

INTELLECTUAL PROPERTY; Patents; Business creation, Legal Aspects

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Subvencionat pel Departament d'Empresa (**Programa Primer**) i amb el cofinançament del Fons Social Europeu Plus



Agenda

What?

Identifying IP and IP rights

IP and Innovations

IP rights

Why?

Why bother protecting IP?

Patents

Not Patents

Territorial scope IP protection

How?

Innovation & Business creation

IP in R&D projects, Tech transfer

Open and Closed Innovation process

IP Commercialisation for SMEs and start-ups

IP & Innovations

Innovation:

- introduction and application
- new or significantly improved
- products, services, processes, organizational methods, or business models

(!) positive changes in
economic or social value



IP & Innovations

Intellectual Property (& Intangible Assets)

the **creations of mind** in the industrial,
scientific, literary and artistic fields
(WIPO)

Inventions, know how, trade secrets



Industrial & creative Designs



Artistic works



Knowledge, people



Company Reputation, Brand Value



IP & Innovations

IMPACT



Innovation



Invention



Innovations & Intellectual Property Rights



IP & Innovations

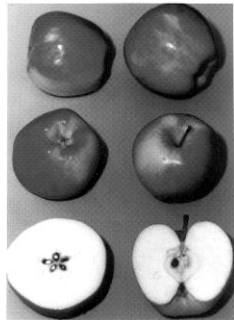
Intellectual Property **RIGHTS** –
Legal tools to protect IP and Innovations

Time limited & national rights

Upon registration
PATENTS,
Utility models

Design rights
know how, trade secrets

087,01 InaP 1 to 1 InaP 001 At 01 InaP 2,3



Ambrosia” apple, US Patent, 1999



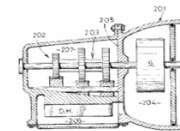




Automatic protection
Copyright & Data base rights



Trademark rights, Trade dress,
packaging

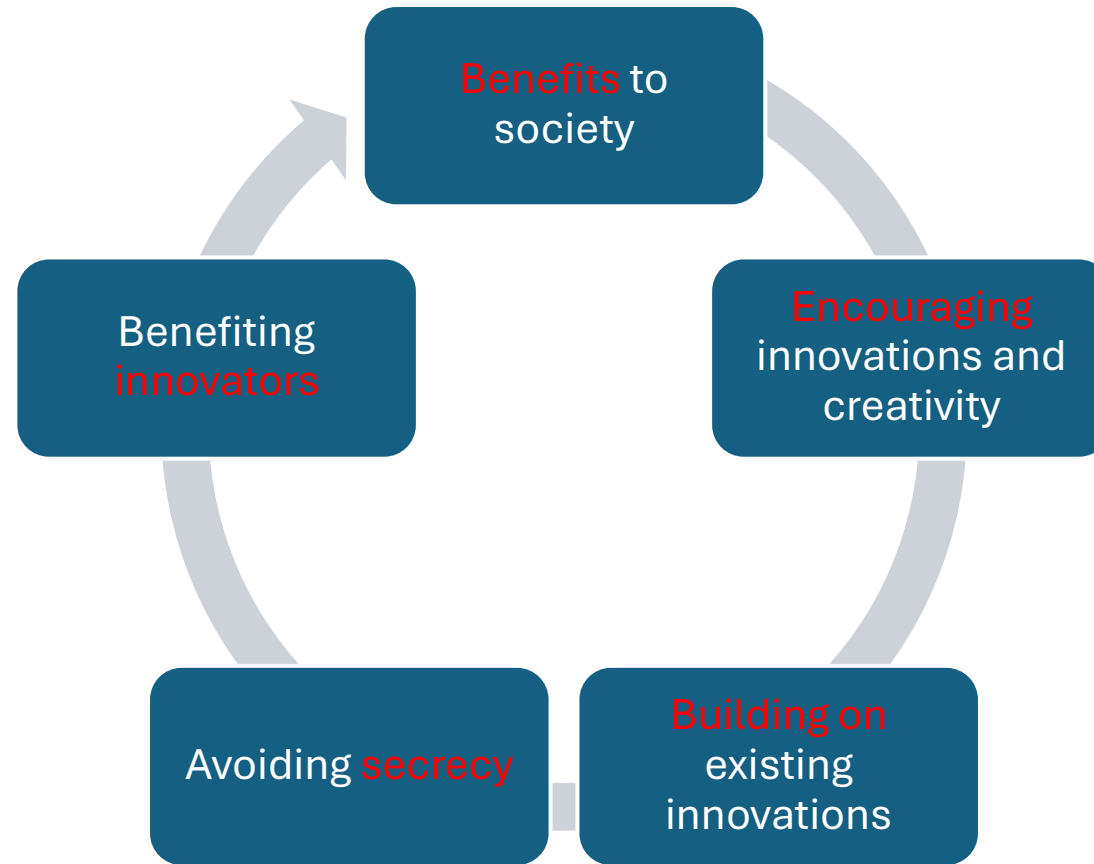


IP Rights

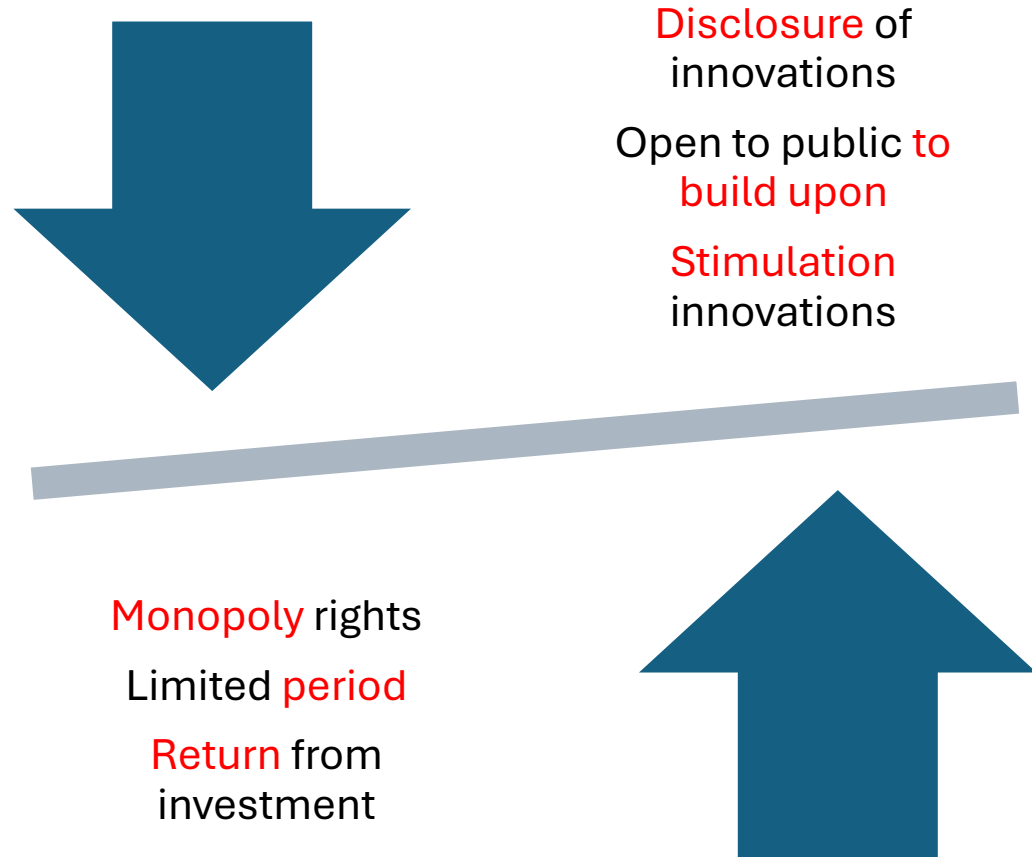
Legal right	What for?	How?	
Patents	New inventions	Application and examination	
Copyright	Original creative or artistic forms (literary texts, music)	Exists automatically	
Trade marks	Distinctive identification of products and services	Use and/or registration	
Registered designs	External appearance	Registration	
Trade secrets	Valuable information not known to the public	Reasonable efforts to keep secret	



WHY IPRs?



What is the IP deal?



INNOVATION PROCESS



Research & Development phase

Commercial use phase

WHAT	The original idea	The technical solution	The app software	The name and logo	The shape and colors
HOW	Trade secret	Patent	Copyright	Trade mark	Design



Patents

In the context



Patents in the context

PATENTS

Patents protect (technical) inventions

Patent: A legal title which grants the holder the **exclusive right to prevent** others from making, using or offering for sale, selling or importing a product that infringes his/her patent without authorisation

Principle of **territoriality**: Valid in countries for which the patent was granted

Exist for a **limited time** (up to 20 years)

Exceptions and limitations apply



Patents in the context



ROUTES TO PATENT PROTECTION IN EUROPE

epo.org

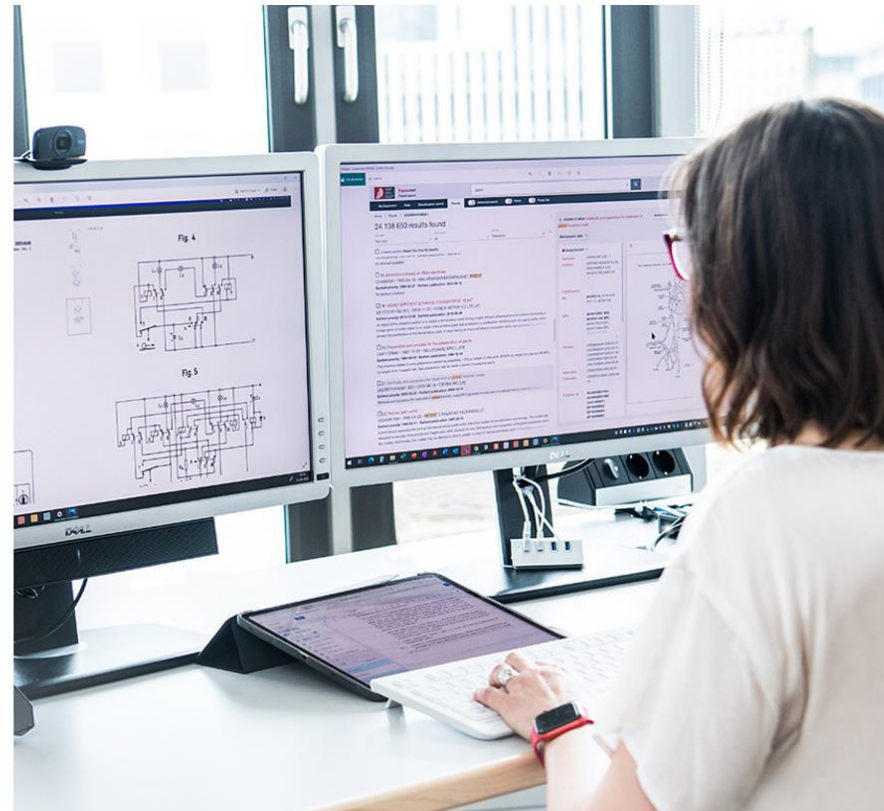
PATENTABILITY

Patents are granted for **inventions** in all fields of technology.

To be patentable, **inventions must**

- be new
- involve an inventive step
- be industrially applicable

They must relate to a product, process, apparatus or use.

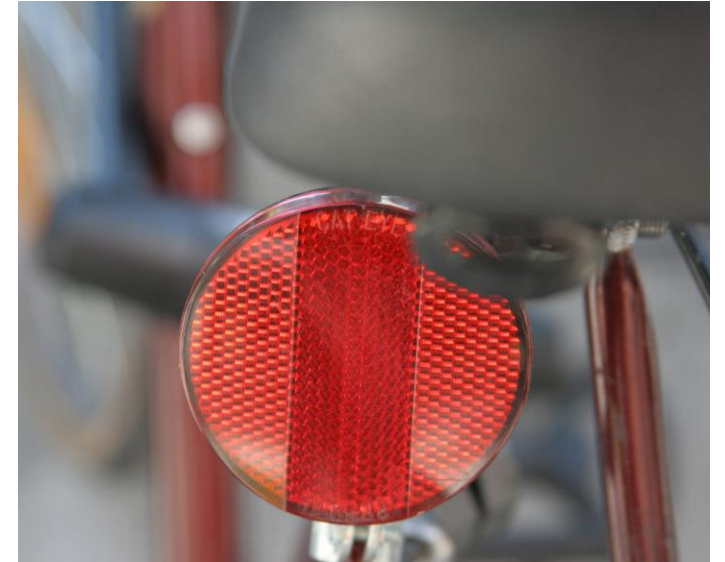


Patents in the context

Prior Art?

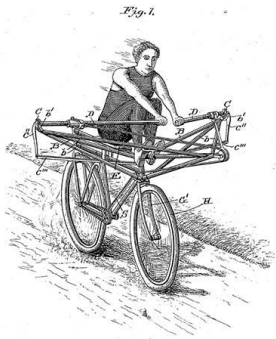
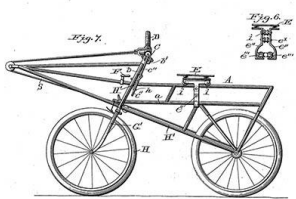
Tech
problem?

Is it obvious?



A bike with a reflector

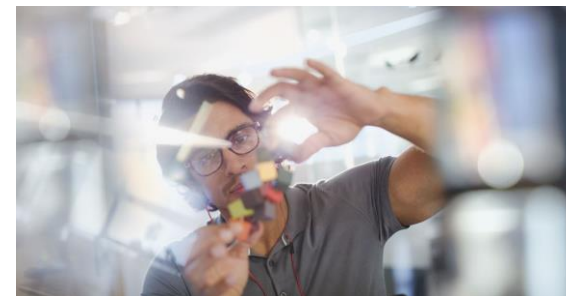
LOUIS S. BURBANK
BICYCLE
Patented January 30, 1900
No. 642,544



All types of bikes &
no lights at all



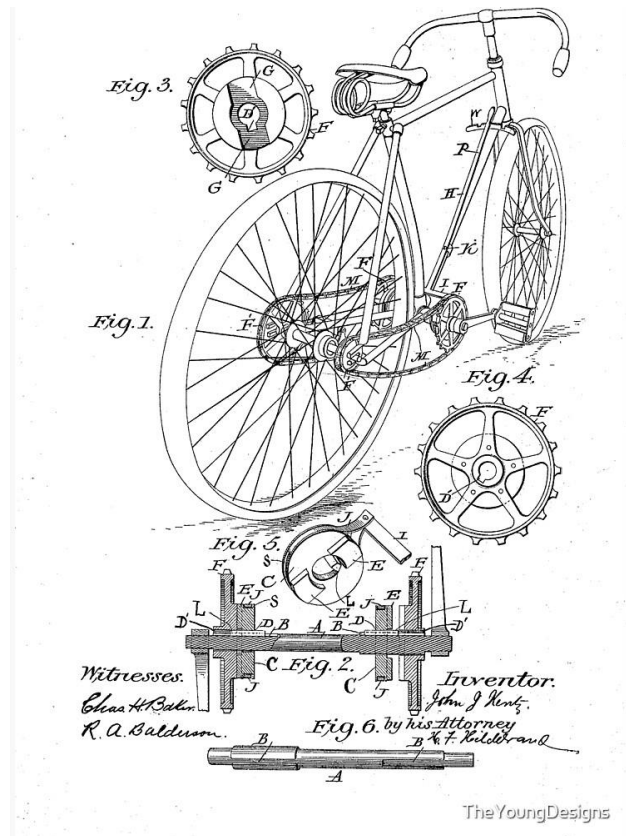
To enhance visibility in
dark



A skilled person would add a
reflector

Patents in the context

Patents



- New
- Inventive step
- Industrial applicability

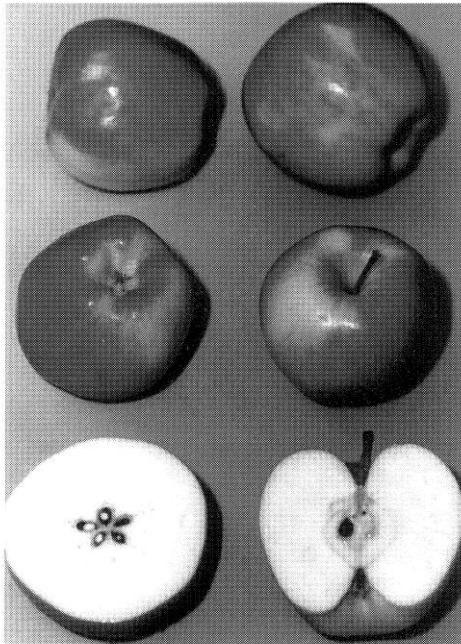


- 20 years
- Without possibility of renewal

Plant Variety Rights

Patents

U.S. Patent 10,789,012 Plant 10,789,012



- Distinct
- Uniform
- Stable
- + Novelty



- 25 years (30 for trees, vines, potatoes)
- Without possibility of renewal

A specific, identifiable plant variety (genotype/phenotype)

No Patents



EXCLUDED FROM PATENTABILITY UNDER THE EUROPEAN PATENT CONVENTION¹

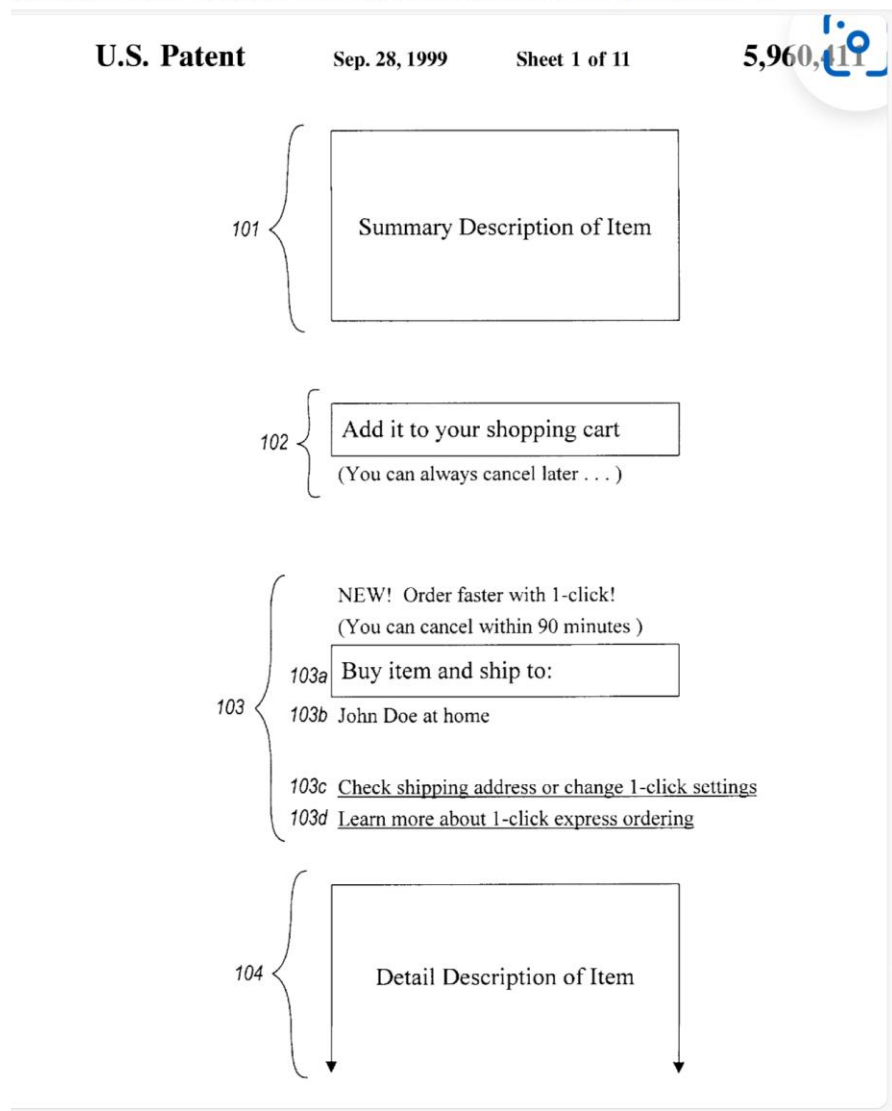
- Discoveries
- Scientific theories
- Mathematical methods
- Computer programs
- Aesthetic creations
- Business methods
- Methods for playing games
- Methods for performing mental acts
- Presentations of information

if claimed
"as such"

And do not solve a problem in a field of technology

¹ See Article 52 EPC and the case law of the Boards of Appeal.

Business methods & Patenting



or 1-Click Checkout



One-click-to-buy Amazon Patent Application was patented in the US

Vs the EPO rejected the application in 2007

- Do not solve a problem in a field of technology
- Obvious, not inventive

Method and system for placing a purchase order via a communications network

No Patents



EXCEPTIONS TO PATENTABILITY AS DEFINED BY THE EPC¹

Plant or animal varieties or essentially biological processes for the production of plants or animals (e.g. marker-assisted breeding)



Inventions whose commercial exploitation would be contrary to "ordre public" or morality (e.g. processes for the cloning of human beings)



Methods for treatment of the human or animal body by surgery or therapy and diagnostic methods practised on the human or animal body



¹ See Article 53 and Rule 28 EPC.

Applying for a Patent in the EU

THREE POSSIBLE ROUTES TO PATENT PROTECTION IN EUROPE

Route	National	European	International
Via	National offices	European Patent Office or national offices	International Bureau or European Patent Office or national offices
Valid in	One country	Up to 39 countries + one extension state + five validation states	Up to 157 countries
In brief	Applications are filed with the relevant national office and are valid for that state only	One single application in DE/EN/FR for all EPC contracting states. Same legal effects as national patents	An international patent procedure, not an international patent. After the international phase, applicants can choose to enter the national/regional phase in various states

Applying for a Patent in the EU



ROUTES TO PATENT PROTECTION IN EUROPE

epo.org

**TODAY ... AN AREA WITH SOME
700M INHABITANTS**

39 European member states

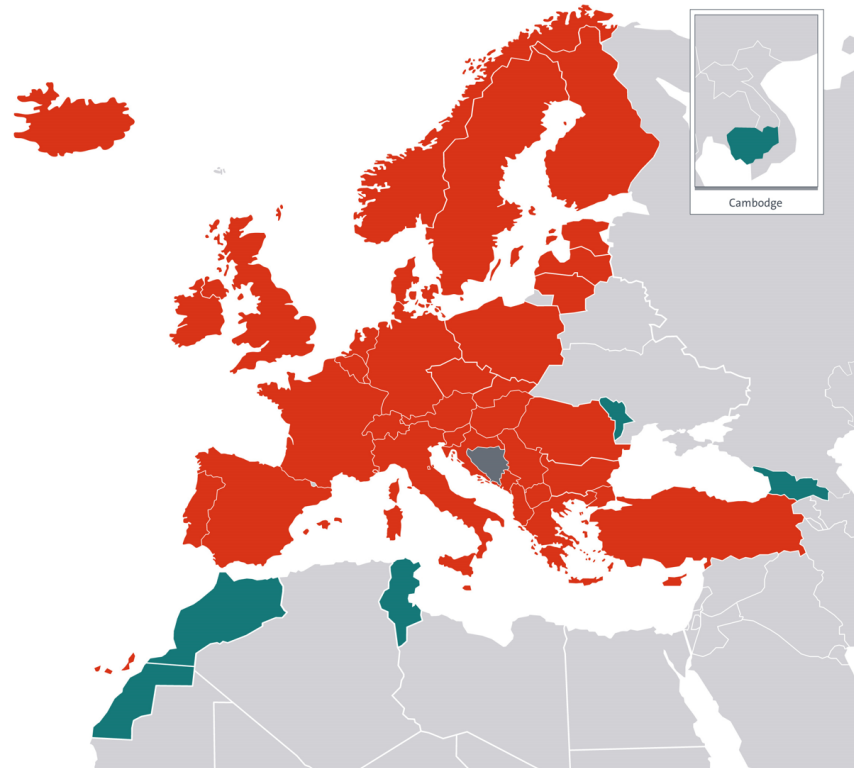
Belgium • Germany • France • Luxembourg
Netherlands • Switzerland • United Kingdom
Sweden • Italy • Austria • Liechtenstein • Greece
Spain • Denmark • Monaco • Portugal • Ireland
Finland • Cyprus • Türkiye • Bulgaria • Czech Rep.
Estonia • Slovakia • Slovenia • Hungary • Romania
Poland • Iceland • Lithuania • Latvia • Malta • Croatia
Norway • North Macedonia • San Marino • Albania
Serbia • Montenegro

One European extension state

Bosnia and Herzegovina

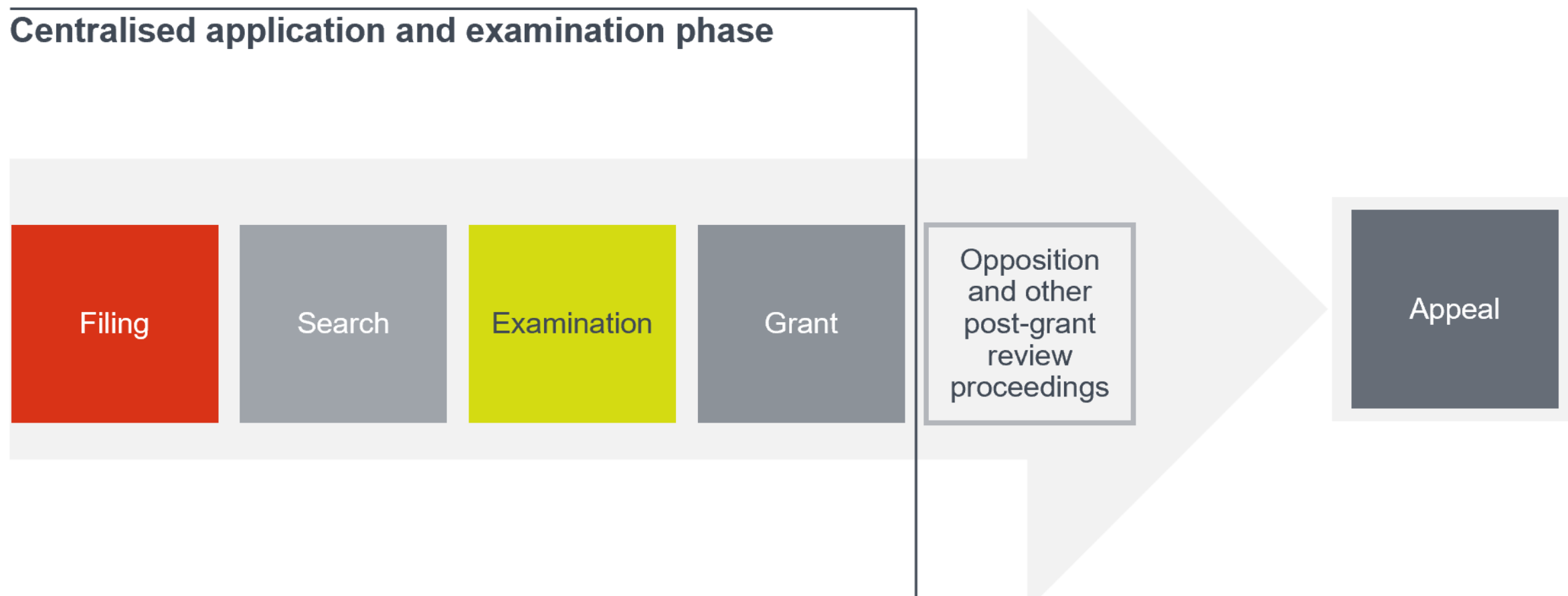
Five validation states

Republic of Moldova • Morocco
Tunisia • Cambodia • Georgia



BASIC STEPS IN THE EUROPEAN GRANT PROCEDURE

Centralised application and examination phase

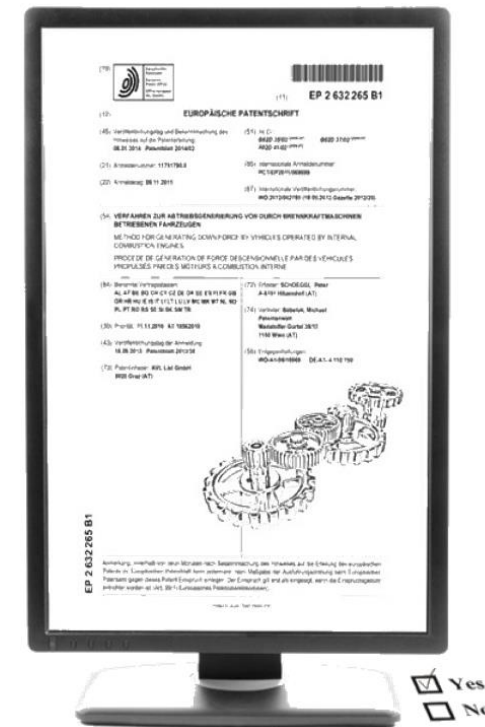


Applying for a Patent in the EU

OUTCOME

- If the requirements of the EPC are met, the patent is **granted**
- If not, the application is **refused** (with the **possibility of appeal**)
- All granted European patents are **published**

► For information on the legal status of applications go to **epo.org/register**



Patents in the context

TO SUM UP



Patents help to protect (technical) inventions.



The patent system provides for a balance of interests between patent holders and the public.



There are different routes to patent protection in Europe.

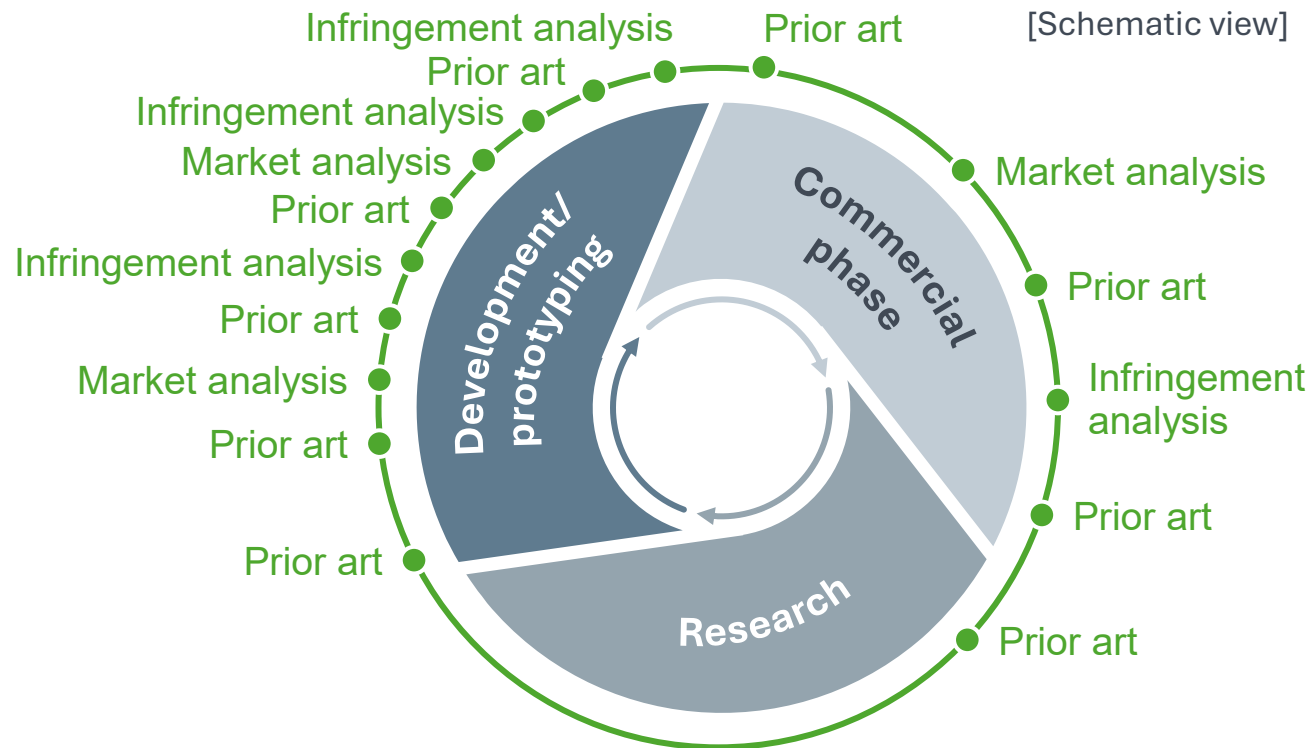


It is important to be aware of the patentability requirements, exclusions and exceptions to patentability.



Patent information is a unique source of technical, legal and business information.

Why patent information is so important



Patent information helps to

- find out **what technology already exists** and build on it
- **avoid duplication** of R&D expenditure
- check where an invention is protected
- **avoid infringing** other people's patent rights
- **keep track** of what others are doing
- **identify new partners**, e.g. for licensing
- **spot trends** in technology or the market
- ... and much more.

✓ Patent information supports informed decision-making at all stages of the innovation process!




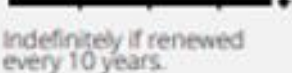


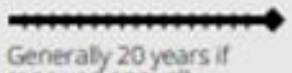


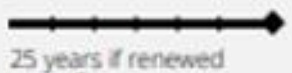







The Patent system: An incentive for economic growth

epo.org

- Enables patent holders to **recoup their development costs**
- Makes the latest **technological knowledge** available to the public
- Inspires further **innovation**
- **Prevents duplication** of R&D
- Provides the legal basis for **licensing and R&D co-operation**
- Attracts **venture capital funds and investors**



CHARACTERISTICS OF IP RIGHTS

		 Validity	 Registration <small>*Check exact details at the end of this document</small>	
Name or logo <i>E.g. a new brand.</i>	 Trade mark Protects the commercial origin of goods and/or services.	 Indefinitely if renewed every 10 years.	Intellectual property office.	
Invention <i>E.g. a new machine.</i>	 Patent protects products or processes that offer a new technical solution.	 Generally 20 years if renewed annually.	Intellectual property office.	
Original product design <i>E.g. a new fashion collection.</i>	 Design Protects the appearance of products.	 25 years if renewed every 5 years.	Intellectual property office.	
Confidential information <i>E.g. a client database.</i>	 Trade secret Protects confidential business information.	 Indefinitely, if it remains secret.	Non-disclosure agreements (without registration).	
Creative work <i>E.g. a new song.</i>	 Copyright Protects creative works, including software.	 Author's life + 70 years.	No formality is required except for proof of the date of creation. Most countries have a voluntary registration system.	

»»» *National Offices*



»»» *International protection*

»»» *European protection*



- ☐ EU Trademark
- ☐ RCD Designs
- ☐ European Patent

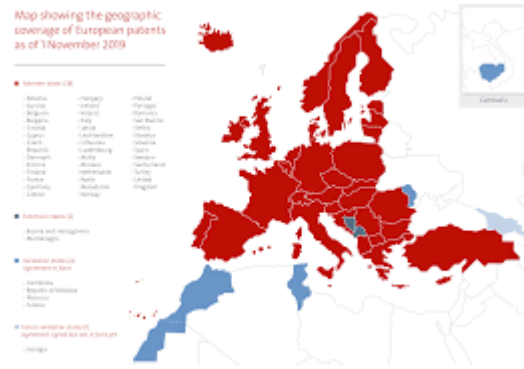


INTERNATIONALISATION

TERRITORIAL SCOPE OF PROTECTION OF IP RIGHTS

European scope of protection

European Patent Office (EPO)



European Patents



Up to 44 countries



EU IPO



EUTMs

RCDs



27 countries



TERRITORIAL SCOPE OF PROTECTION OF IP RIGHTS

International scope of protection



World Intellectual Property Organization (WIPO)



PCT Patent Applications



up to 152 countries



**Trade mark international
application Madrid
System.**



up to 124 countries



**Design international
application
Hague System**



Up to 92 countries

IP, Patents and innovative business creation



R&D IP/Results Management



innovation process



IDEA



MARKET

Research & Development phase

Commercial use phase

Trade secret

The idea

Patent

Technical solution of
the dispositive

Copyright

App software

Trade mark

Agritech
Solutions

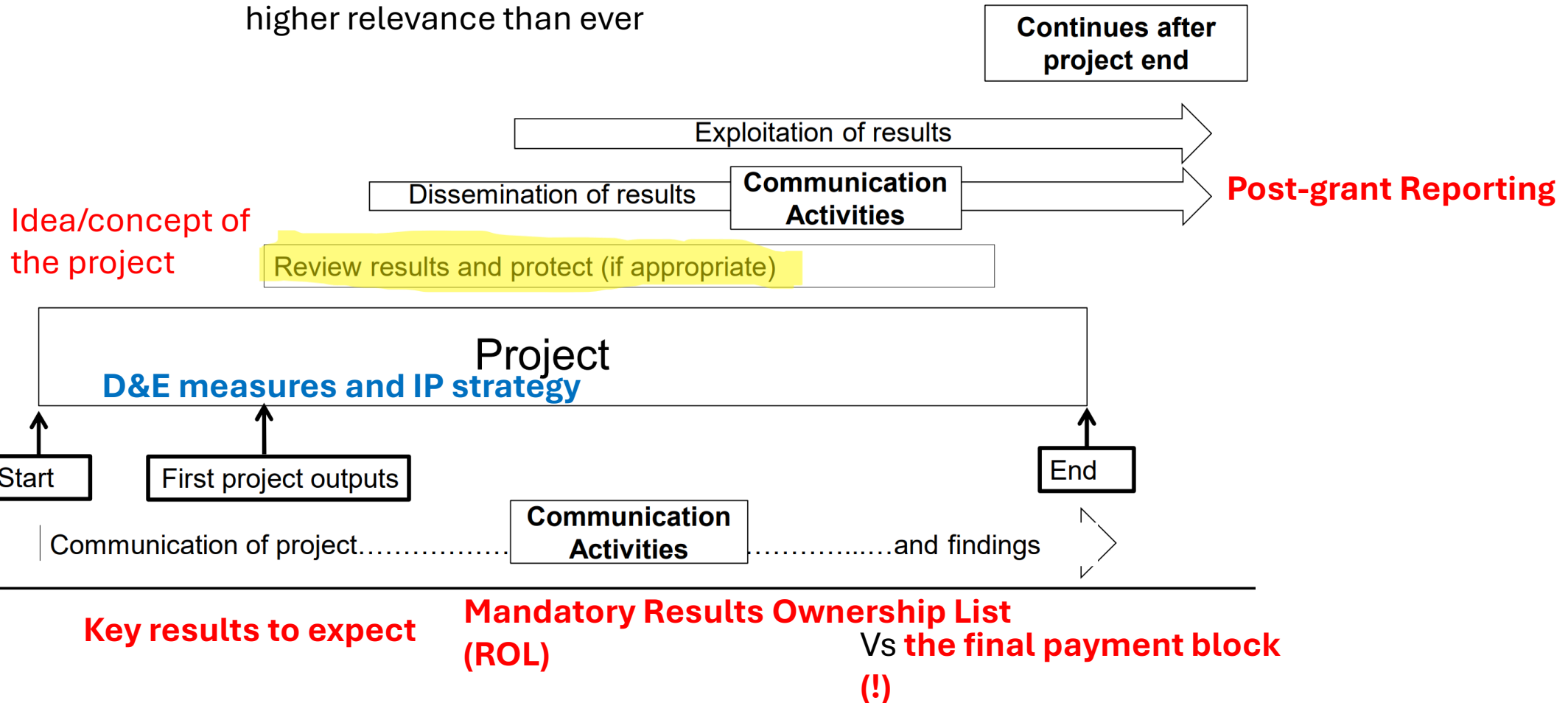
Design

Shape of the
dispositive

R&D, EU public funding

IP/Results Management

the safeguarding and protection of intangible assets has a higher relevance than ever



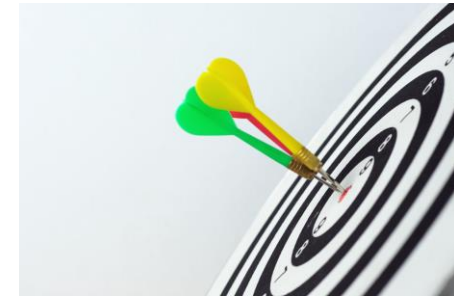
R&D

IP/

Results Management

Where is
IP localised?

Marketed innovations - KPIs



IMPACT –
Innovation's
Exploitation

Innovations –
products or
services

Dissemination &
Communication
Results

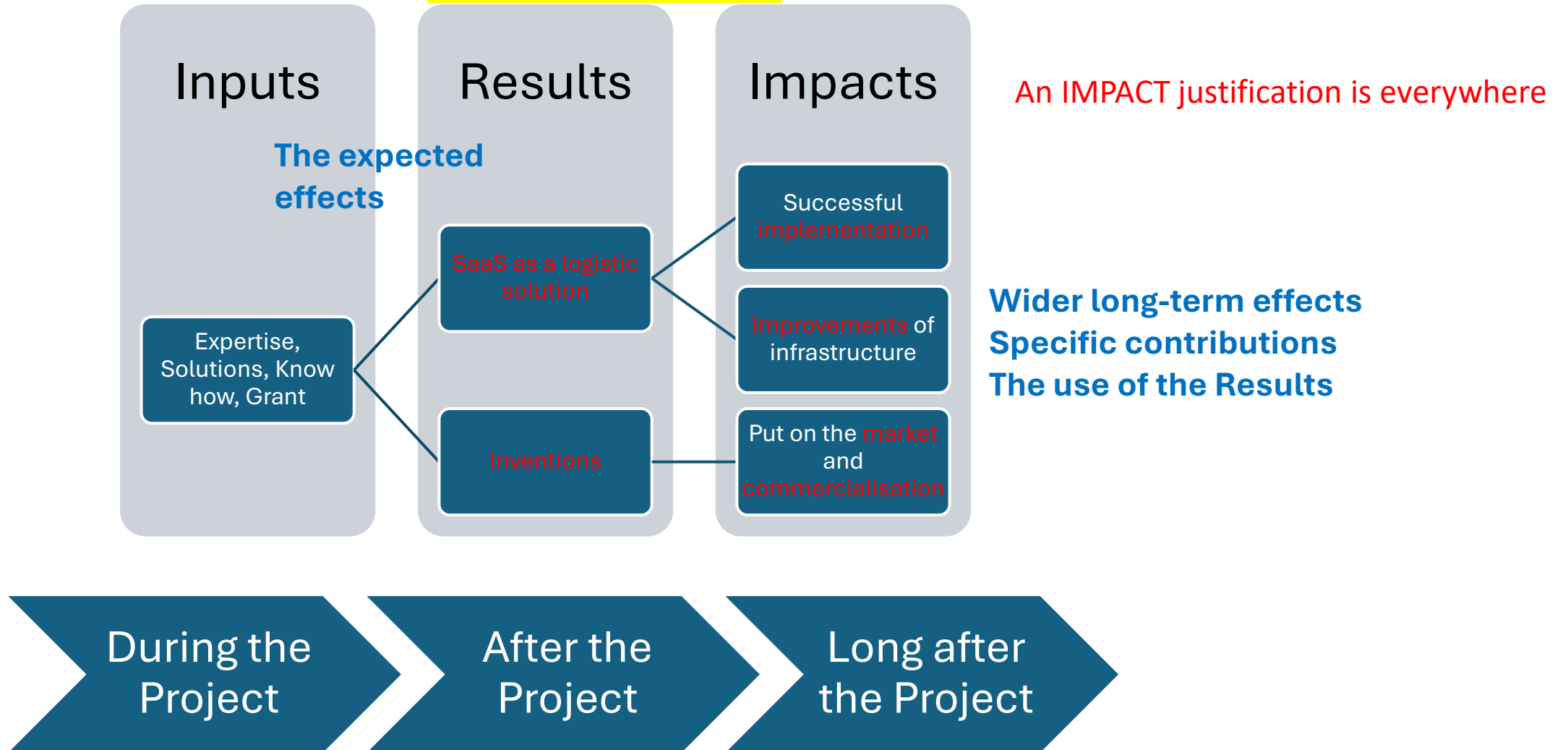
Management
and Protection
of Results

Project
Results –
Knowledge &
IP, IA

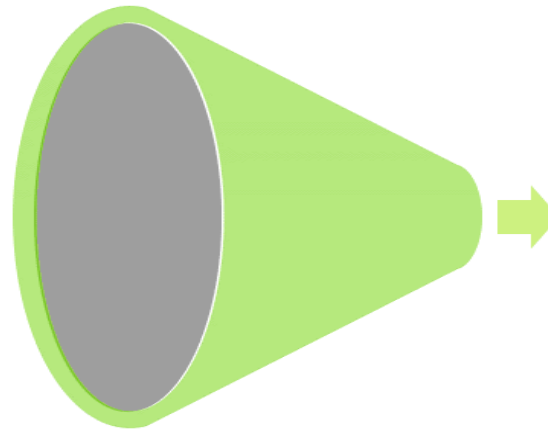
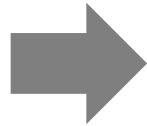
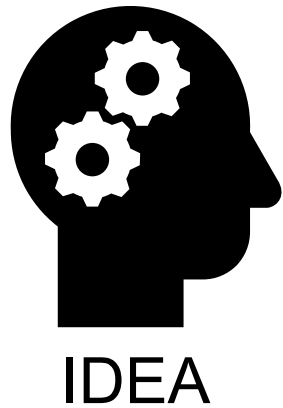
Intellectual
Property is
the KEY assets in a
project

The benefits derived from using the innovation
(scientific, economic, societal)

Where is IP localised?



CLOSED INNOVATION PROCESS

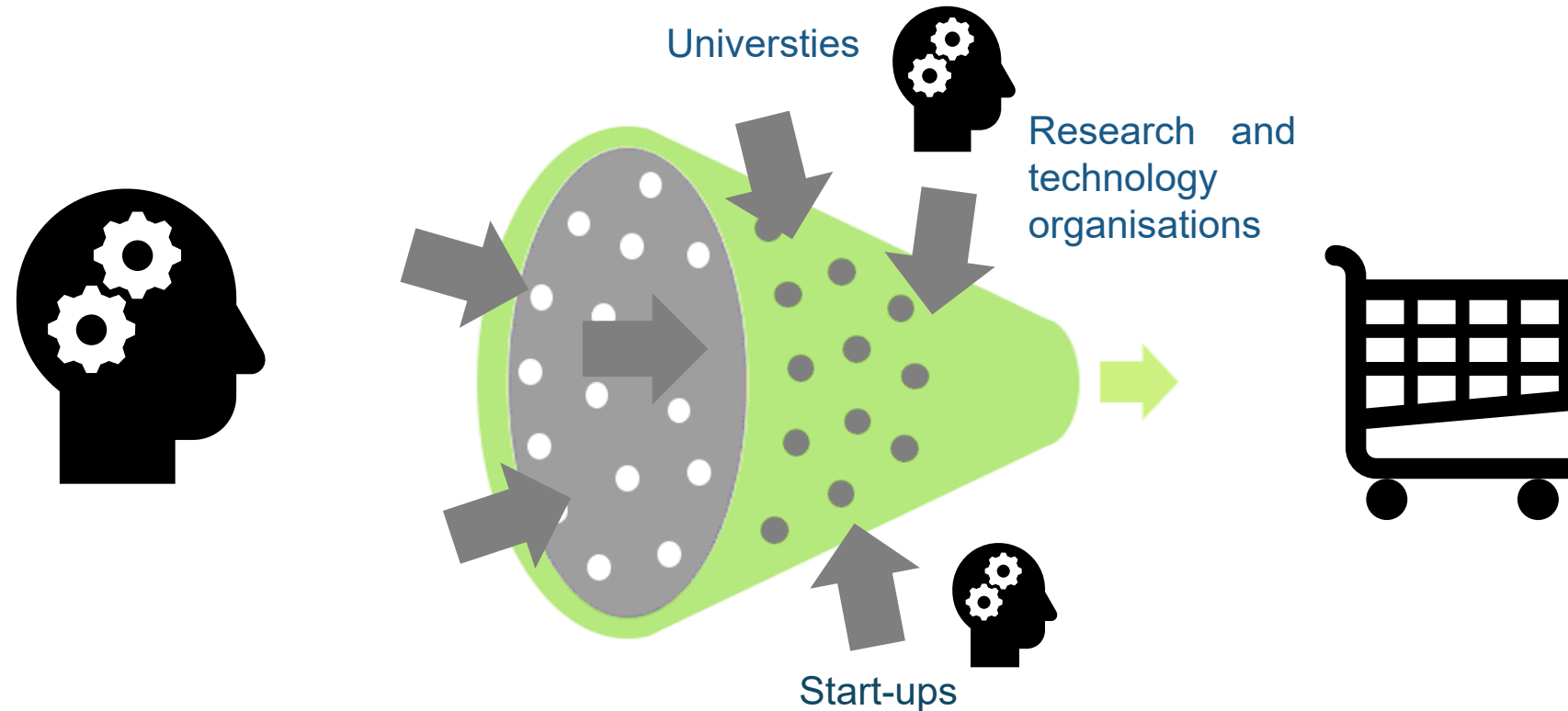


MARKET

Research & Development phase

Commercial phase

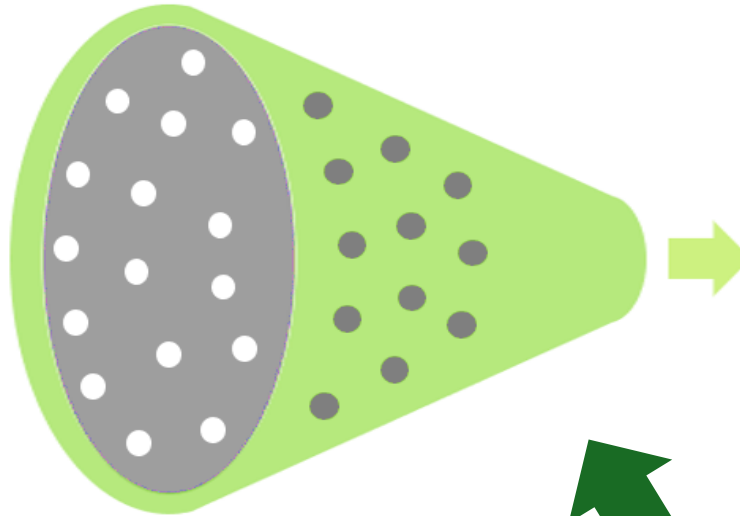
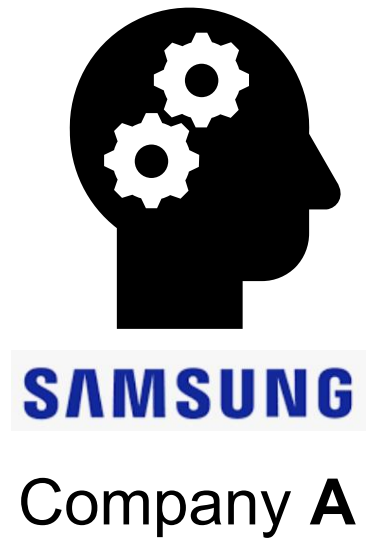
OPEN INNOVATION PROCESS: TECH TRANSFER



Research & Development phase

Commercial phase

OPEN INNOVATION PROCESS



LICENSING AGREEMENTS

[R&D](#)[Solutions](#)[About](#)[News](#)[Contact](#)

Licensing

Fractus combines its award-winning R&D with proven licensing expertise to commercialize its antenna technology through licensing agreements to device OEMs and to network equipment manufacturers worldwide.

Fractus plays an active role in the industry, helping shape IP rules to create an environment that fosters and rewards creativity and innovation through R&D investment. This blend of engineering know-how and entrepreneurial track record has won recognition from respected organizations in the industry.

SAMSUNG



htc

BlackBerry



SHARP

KYOCERA

ZTE

10-15 million
euros per year



Carlos Puente, cofundador de Fractus.



IP based agreements

- Licensing
- Purchasing
- Co-branding
- Franchising

Access to **finance** - Leveraging as an **intangible asset**

IP portfolio attracts investors

IP portfolio attracts partners

Bank loans, public grants: IPRs requests

Enhance the market value of your business



Innovation – Value chain

IP Strategy



Creation

- Ideas
- Funding

IP landscaping



Assessment

- IP assets detection
- Selection

IP landscaping



Protection

- Patents
- Trademarks & Designs
- Copyright **IP**
- Secrecy **Rights**



Commercialisation

- Products & services
- Licensing & transfers
- Collaboration

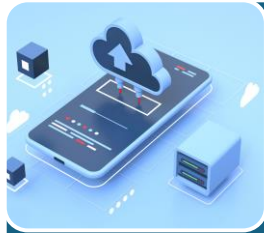
Innovations

Protection Measures

Example

Protecting main IP assets

SaaS



Data bases & Apps

- Commercially valuable information
- Compilation of information
- Website Interface & content

NDA's, Technical measures, Copyright, Design rights



Technology / Algorithms

- New technologies or improvements of existing
- Software & AI systems
- Trade secrets

Tech robust & accurate,
socially robust,
Trustworthy

Patents, UM, Copyright, Design, NDA's



Brands & Reputation

- Logo, slogans, marketing materials
- Designs
- Company recognition on the market

Trademarks, Design rights, Copyright

Protection Measures

Example

Technology & Product

Protecting main IP assets - the legal status of technology



Software

- New technologies or improvements of existing
- Data bases
- Website Interphase & content

Copyright, Design rights,
Patents for “computer
implemented” software



Hardware

- New technologies or improvements of existing
- Designs
- Trade secrets

Patents, Utility models,
Design rights, NDAs



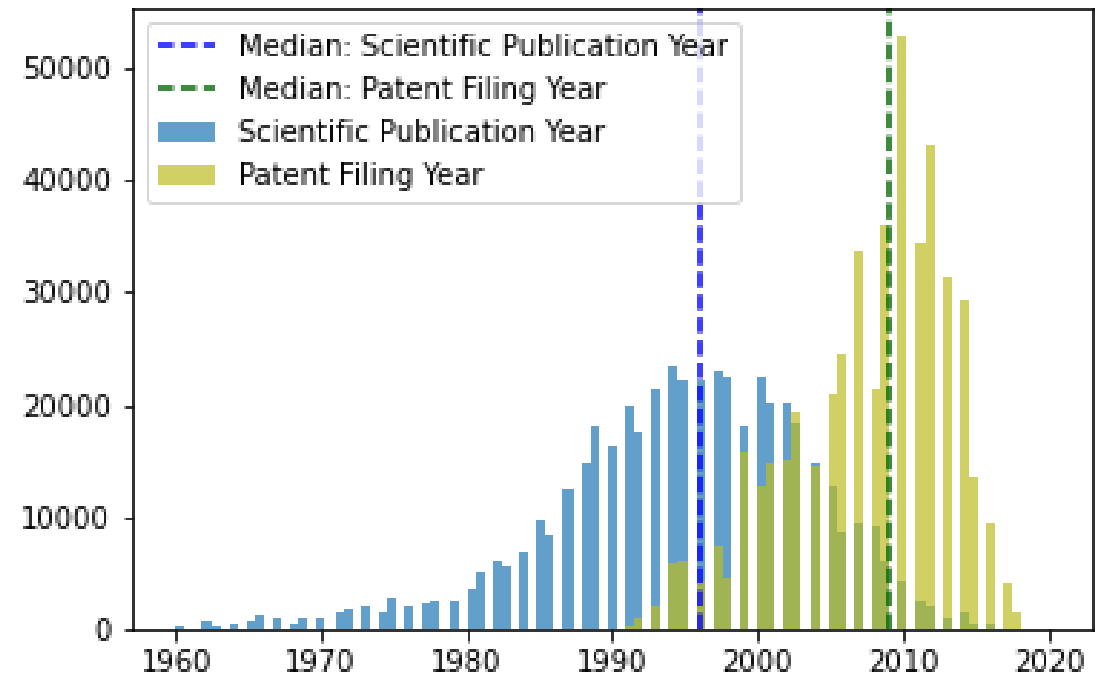
Brands & Reputation

- Logo, slogans, marketing materials
- Designs
- Company recognition on the market

Trademarks,
Design rights,
Copyright

From lab to market takes time

- Investments in science need about 20-25 years to reach the market
- Today's products embed technology patented more than 10 years ago
- Surprisingly little difference across scientific fields



MECHANISMS OF IP COMMERCIALISATION (1/2)

Direct ways to generate income

- Having exclusivity enabling higher margins
- Reducing costs
- Having income from IP sales
- Receiving fees from licences

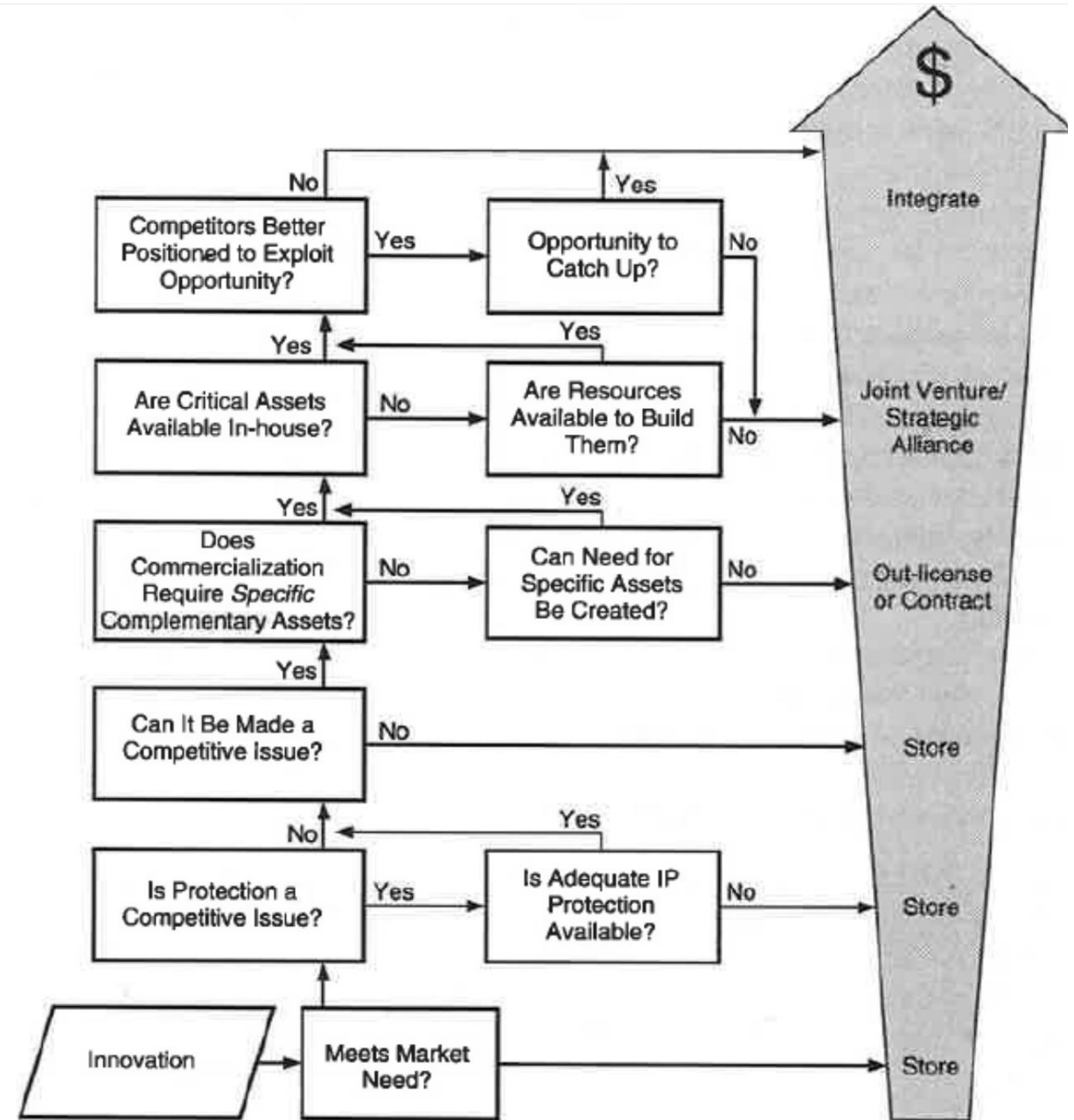
Indirect ways to generate income

- Blocking competitors
- ■ Creating a position of strength
- Marketing and advertisement
- Creating design-around costs for competitors
- Enabling and leveraging joint ventures, strategic alliances and technological partnerships
- Accelerating the growth of a market by early-stage licensing
- Making it necessary for the competitor to cross-license

IP COMMERCIALISATION DECISION PROCESS

- Sullivan's decision tree
- Business pivoting possible

Patrick H. Sullivan, "Profiting from Intellectual Capital", John Wiley & Sons, Inc., 1998, p.26.





Market



$$NPV = \sum_{t=1}^T \frac{C_t}{(1+r)^t} - C_0$$

Income



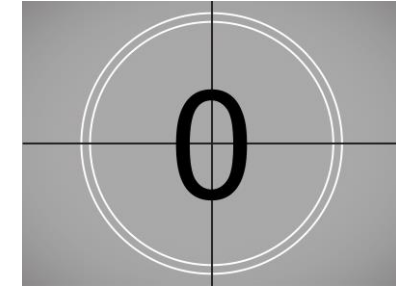
Cost

- Bringing your IP to the market happens in three stages:
 1. establishing first contact: raising awareness of your story to meet your first customer / investor
 2. making a deal so that there is readiness to buy / invest
 3. negotiating win-win deals to come to a contract
- The value of IP can be calculated by
 1. benchmarking in the market
 2. forecasting the future revenue stream or
 3. estimating the cost of development

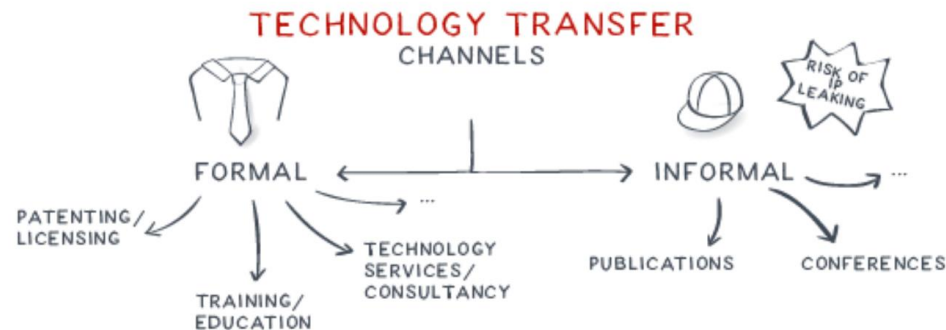
Always from the perspective of the prospective buyers

WHAT IS TECHNOLOGY TRANSFER?

Technology transfer is considered to be the movement of technology and/or know-how from one person or organisation to another person or organisation for the purpose of converting innovative developments into marketable products; this can take place for free, by licence, by selling or through a mutual partnership.



No recourses or expertise



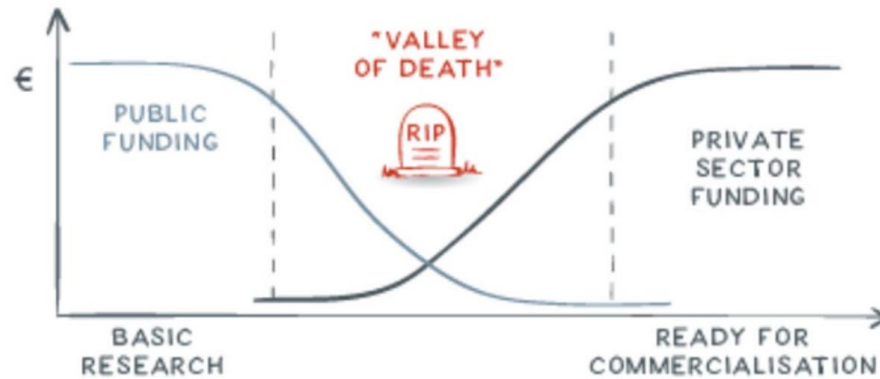
A part of a larger complex product

VALLEY OF DEATH

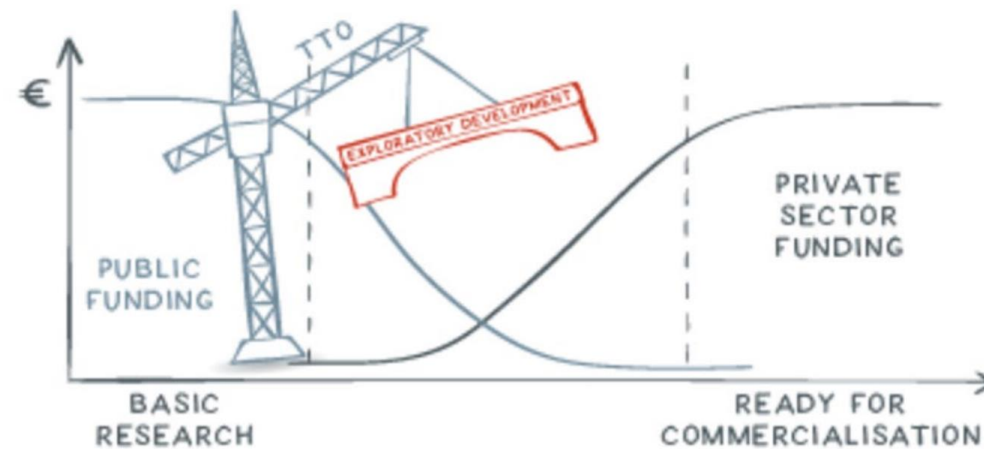
Occurs when further funding is required but is

- beyond the remit for public funds
- too high-risk for private capital

Technology Transfer



- bridging the valley bolsters innovation and creativity



Technology Transfer

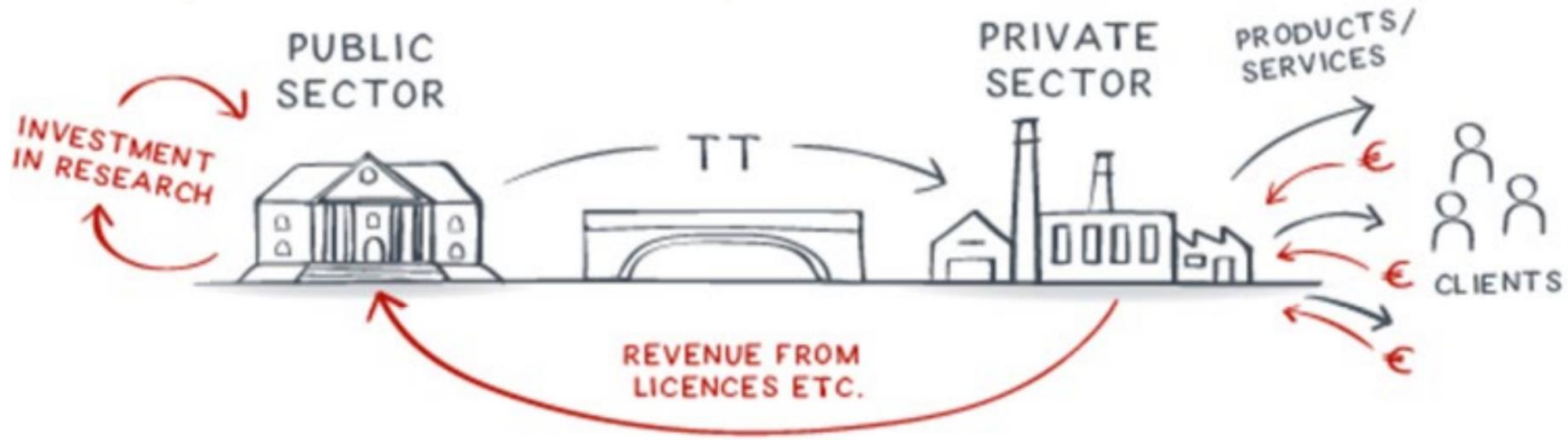
Technology transfer is not just about making money.

Further objectives:

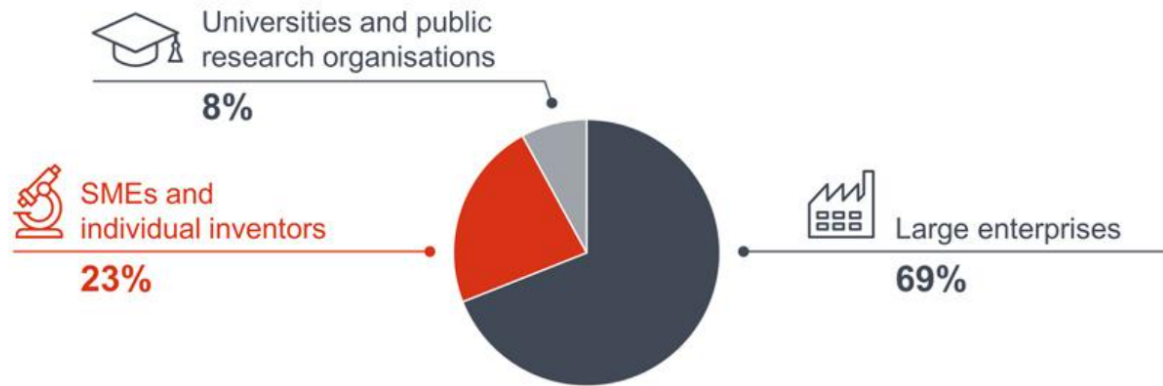
- helping to protect research results
- assessing new technologies and their markets
- promoting and commercialising innovation

Aim to create a win-win situation:

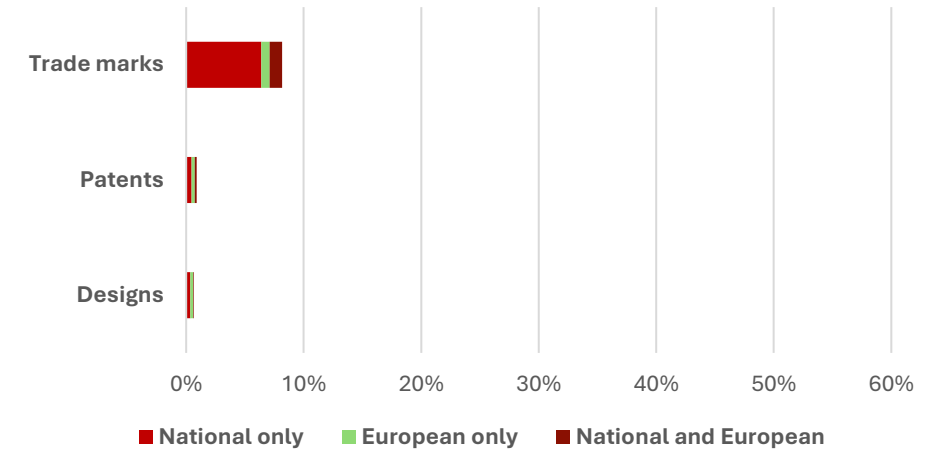
- through increased investment in research
- through increased commercial activity



Over 30% of EP applications originate from SMEs, UNIVERSITIES AND PROs



SMEs with...



Source: EPO.
Status: 29.1.2024.

Source: EUIPO & EPO (2021, firm-level IP Contribution study)

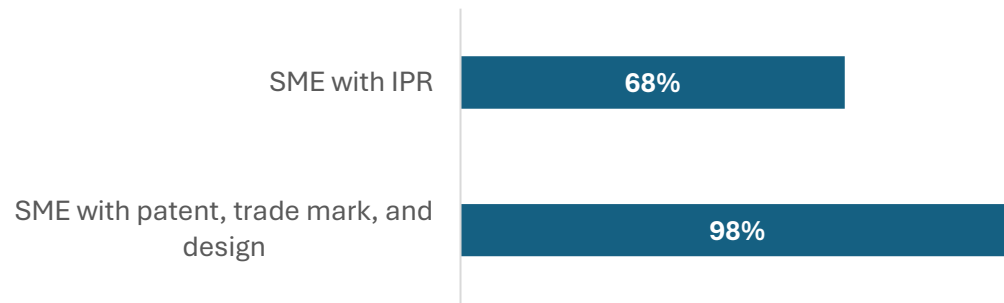
¹ This breakdown is based on a large representative sample of patent applications filed with the EPO in 2023 by applicants located in the 39 member states of the European Patent Organisation.

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) fewer than 250 staff and iii) a turnover below EUR 50 million and/or a balance sheet below EUR 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 organisation.

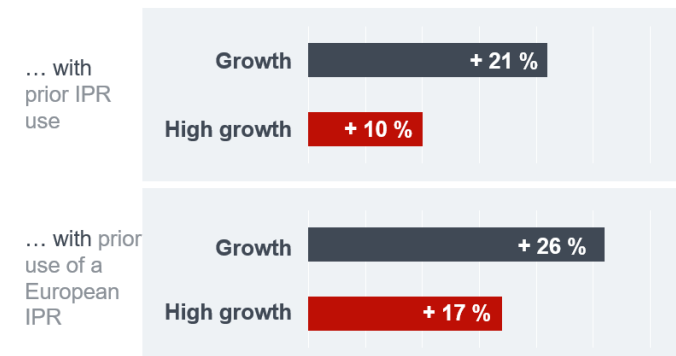
High-growth technology businesses and IPRs

- SMEs with IPR perform better



Source: EUIPO & EPO (2021, firm-level IP Contribution study)

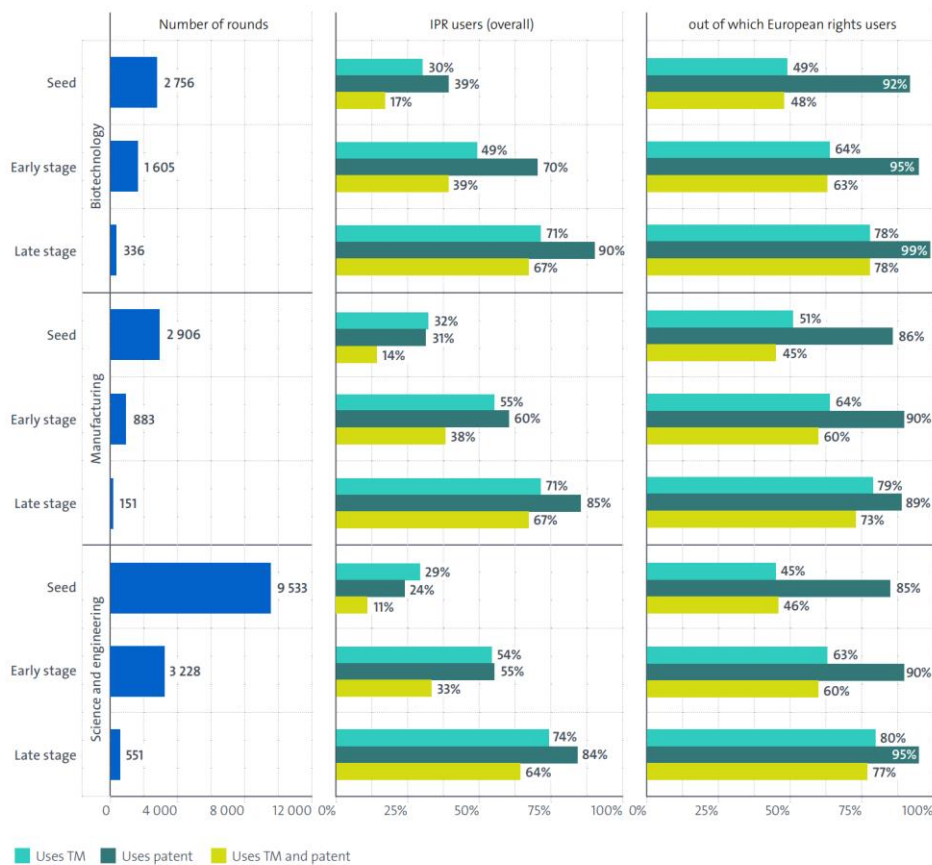
- ... and are more likely to grow



Source: EUIPO & EPO (2019, High-Growth Firms study)

Funding and exit performance of European startups 2023

Share of startups with IPR at different stages of financing. Sectors using patents intensively



Note: The first panel presents the number of events in each stage of financial rounds. The second panel shows the share of startups having applied for the various combinations of IPR prior to the date of the financial round. The third panel presents the share of IPR users within each category that applied for protection of EUTM, European patent or both prior to the date of the financial round.

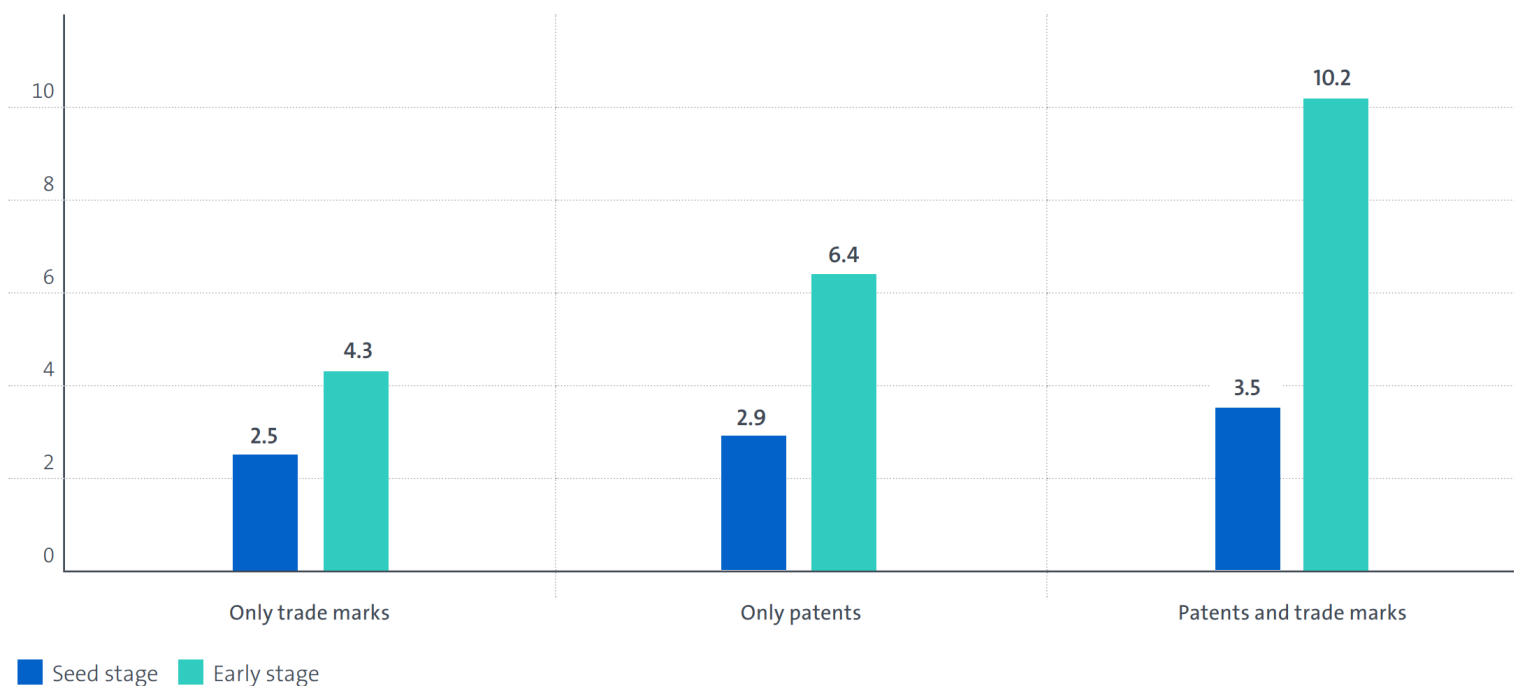
Startups that register IP rights

- obtain seed and early-stage financing,
- reward the early investors through a successful exit via an IPO or a sale to another company.

Funding and exit performance of European startups 2023

Registered IPRs give **a more than twice as high likelihood of successful exit** for investors

Increase in odds of funding for startups with prior patent or trade mark applications



- ❖ *2021 EUIPO and EPO joint study on Intellectual property rights and firm performance in the European Union*
- ❖ *2022 EUIPO IP SME Scoreboard*

FACTS ABOUT EU SMEs AND IPRs



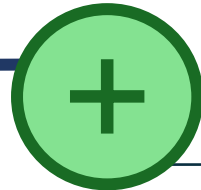
10%

EU SMEs own registered IP rights (IPRs)



68%

higher revenue per employee for SMEs with IPRs



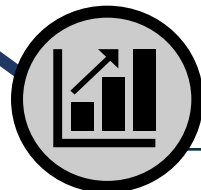
93%

SMEs with registered IPRs have seen positive impact



60%

SMEs with registered IPRs reported improved reputation



48%

SMEs with registered IPRs reported registration leading to better long-term business prospects



Thank you!

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