  - 2. Not about making results free for commercial use
  - 3. Science publications immediate access in trusted repositories





# Open Science

## Open Access

**Not** an obligation to disseminate  
(publish) or ignore IP rights

The dissemination of results **can be postponed** to allow the appropriate protection of results beforehand

**If/when** a scientific article, research data, is published, it **will have to be in open access**

At the **latest upon publication**:  
**deposit** the AAM or VoR in a **trusted repository**, and **ensure open access** via the repository **under CC BY licence**, or equivalent

Owners of the copyright must:  
**retain sufficient intellectual property rights (copyright) to comply with the OA requirements**





# Open ≠ unprotected or no IPR

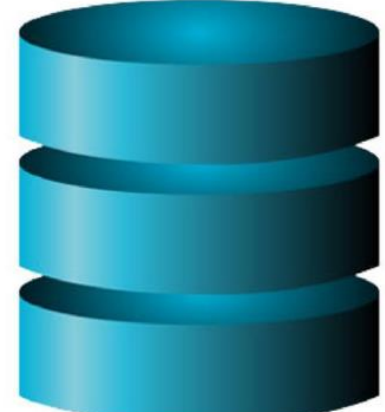
**Copyright** protects the scientific publication

**Copyright** protects (creative) data

**Database right** protects the collection if there has been a  
"substantial investment" in obtaining, verifying or  
presenting the contents of the database

**Other protection** for other aspects of the creation/invention  
(IP Rights, secrecy, NDA, contracts, etc)

J. Albors \*, E. Sweeney & A. Hidalgo (2005) Transnational technology transfer networks for SMEs. A review of the state-of-the art and an analysis of the European IRC network, *Production Planning & Control*, 16:4, 413-423, DOI: [10.1080/09537280500063434](https://doi.org/10.1080/09537280500063434)





## INTELLECTUAL PROPERTY RIGHTS

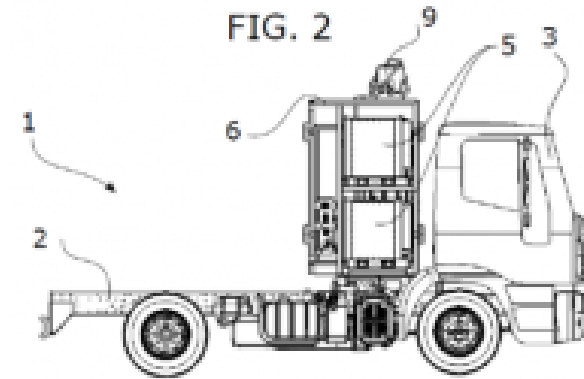
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	TOPOGRAPHIES OF SEMICONDUCTOR PRODUCTS	Integrated circuits	Novelty	10 years
	TRADE SECRET	Confidential information	Secret	Indefinite
	COPYRIGHT	Original work	Novelty	Author lifetime + 70 years

## UTILITY MODELS

Utility models provide **fast and low-cost protection** for technical inventions since they are **usually granted without substantive examination**. For this reason, they are more accessible to individual innovators or small and medium-sized enterprises (SMEs) than patents, to which they are similar in their principle.

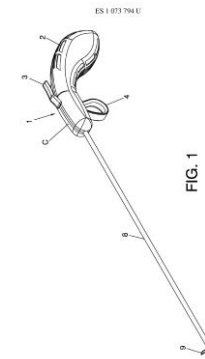
In countries where utility model protection is available, it is generally intended for the protection of minor or incremental innovations, **frequently for mechanical or electrical devices**.

In some countries, a utility model system provides protection of so-called “minor inventions” through a system similar to the patent system. Recognizing that **minor improvements of existing products, which does not fulfill the patentability requirements**, may have an important role in **a local innovation system**, utility models protect such inventions through granting an exclusive right, which allows the right holder to prevent others from commercially using the protected invention, without his authorization, for a limited period of time.



*Chassis for electric, hybrid or electric-hybrid vehicles*

(ES1075925U)



*Sutura apparatus for laparoscopic surgery*

(ES1075925U)



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## INDUSTRIAL DESIGN (or “design patents”)

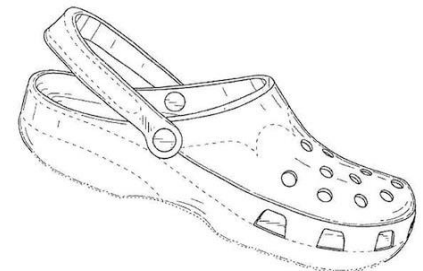
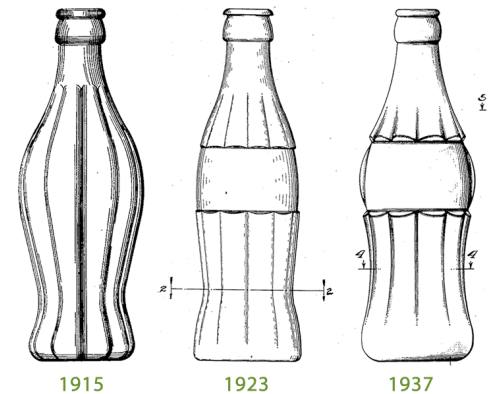
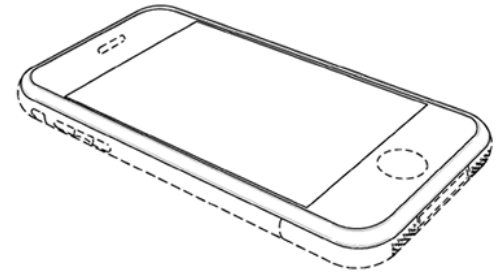
An industrial design constitutes the **ornamental aspect** of an article

Industrial designs are applied to a wide variety of products of industry and handicraft items: from packages and containers to furnishing and household goods, from lighting equipment to jewelry, and from electronic devices to textiles. Industrial designs may also be relevant to graphic symbols, graphical user interface

In most countries, an industrial design needs to be **registered** in order to be protected under industrial design law as a “registered design”. In some countries, industrial designs are protected under patent law as “design patents”.

Industrial designs can be an important element of a company’s brand. Protecting industrial designs contributes to protecting a company’s brand.

Protection helps convey a positive image of a company, since industrial designs are business assets which may increase the market value of a company and its products.





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## TRADEMARKS

A trademark is a **sign capable of distinguishing the goods or services of one enterprise** from those of other enterprises.

At the national/regional level, trademark protection can be obtained **through registration**, by filing an application for registration with the national/regional trademark office and paying the required fees. At the international level, you have two options: either you can file a trademark application with the trademark office of each country in which you are seeking protection, or you can use WIPO's Madrid System.

A trademark registration will confer an **exclusive right to the use of the registered trademark**. This implies that the trademark **can be exclusively used by its owner**, or licensed to another party for use in return for payment. Registration provides legal certainty and reinforces the position of the right holder, for example, in case of litigation

The term of trademark registration can vary, but is usually **ten years**. It can be **renewed indefinitely** on payment of additional fees.

### What kinds of trademark can be registered?

A word or a combination of words, letters, and numerals can perfectly constitute a trademark. But trademarks may also consist of drawings, symbols, three-dimensional features such as the shape and packaging of goods, non-visible signs such as sounds or fragrances, or color shades used as distinguishing features – the possibilities are almost limitless.



## TRADEMARKS

In fact, globally, the value of trademarks is much higher than that of patents, especially in those sectors in which the customer decides what to buy

It is important to register a trademark as soon as possible. Risk of delaying registration: marks may appear similar or identical that prevent registration (and, therefore, use the brand).

It would also be recommended to see if the name to be used is registered by a third party. The actions are usually only initiated when the infringing trademark has some relevance and is located by the owner. In some countries, such as the US or the United Kingdom, certain rights are acquired for the use of a trademark, even if it is not registered. This is not the case in other countries, such as Spain.

*Can You Guess These Common Trademarks?*



First Row: Android, Apple, McDonald's, Microsoft, Coca-Cola

Second Row: Shell Oil, MSNBC, Olympics, Target, Mercedes-Benz

Third Row: Pepsi, Pillsbury, Mickey Mouse, Superman, Nike





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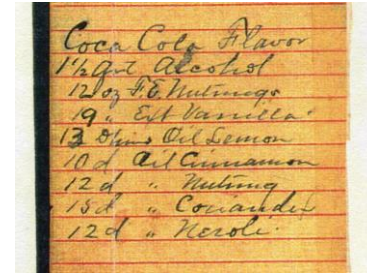


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	Type	What does it protect	Requirement	Duration
INTELLECTUAL PROPERTY	PATENT	Inventions (products / methods)	<ul style="list-style-type: none"> <li>- Novelty</li> <li>- Non-obviousness</li> <li>- Industrial applicability</li> </ul>	20 years
	UTILITY MODEL	Inventions (products)	<ul style="list-style-type: none"> <li>- Novelty</li> <li>- Non-obviousness</li> <li>- Industrial applicability</li> </ul>	10 years
	INDUSTRIAL DESIGN	Appearance or aesthetic features	<ul style="list-style-type: none"> <li>- Originality</li> <li>- Non-functionality</li> </ul>	5 years, max. 25
	TRADEMARK	Sign	Novelty	10 years, indefinite
	TOPOGRAPHIES OF SEMICONDUCTOR PRODUCTS	Integrated circuits	Novelty	10 years
	TRADE SECRET	Confidential information	Secret	Indefinite
	COPYRIGHT	Original work	Novelty	Author lifetime + 70 years

# TRADE SECRET

## What is a trade secret?



1. Secret, **confidential** information, be known only to a limited group of persons
2. Clearly **identified** and subject to **reasonable steps to keep it secret**
3. Commercially **valuable** because it is secret

## What kind of information?

*Technical information* (industrial processes, formulae...)

*Business information* (customer, financial information, business plans...)

*Know-how* (methods/ steps/ processes to achieve efficient results)

## Trade secret management

- Identification of confidential information / Protection policy
- Store confidential information safely
- Employee awareness / Non-disclosure clauses / Non-compete agreements / Document marking
- Non-disclosure Agreements (NDA)



## INTELLECTUAL PROPERTY RIGHTS

	Type	What does it protect	Requirement	Duration
INTELLECTUAL PROPERTY	<b>PATENT</b>	Inventions (products / methods)	<ul style="list-style-type: none"> <li>- Novelty</li> <li>- Non-obviousness</li> <li>- Industrial applicability</li> </ul>	20 years
	<b>UTILITY MODEL</b>	Inventions (products)	<ul style="list-style-type: none"> <li>- Novelty</li> <li>- Non-obviousness</li> <li>- Industrial applicability</li> </ul>	10 years
	<b>INDUSTRIAL DESIGN</b>	Appearance or aesthetic features	<ul style="list-style-type: none"> <li>- Originality</li> <li>- Non-functionality</li> </ul>	5 years, max. 25
	<b>TRADEMARK</b>	Sign	Novelty	10 years, indefinite
	<b>TOPOGRAPHIES OF SEMICONDUCTOR PRODUCTS</b>	Integrated circuits	Novelty	10 years
	<b>TRADE SECRET</b>	Confidential information	Secret	Indefinite
	<b>COPYRIGHT</b>	Original work	Novelty	Author lifetime + 70 years

## COPYRIGHT

Copyright (or author's right) is a legal term used to describe the rights that creators have over their **literary and artistic works**.

Works covered by copyright range from:

- Books (novels, poems, ...)
- Music, films, choreographies
- Paintings, drawings, photographs, sculptures,
- Computer programs (softwares) and databases
- Architecture
- Advertisements
- Maps
- Technical drawings

(<https://www.wipo.int/copyright/en/>)



Creations resulting from the **intellectual creativity** of people that are **protected from the moment of their creation** (Artistic creation).

In most countries registration is not necessary to obtain this protection. It is enough to be able to prove the authorship of the work.

## COPYRIGHT

What rights does copyright give me? What are my rights as author of a work?

There are two types of rights under copyright:

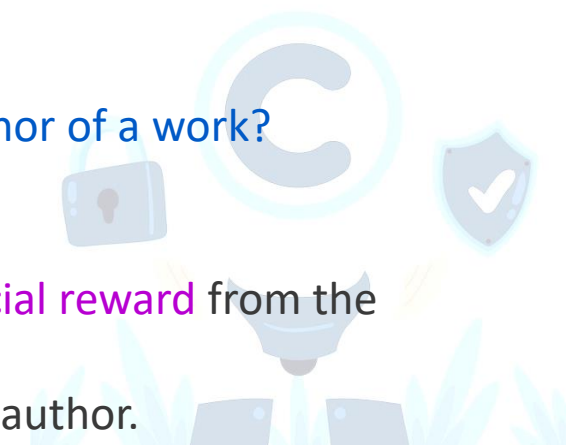
- **economic rights**, which allow the rights owner to derive **financial reward** from the use of their works by others; and
- **moral rights**, which protect the **non-economic interests** of the author.

Most copyright laws state that the rights owner has the economic right to authorize or prevent certain uses in relation to a work or, in some cases, to receive remuneration for the use of their work.

The economic rights owner of a work can prohibit or authorize:

- its reproduction in various forms, such as printed publication or sound recording;
- its public performance, such as in a play or musical work;
- its recording, for example, in the form of compact discs or DVDs;
- its broadcasting, by radio, cable or satellite;
- its translation into other languages; and
- its adaptation, such as a novel into a film screenplay.

Examples of widely recognized moral rights include the right to claim authorship of a work and the right to oppose changes to a work that could harm the creator's reputation.



## COPYRIGHT



### Can I register copyright?

In the majority of countries, and according to the [Berne Convention](#), copyright protection is obtained automatically without the need for registration or other formalities.

Most countries nonetheless have a system in place to allow for the voluntary registration of works. Such voluntary registration systems can help solve disputes over ownership or creation, as well as facilitate financial transactions, sales, and the assignment and/or transfer of rights.

**In Spain, works can be registered in the Registry of the Intellectual property – Value of proof of possession of the work on the date of deposit – Reduced cost and “simple” procedure – Note: symbol © followed by the name of the holder of the rights, place and year of disclosure**

## WHAT DO COPYRIGHTS PROTECT?

**Original works of authorship** including:

- scientific works → publications
- Computer software

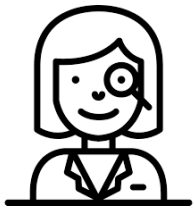


Copyright does **not** protect facts, ideas, systems, or methods of operation, although it may protect **the way these things are expressed**





## WHO OWNS COPYRIGHTS?



Author

### Moral rights

[authorship recognition]



Owner

### Patrimonial rights

[work exploitation]

- Inalienable and perpetual
- Cannot be waived or transferred

- Last for a limited term
- Freely transmissible

- Right to **authorship recognition** of researchers
- Right to participate in the **exploitation incomes**

**Exploitation rights correspond to the University**

- **Industrial Property Rights** (Patents, Utility models, Industrial Design, Trademarks, SPT) → ***Need to be applied for***

- **Copyrights** → ***Moral rights are granted to the author from the moment of its creation***



*Registration is not mandatory, but convenient*

**Recommendation:**

- use of the copyright symbol
- Registration at **Intellectual Property Registry**



copyright  
all rights reserved

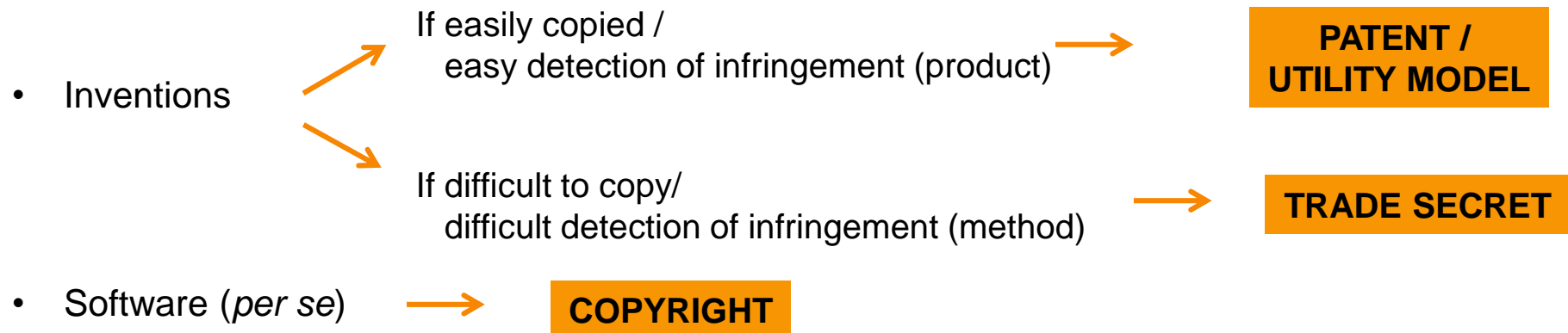


***Presumption*** of the right existence and that it pertains to the recorded right-holder

## WAYS TO PROTECT INNOVATION:

- Legal protection → Industrial Property Rights and Copyrights
- Be the first in the market → FMA (*"First Mover Advantage"*)
- Trade secret

Usually a company protects its innovation assets with *a combination* of these 3 modalities



## PATENTS VS. TRADE SECRET

	PATENT	TRADE SECRET
PROS	<ul style="list-style-type: none"><li>• Legal monopoly / Exclusive rights</li><li>• Court actions</li><li>• Involuntary infringements</li></ul>	<ul style="list-style-type: none"><li>• No disclosure required</li><li>• Not limited in time</li><li>• No registration costs</li><li>• Immediate effect</li><li>• Non territorial protection</li></ul>
CONS	<ul style="list-style-type: none"><li>• Public disclosure</li><li>• 20 years of limited protection</li><li>• High costs</li><li>• Length of procedures</li><li>• Territorial protection</li></ul>	<ul style="list-style-type: none"><li>• No right to exclude others</li><li>• Can be patented by others</li><li>• Not easily enforceable</li><li>• Voluntary infringement</li></ul>

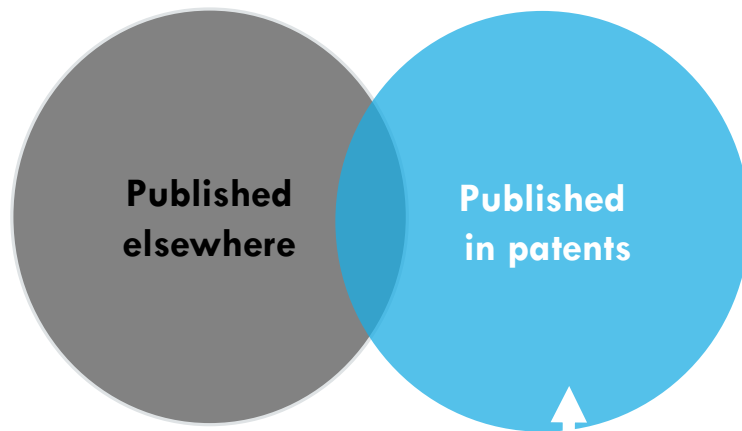
Patent and trade secret are **mutually exclusive** over the same technical object, but **complementary** over a set of technical knowledge (“know-how”)

## Could a patent application be filed?

It is important to do an extensive **prior art search** of both academic and patent literature, the esp@cenet website (<https://worldwide.espacenet.com/>) and WIPO (<https://patentscope.wipo.int/search/en/search.jsf>) are a good places to start.

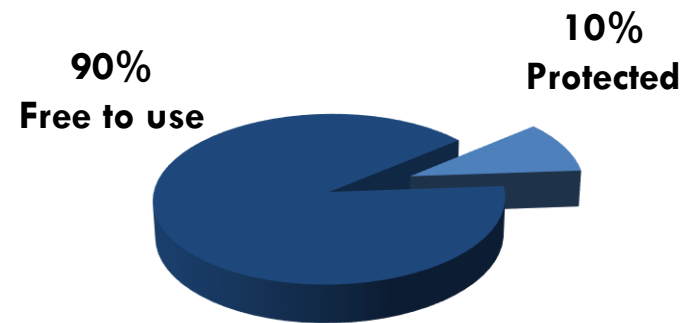
**25% of all R&D** efforts (investment too) are wasted each year on inventions that have already invented (duplicating R&D already done)

**Much information only available in patents**



80% found only in patents!

**Don't start your R&D until you have done a search!**



**Solutions found in patent documents**



## What NOT to do when considering filing a patent application



- No publication prior to filing  
e.g. no article, press release, conference presentation/poster/proceedings or blog incorporating the invention prior to filing



- No lecture or presentation prior to filing  
except under a **non-disclosure agreement** (NDA)



- Go to your Tech transfer Office soon!
- File before others do!



# UB IP POLICY



UNIVERSITAT DE  
BARCELONA

Sharing of revenues coming from IP exploitation  
(*only* Patent, Utility Model, SW and DB):


50% → Inventors

15% → Research group

35% → UB

**Each University has their own IP policy**





# Intellectual Property Rights and Technology Assessment

*Summer School at ICCUB  
Barcelona 5 June 2025*

**Any Questions so far ?**

**Do you need a break ?**

Dr Sancho Moro  
[smoro@fbg.ub.edu](mailto:smoro@fbg.ub.edu)

Valorization and Licensing Unit



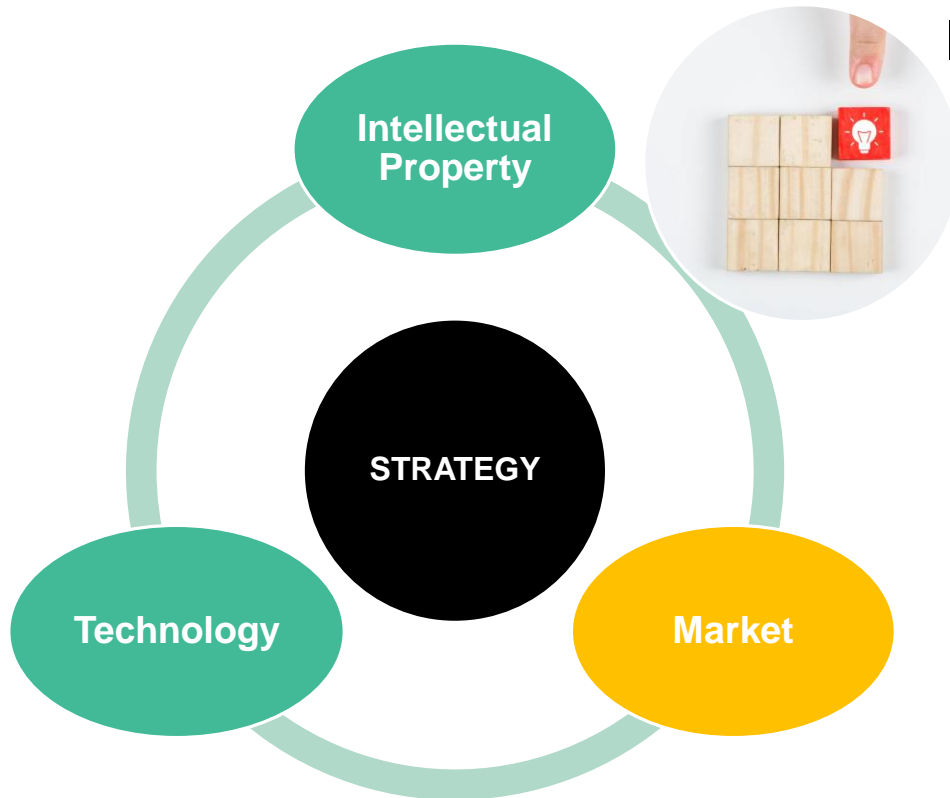
Bosch i Gimpera  
UNIVERSITAT DE BARCELONA

# **Market Considerations**

**When to Apply (or Not) for a PATENT ?**

**Any thoughts?**

## Invention identification & assessment



Who will buy it?

Is there a similar technology out there? Ours is better?

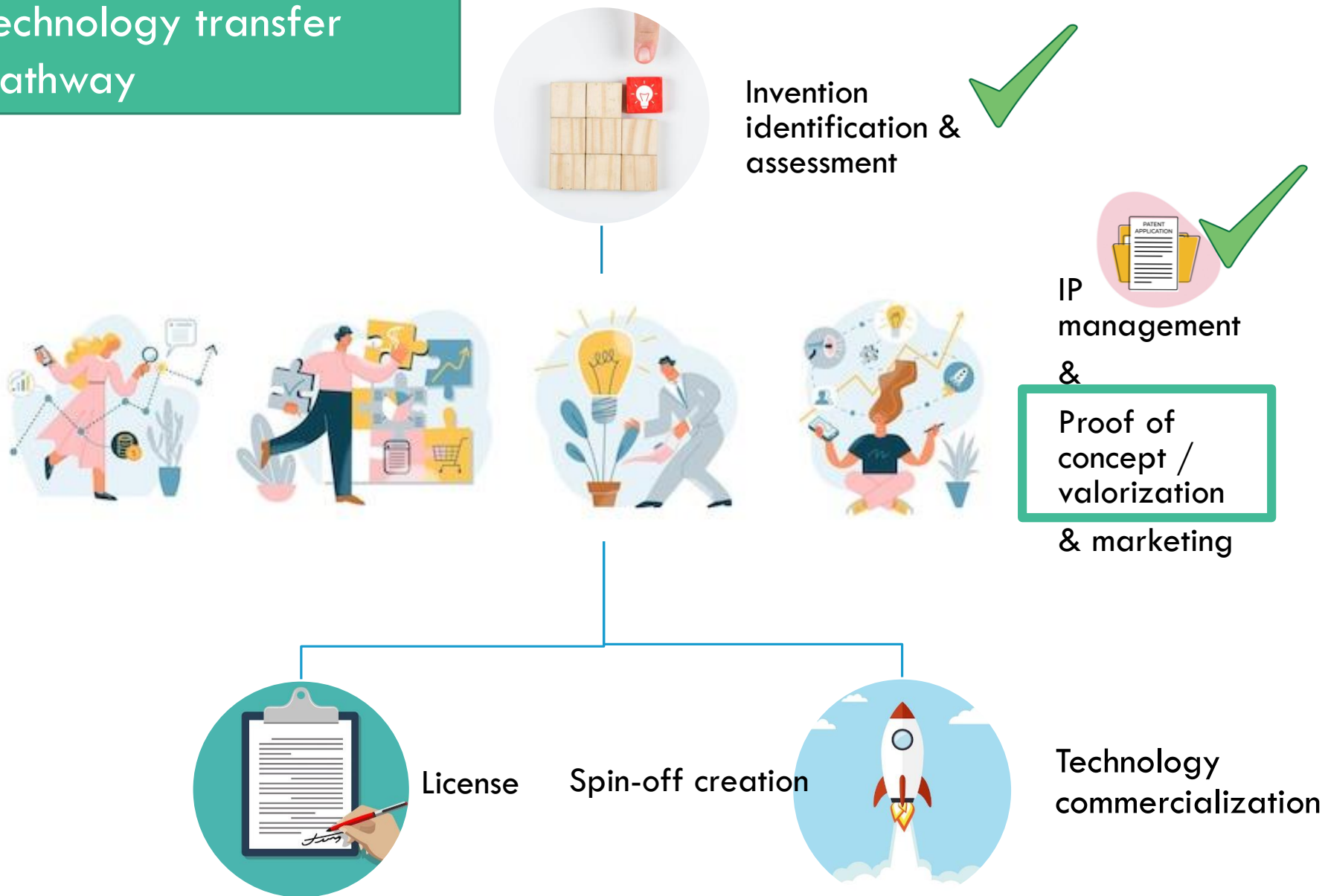
Is there a need for this technology? How big is the market?

Who are the competitors and what they are doing?

Analysis of target market:

- Size
- Segmentation
- Maturity
- Territory
- Key players: fragmented /concentrated
- Barriers to market access

## Technology transfer pathway



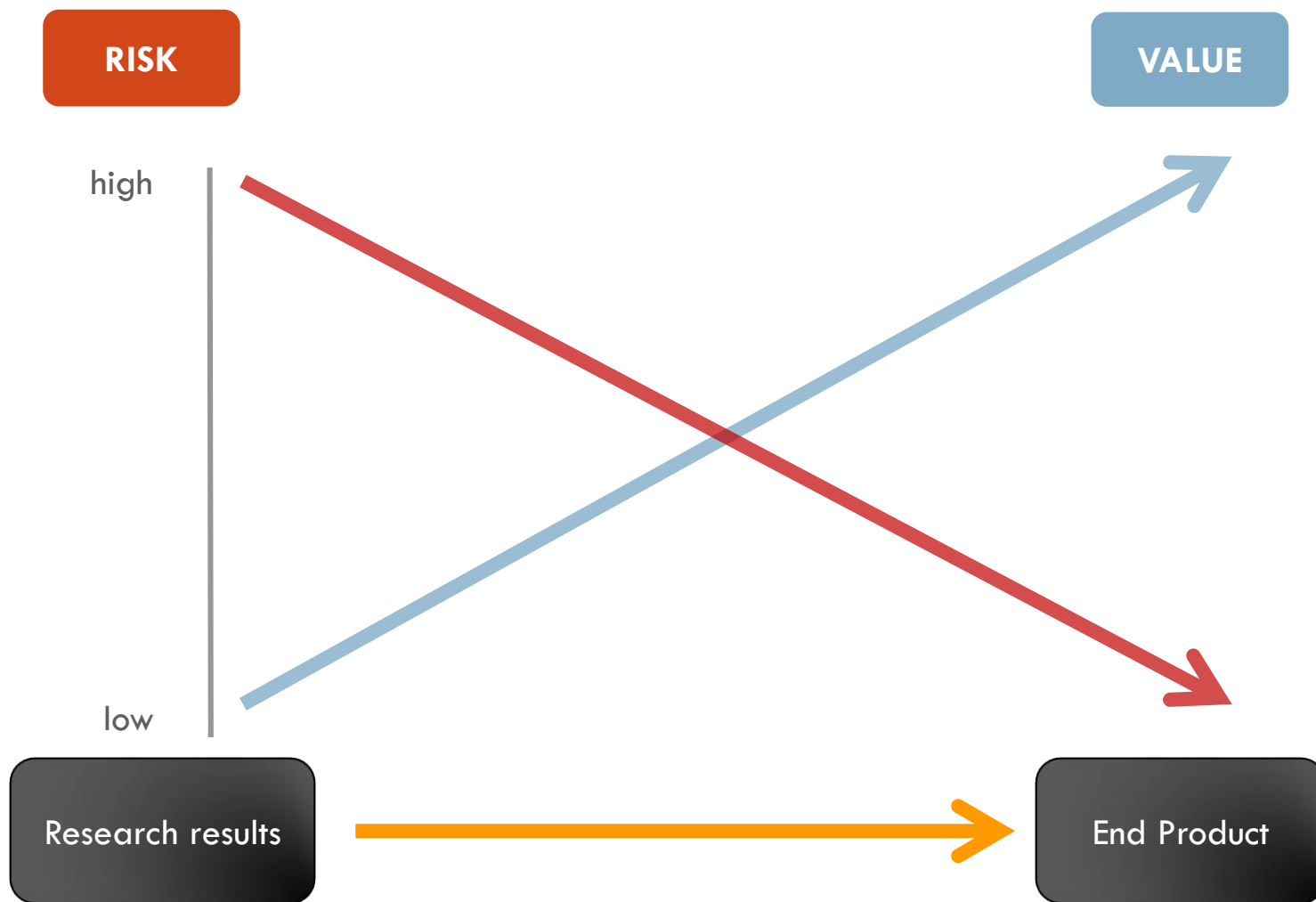


Many unknowns attached to  
early-stage research results



Unknowns = Risks

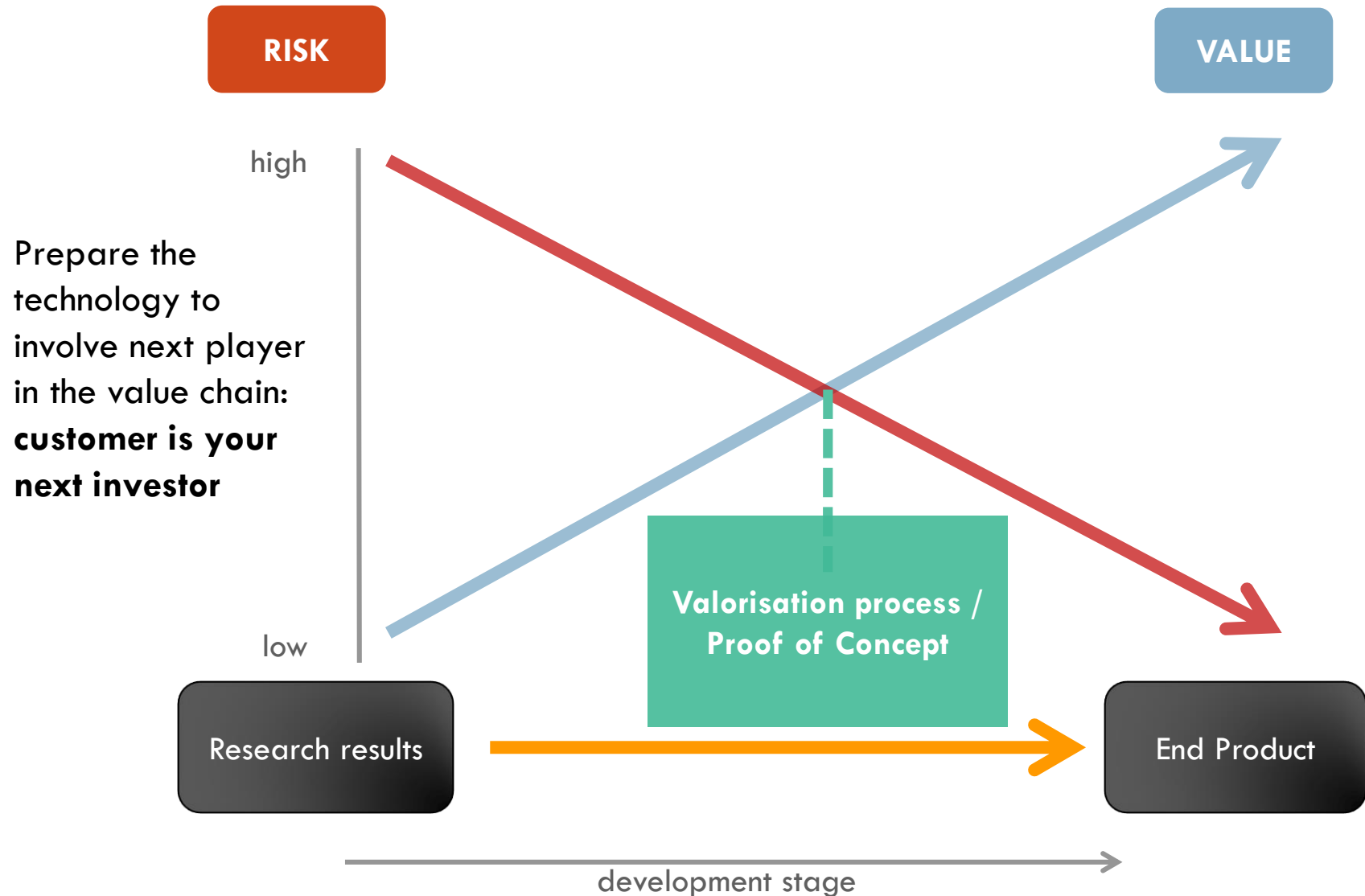






## VALORIZING:

Adding value to technology by reducing risk

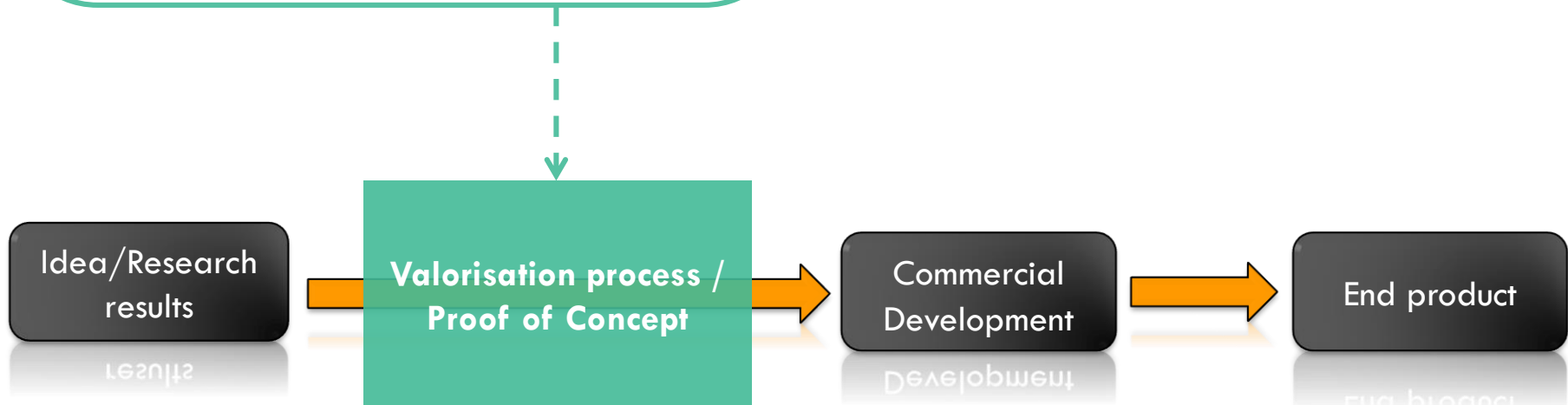


“A Proof of Concept is **a body of work** that **demonstrates the attractiveness** of taking an innovative idea into commercial development”

*Proof of Concept Advisory Board/  
Science Industry Action Agenda, Australia*


### Objectives

- Prepare a "package" to be presented to venture capitalists or companies that might invest in the technology and take it through the early commercialization phase
- Re-guide applied research lines towards the *resolution of real problems*




“Proof of concept” generation is generally perceived as the step in the value chain where more value can be added, with less money...but higher risk.

HARVARD UNIVERSITY  
THE OFFICE OF TECHNOLOGY DEVELOPMENT



## The Challenge: Bridging the Development Gap

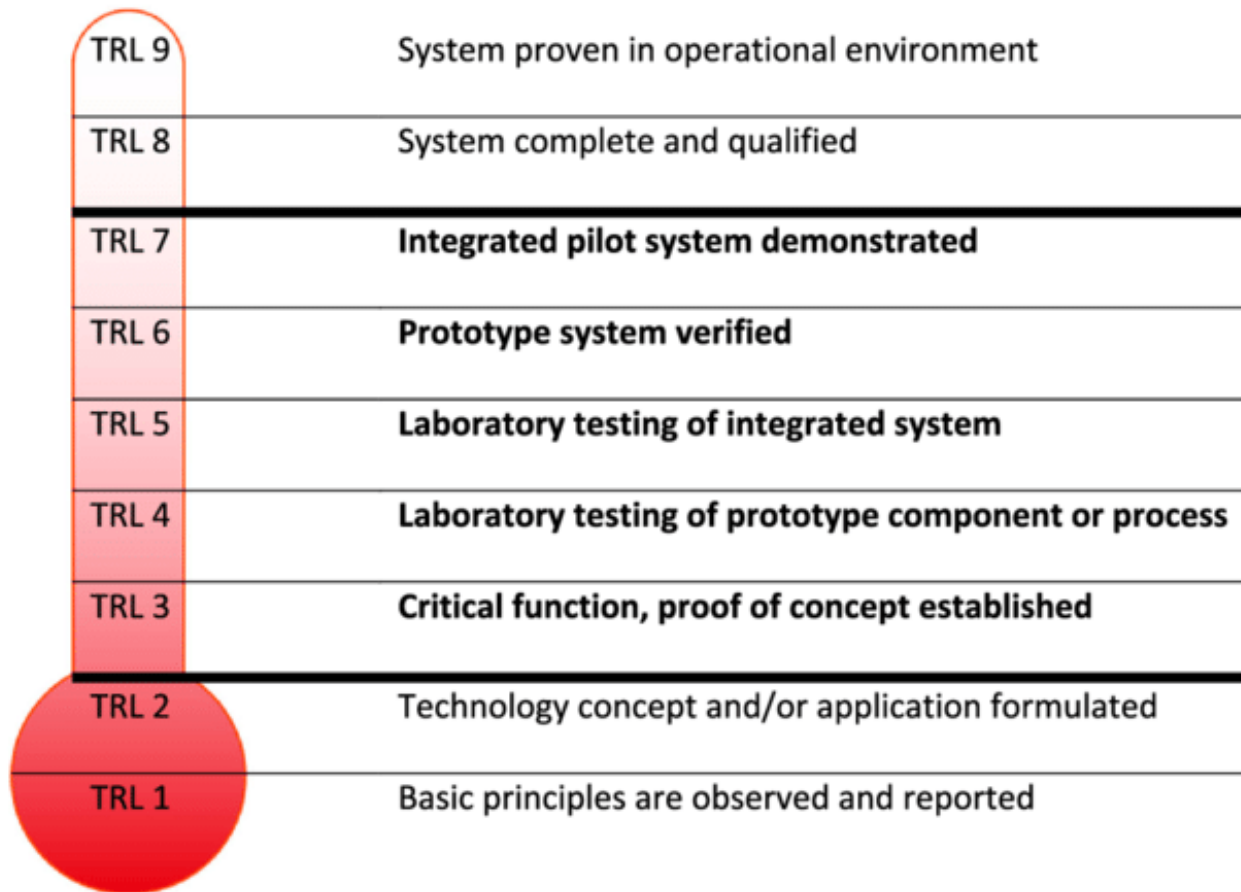
The University                      Industry



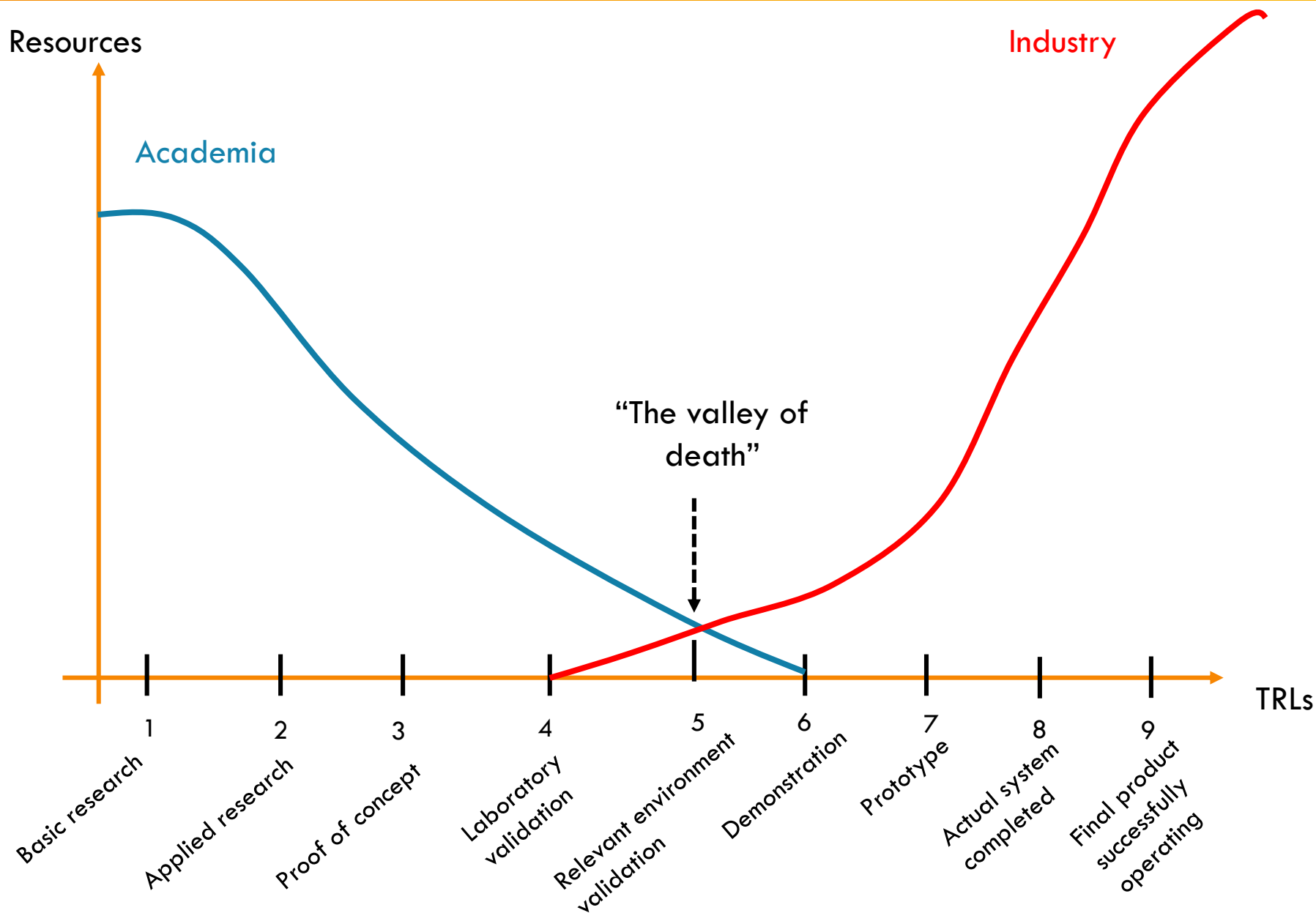
The diagram illustrates the 'The Development Gap' between 'The University' and 'Industry'. On the left, under 'The University', is a landscape with trees and the text 'Basic Research' and 'Discovery Research'. On the right, under 'Industry', is a landscape with trees and the text 'Commercial Development'. In the center, a large yellow gap is labeled 'The Development GAP'. At the bottom of this gap, three small green figures are standing on a blue base, representing the challenge of bridging the gap.

- The development gap is THE limiting factor in technology transfer

## Technology Readiness Levels (TRL)



Defining early with Technology Readiness Levels (TRL) based on early NASA model  
Fasterholdt, I., Lee, A., Kidholm, K. et al. BMC Health Serv Res 18, 837 (2018).  
<https://doi.org/10.1186/s12913-018-3647-z>

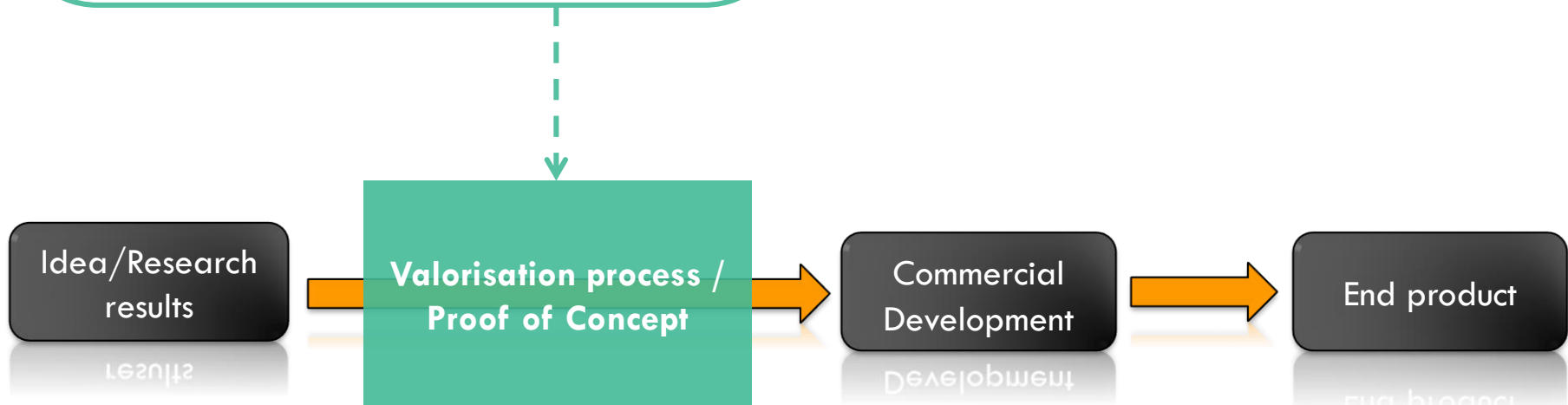


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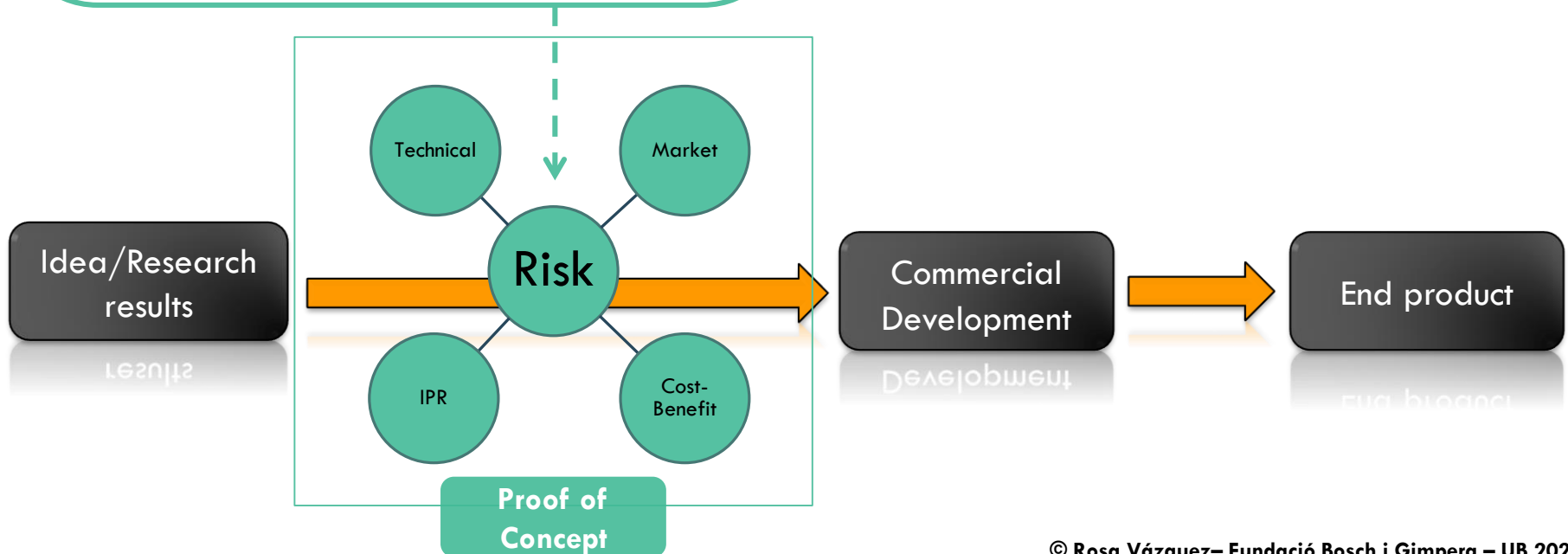
- Prepare a "package" to be presented to venture capitalists or companies that might invest in the technology and take it through the early commercialization phase
- Re-guide applied research lines towards the *resolution of real problems*



“A Proof of Concept is **a body of work** that **demonstrates the attractiveness** of taking an innovative idea into commercial development”

*Proof of Concept Advisory Board/  
Science Industry Action Agenda, Australia*

- Framework
  - 4 main aspects
- Will help to attract industry interest*





## Proof of Concept funds

*Public (European)*



### ERC Grant

- Starting  
(2 -7y since PhD)
- Consolidator  
(7-12y since PhD)
- Advanced  
(10+y since PhD)



### ***ERC Proof of Concept***

[150.000 €, 18 months]



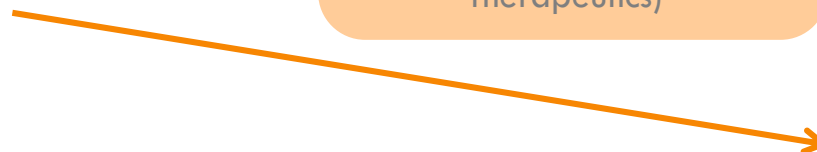
**EIT**

(European Institute of  
Innovation and Technology)



### EIT Health PoC

(Digital Health,  
Medical Devices,  
Diagnostics  
Therapeutics)



### EIT Foods PoC

(Sustainable Packaging solutions,  
alternative proteins, food  
Traceability, digital tools for  
Farming Precision agriculture)

## Proof of Concept funds

### Public (National)



**Prueba de Concepto:**  
150,000€, 24m

For “Generación de Conocimiento”  
or “Retos de Investigación” (in  
progress or recently ended)



- **Llabor:** 20,000€, 6m
- **Producte:** 150,000€, 18m
- **Innovadors:** 84,000€  
60k contract Innovator), 18m

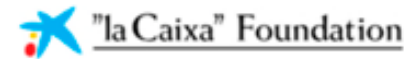


- **Prova de Concepte**  
25,000€, 12m
- **Mentor in Residence**  
grant: ≤6,000€, ≤ 6m



### Private (National)

**Caixaimpulse**



- **“Stage 1”:** 50,000€, 12m  
(potential asset)
- **“Stage 2” :** 150,000€, 24m  
(PoC validation):
- **“Stage 3” :** 500,000€, 24m  
(advanced characterisation)

## Proof of Concept Activities funded

- Technology validation (Fundamental researched is not funded)
- Feasibility studies
- Prototype development
- Pre-clinical / clinical development
- Business development
- IPR position and strategy
- Market research / competitive analysis / industry contacts
- Commercialization strategy / business model
- Regulatory framework
- Legal advice (protection, commercialization, licensing)



At the end of the Proof of Concept stage you will

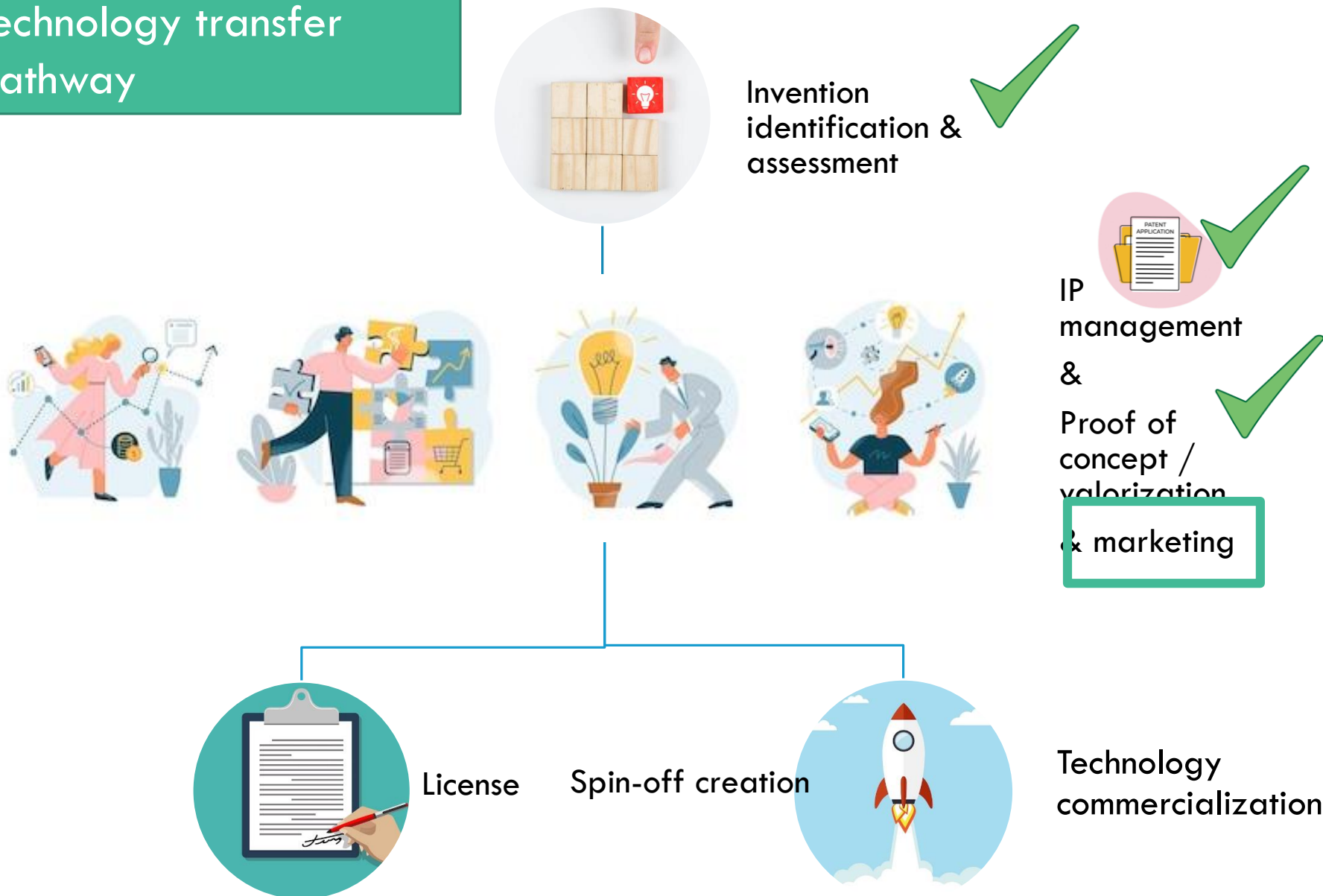
- have proven technical aspects 
- Identified and proven market 
- IPR strategy 
- Favorable cost benefits for investors and end-users 

Attractive to potential investors



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## Technology transfer pathway





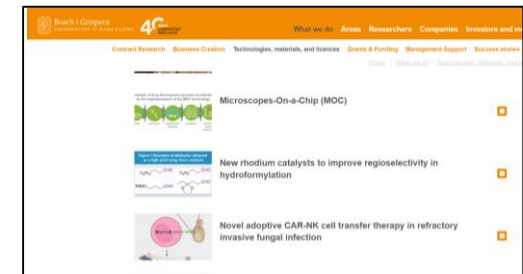
# MARKETING

## Events attendance



## Promotion documents (Flyers)

## On-line promotion



## Market search: Clients contact



**LIPID NANOPARTICLES FOR THE TREATMENT OF DRY EYE**

**Executive summary**

The research group, with wide experience in nanostructured systems of controlled drug delivery generation and a demonstrated experience in the development of ophthalmologic applications, has generated an ophthalmic solution containing green natural compounds with prolonged anti-inflammatory and moisturizing effects.

**Introduction**

Glaucoma is the second cause of blindness worldwide. It is currently treated with eyedrops that lower intraocular pressure without addressing retinal neurodegeneration and cause adverse effects such as dry eye and ocular inflammation. This side-effect cause patient treatment discontinuation due to the absence of symptoms in glaucoma and the discomfort that the treatment causes. Therefore, to specifically palliate medications side-effects such as inflammation and dry eye, we have developed a nanotechnological asset to be administered as eye-drops. It is differentiated from the current dry eye medications in several points:

- Artificial tears have no anti-inflammatory properties and do not halt inflammatory adverse effects.
- Both artificial tears and corticosteroids possess short life-span effects.
- Treatments for ocular inflammation are corticosteroids and non-steroidal anti-inflammatory drugs (NSAIDs) that also possess adverse effects.
- Prolonged use involves severe side effects (increasing ocular pressure and cataract formation).
- In current formulations, less than 5% of the initial dose reaches the first eye layers.

**Description**

The asset is an ophthalmic solution classified as medical device formed by second-generation nanostructured lipid carriers (NLCs) containing natural green compounds that confer prolonged moisturizing and anti-inflammatory effects and are able to arrive to the retina.

**Technical advantages**

- Stable, biocompatible and biodegradable nanoparticles (green synthesis).
- Novel ocular delivery system with improved stability.
- Sustained release of the nanoparticles (increased bioavailability).
- Easy scale-up.

**Benefits for patients**

- ✓ Dry eye and inflammation treatment and preventive effect.
- ✓ Long-term effect: Moisturizing and calming prolonged action.
- ✓ Overcome dry eye and dry eye caused by medications such as glaucoma eyedrops.
- ✓ Other potential therapeutic effects: antibacterial, anti-microbial effects and neuroprotectant.

**Current stage of development**

NLC development, optimization and characterization, stability as well as in vivo and in vitro validation have been already carried out. A safety study and regulatory readiness is already done. The technology is ready to be transferred.

**Goal**

The group is looking for a license agreement, but other collaborations may be considered.

**Patent**

PCT/EP2024/052823  
Priority date: February 6<sup>th</sup> 2023

**Reference**

UBT19430

**Contact**

Rosa Vázquez  
Email: [rosa.vazquez@ub.edu](mailto:rosa.vazquez@ub.edu)

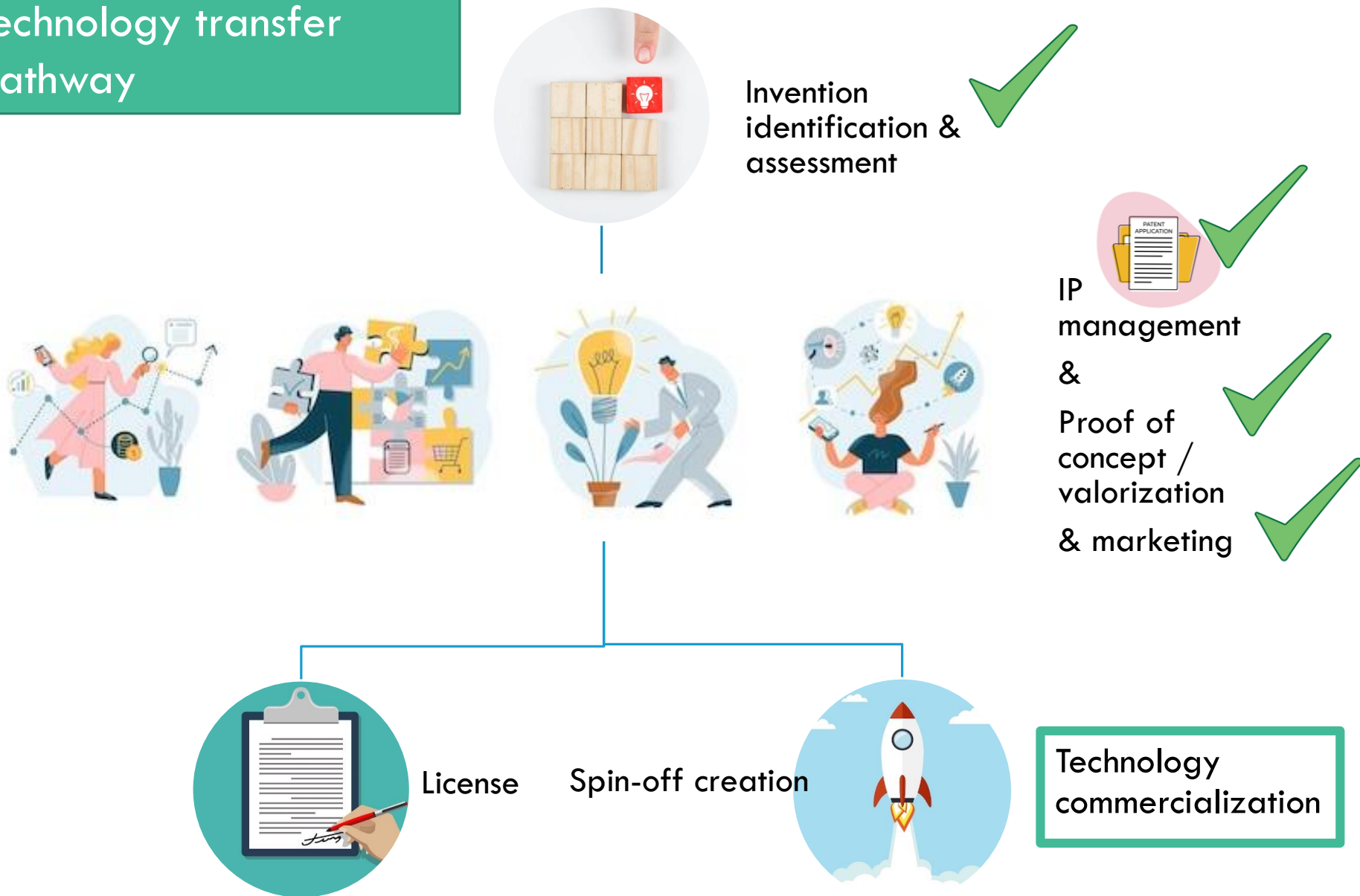
**Logos:** Universitat de Barcelona, Bosch i Gimpera, Departament de Recerca i Innovació Tecnològica, Departament de Recerca i Innovació Tecnològica.

## Who are the top 10 medical device companies in the world? (2023)

Total revenue from medical devices (USD billions)

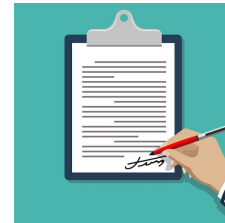


## Technology transfer pathway





# What is a License?



Licensor  
maintains the  
ownership of  
the IP



Designed by freepik-www.freepik.com

Permission  
to use IP

Payments



Designed by freepik-www.freepik.com

## Licensor

IP owner

(University, company including  
spin-offs, individual)

## Licensee

(e.g. Company)



## Example of University of Barcelona research results licensed to a Company



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UNIVERSITAT DE  
BARCELONA

## Technology

Detection &  
quantification of an  
enterovirus

2 patents

Standardized  
method and kit  
for  
quantification

Control for  
virus  
detection  
assay



## Start-up

### License



Signed  
on 2009

Development of molecular  
diagnostics for the detection  
and identification of  
emerging microbial agents.



## International Company

### Acquisition



Revenues  
from  
2009

Diagnosis of infectious  
diseases. Detection of  
microorganisms in  
food, pharmaceutical  
and cosmetic products.



UNIVERSITAT DE  
BARCELONA

**Company**  
supplier of active  
ingredients for the cosmetic  
industry

## Technology

Glycoprotein as a  
crioprotective agent  
and bacterial strain  
that produces it



Signed  
on 2014

## License

For cosmetic and  
pharmaceutical applications



Revenues





UNIVERSITAT DE  
BARCELONA

Technology

Nutraceutical  
composition



Signed  
on 2022

Company

supplier of food,  
pharmaceuticals and health  
supplements

License

For neurological  
disorders specific for  
kids and teenagers



Revenues





UNIVERSITAT DE  
BARCELONA

## Technology

New formulation and  
a method to get a  
long-term stable live  
fecal microbiota  
composition



Signed  
on 2021

## Company

Microbiome therapeutics company  
producing encapsulated intestinal  
microbiota transfer products

## License

For dysbiosis,  
bacterial infections,  
metabolic diseases,...



Revenues



## **Example of Spin-off created from University of Barcelona results**



designed by  freepik



# aigecko

Artificial intelligence Company  
for image recognition



Food recognition, dish names,  
ingredientes, Micro and Macro  
nutrients, estimated quantity



Autonomous  
touchless checkout  
service for self-  
service restaurants

Food  
recognition

People, face  
and mask  
detection

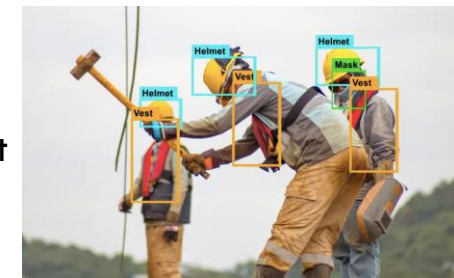
Face mask  
detection



Capacity  
control



Personal  
Protective  
Equipment  
(PPE)  
detection



Technology & Spin-off from UB  
[www.aigecko.com](http://www.aigecko.com)  
Incorporated in 2020



# ColorSensing

tracking true colors



Technology & Spin-off from UB  
[www.color-sensing.com](http://www.color-sensing.com)  
Incorporated in 2016

Smart packaging to reduce foodwaste

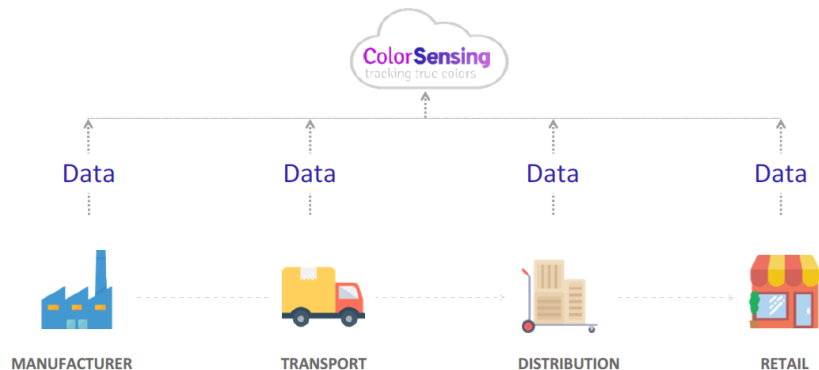
**Ready-Meals, meat and fish**



1/3 of all food is lost or wasted

\$1 trillion of loss every year due to inefficiency  
in the global food system

Smart inks:  
printed chemical  
colorimetric  
sensors



## Features



Leak detection



Cold-chain breaks detection



Freshness monitoring



# What are the ingredients for a successful project?

## TECHNOLOGY

Cutting Edge Technology  
Protection (patents, industrial secret...)



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## MARKET

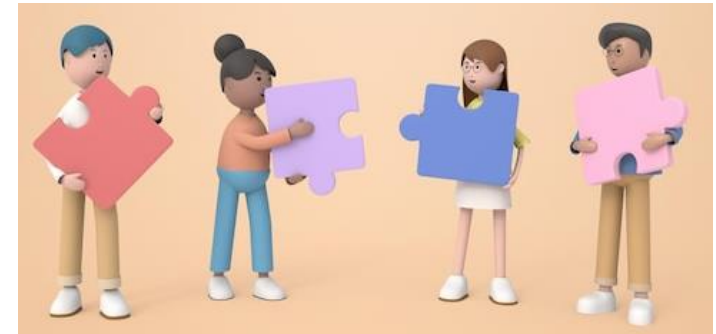
Volume  
Growth  
Niche identified  
Focused on a market sector  
Network of contacts



*[www.freepik.com](http://www.freepik.com)*

## TEAM

Complementary skills  
Research & business experience  
Exclusive dedication (spin-offs)  
Motivation



*Designed by freepik-[www.freepik.com](http://www.freepik.com)*

## MONEY

To further  
development  
and grow




*Designed by freepik-[www.freepik.com](http://www.freepik.com)*

# Take-home messages

- **Don't start your R&D until you have done a search!**
- If you think you have interesting results:
  - Before **publishing**, sharing them in **conferences, oral communications, doctoral thesis** dissertations,... talk to your Tech or Knowledge Transfer Office (TTO or KTO)
  - Before sharing sensitive information with a third party (e.g. Company) sign an Non-disclosure Agreement (NDA)
- Without a protection (IP) most likely nobody will invest in the development of your product.
- A Proof-of-concept is the way to attract potential investors
- License is a way to reimburse the investment of your technology and efforts
- Company could be a vehicle to finance a development to a stage that is attractive for the acquisition of a larger company & you need people that shares your motivation
- And the most important one....**Sit down and think which will be your next invention!**





# Intellectual Property Rights and Technology Assessment

*Summer School at ICCUB  
Barcelona 5 June 2025*

**THANK YOU !**

Dr Sancho Moro

[smoro@fbg.ub.edu](mailto:smoro@fbg.ub.edu)

Valorization and Licensing Unit



Bosch i Gimpera

UNIVERSITAT DE BARCELONA



# APPENDIX



## NEGOTIATION

### USUAL TYPES OF CONTRACTS

CDA /NDA

MTA

Term Sheet

License Agreement



## NEGOTIATION

**CONFIDENTIAL**

## USUAL TYPES OF CONTRACTS

**CDA /NDA**

MTA

Term Sheet

License Agreement

**CDA (*Confidentiality Disclosure Agreement*)**  
**NDA (*Non-Disclosure Agreement*)**

- Grant access to confidential information
  - One-way (unilateral) / two-way (bilateral or mutual)
  - Definition of Confidential Information
  - Purpose
  - Exceptions
  - Signing party: involves the whole organization!
  - No license on CI
  - Responsibility (injunctive relief clauses)
  - Term (afterwards?)
  - Law and jurisdiction
- oral disclosures!**



## NEGOTIATION

### USUAL TYPES OF CONTRACTS

**CDA /NDA**

MTA

Term Sheet

License Agreement

- **Stepping stone:** first step towards a final agreement?
- Precedent on future negotiations (good / bad)



## NEGOTIATION

### USUAL TYPES OF CONTRACTS

CDA /NDA

**MTA**

Term Sheet

License Agreement



### MTA (*Material Transfer Agreement*)

- *Definition* of Material, Derivatives, Modifications
- *Use* of Material, Derivatives, Modifications
- Limitations (non commercial use / no transfer to third parties)
- Confidentiality
- Intellectual Property on the results
- No warranties
- Responsibilities on use of Material
- Term (afterwards?)
- Law and jurisdiction





## NEGOTIATION

### USUAL TYPES OF CONTRACTS

CDA /NDA

MTA

**Term Sheet**

License Agreement



## TERM SHEET

- *General framework* of the proposed collaboration
- Key terms of the future agreement
- Usually non-binding (subsequent renegotiations!)

## CONTENTS

- Technology / Intellectual Property / Product
- Exclusive / non-exclusive
- Field of use
- Territory
- Term
- Economic terms
- Collaboration structure: Improvement of Technology/ Diligence provision / Use for R&D



## NEGOTIATION



## USUAL TYPES OF CONTRACTS

CDA /NDA

MTA

Term Sheet

**License Agreement**

## LICENSE AGREEMENT

- Grant of rights (use, manufacture, distribute, market, and/or sell) on an asset
- *No change of ownership* of the asset (no assignment)



## NEGOTIATION

## License Agreement

### LICENSE AGREEMENT CONTENTS



Technology

Grant of rights

Term and Termination

Economic terms

Liabilities

Warranties

Governing law



## NEGOTIATION

## License Agreement

### LICENSE AGREEMENT CONTENTS



#### Technology

Grant of rights

Term and Termination

Economic terms

Liabilities

Warranties

Governing law

- Technology **identification**: patent/ know-how/ SW?
- Technology **owner**



## NEGOTIATION

## License Agreement

### LICENSE AGREEMENT CONTENTS



Technology

**Grant of rights**

Term and Termination

Economic terms

Liabilities

Warranties

Governing law

- **Granted rights:** use/ manufacture/ distribute/ import/ export/ sell/...
- **Field of use**
- **Exclusivity / non-exclusivity**
- **Territory**
- **Sublicensing**
- Right of Licensors for **use in teaching + R&D** (Sole license)
- Assignment of the agreement if the company is bought



## NEGOTIATION

## License Agreement

### LICENSE AGREEMENT CONTENTS



Technology

Grant of rights

**Term and Termination**

Economic terms

Liabilities

Warranties

Governing law

- **Term:** precise date/ until patent expiration
- **Termination:**
  - “material breach”
  - lack of development activities
  - change of control



## NEGOTIATION

## License Agreement

### LICENSE AGREEMENT CONTENTS



Technology

Grant of rights

Term and Termination

**Economic terms**

Liabilities

Warranties

Governing law

- **Upfront payment:** sometimes it is the only tangible money!
- **Milestones payments:** development milestones/ regulatory milestones/ market access/ sales milestones
- **Royalties:** - on Net Sales (definition!)
  - in trenches depending on sales level / time
- **Minimum payment** (if exclusive license)
- Payments: **current exchange** (calculated when? How?)

### [Option Agreements]

- Exclusivity payments: Initial Option Fee



## NEGOTIATION

## License Agreement

### LICENSE AGREEMENT CONTENTS



Technology

Grant of rights

Term and Termination

Economic terms

**Liabilities**

Warranties

Governing law

- **Reports / Audits**
- **Patent prosecution and maintenance**
- **Patent defence**
- **Diligence** provision: **Development / Exploitation Obligation**
- **Confidentiality:**
  - License existence confidential
  - License terms confidential
  - Press release of License signature: company name?





## NEGOTIATION

## License Agreement

### LICENSE AGREEMENT CONTENTS



Technology

Grant of rights

Term and Termination

Economic terms

Liabilities

**Warranties**

Governing law

- **Disclaimer: No warranties** as to validity or scope of patent / effect on third parties rights
- **Indemnity** against third party claims
- **Responsibilities**



## NEGOTIATION

## License Agreement

### LICENSE AGREEMENT CONTENTS



Technology

Grant of rights

Term and Termination

Economic terms

Liabilities

Warranties

**Governing law**

- **Governing law and jurisdiction**



Assessment

Protection

Valoritzation

Commercialization (Marketing,  
Negotiation, License)

## POST-DEAL

- Follow-up
- Compliance



## NEGOTIATION

- NDA
- Term Sheet
- *License agreement*  
(*patent, know-how, SW*)

## PRE-SELLING

- *Product* knowledge
- *Competence* knowledge
- *Market / sector* knowledge
- Potential *clients* identification
- *Commercial strategy* definition
- *Documents* generation  
(non-confidential / confidential)

## MARKETING & SELLING

- Pure *commercial activity*
- Clients contact: email, phone, visiting
- Events attendance
- On-line positioning

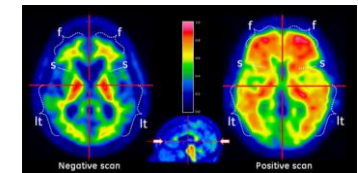
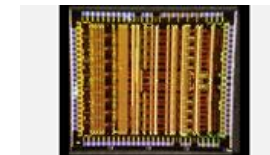
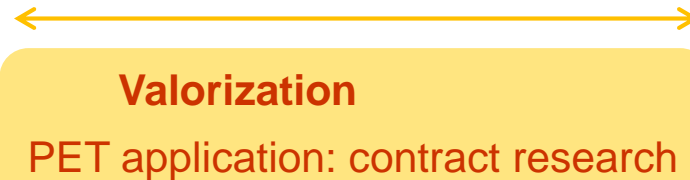


## POST-DEAL



- License follow up & compliance
- Invoicing
- Distribution of revenues
- Re-negotiation

## CASE STUDY: Electronic circuit for photosensor readout



### Protection

1 Patent ES → PCT → ES

1 Patent EP → PCT → EP

1 Patent EP → PCT

1 Patent EP → PCT → EP, US

→ License A (manufacturing)

→ License B (exclusive PET, non-exclusive others)

→ License B (exclusive PET, non-exclusive others)

License C (exclusive n det., non-exclusive others)

→ License C (exclusive n,  $\mu$  det., non-exclusive others)