



# IPMED – Introduction to IP

Prof. Anselm Kamperman Sanders & Dr. Cees Mulder



# IP Law

- What does intellectual property protect?
  - Tangible, intangible and intellectual goods
  - The idea/embodiment dichotomy
  - The idea/expression dichotomy

# Types of intellectual goods and protection

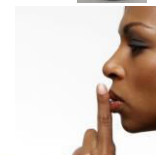
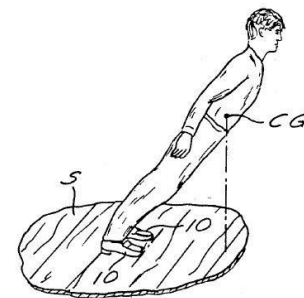
- Copyright, designs, patents, trade marks
- Trade secret, passing off, plant varieties, etc.
- Protection → exclusive rights (monopolies), categories of rights reserved to the creator

# Privileges → rights

- It is commonly argued that the earliest patents can be traced back to the 13-14<sup>th</sup> century: nature was that of **privileges discretionarily granted by sovereign authorities** as an instrument of economic policy
- Institutional systems of patent protection did not emerge until the end of the 15<sup>th</sup> century - the same approach was preserved
- Modern patents systems arose only towards at the end of the 18<sup>th</sup> century → **privileges** slowly turned into **rights**

# Overview of intellectual property

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



# Some IP found in a mobile phone

## Trade marks:

- Made by "Apple"
- Product "iPhone 7s"
- Software "iOS10"

## Patents:

- User interfacing
- Data-processing methods
- Semiconductor circuits
- Chemical compounds
- ...

## Copyrights:

- Software code
- Instruction manual
- Ringtone
- ...



## Trade secrets:

?

## Designs (some of them registered):

- Form of overall phone
- Arrangement of buttons in oval shape
- Three-dimensional wave form of buttons
- ...

# Importance of intellectual property

- Essential business asset in the knowledge economy
  - Swedish steel-maker Sandvik: 20% of its value is from IP!
- Increases funding for innovative projects
  - Without IP many innovative projects would not be profitable because anyone who wanted could simply copy the results
- Protects small innovative firms
  - Dolby® Laboratories
  - W.L. Gore & Associates (Gore-Tex®)
- Needed to release IP into the public domain under controlled conditions:
  - Linux (GPL): improvements must be free too!



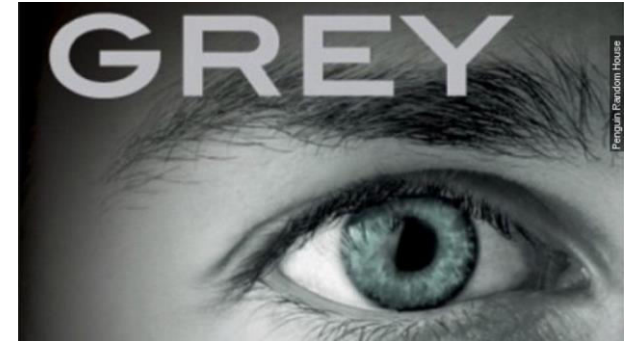
# Examples of valuable intellectual property



Coca-Cola®



Samsung Galaxy S6 Edge



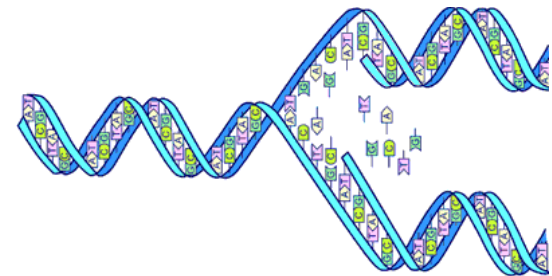
E.L. James



Compact camera



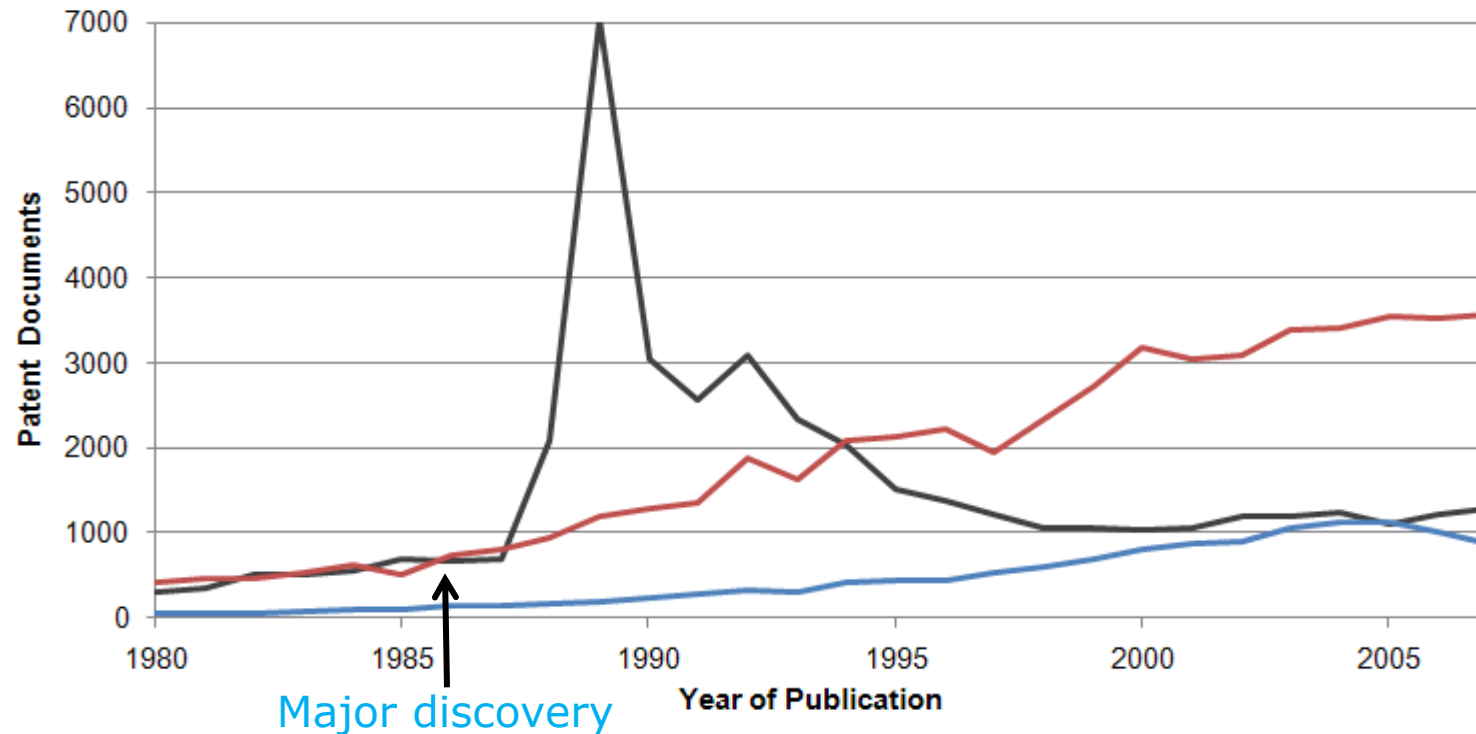
Medicines



DNA copying process



# Patents are all around us



— Superconductor — Bicycle — Toothbrush



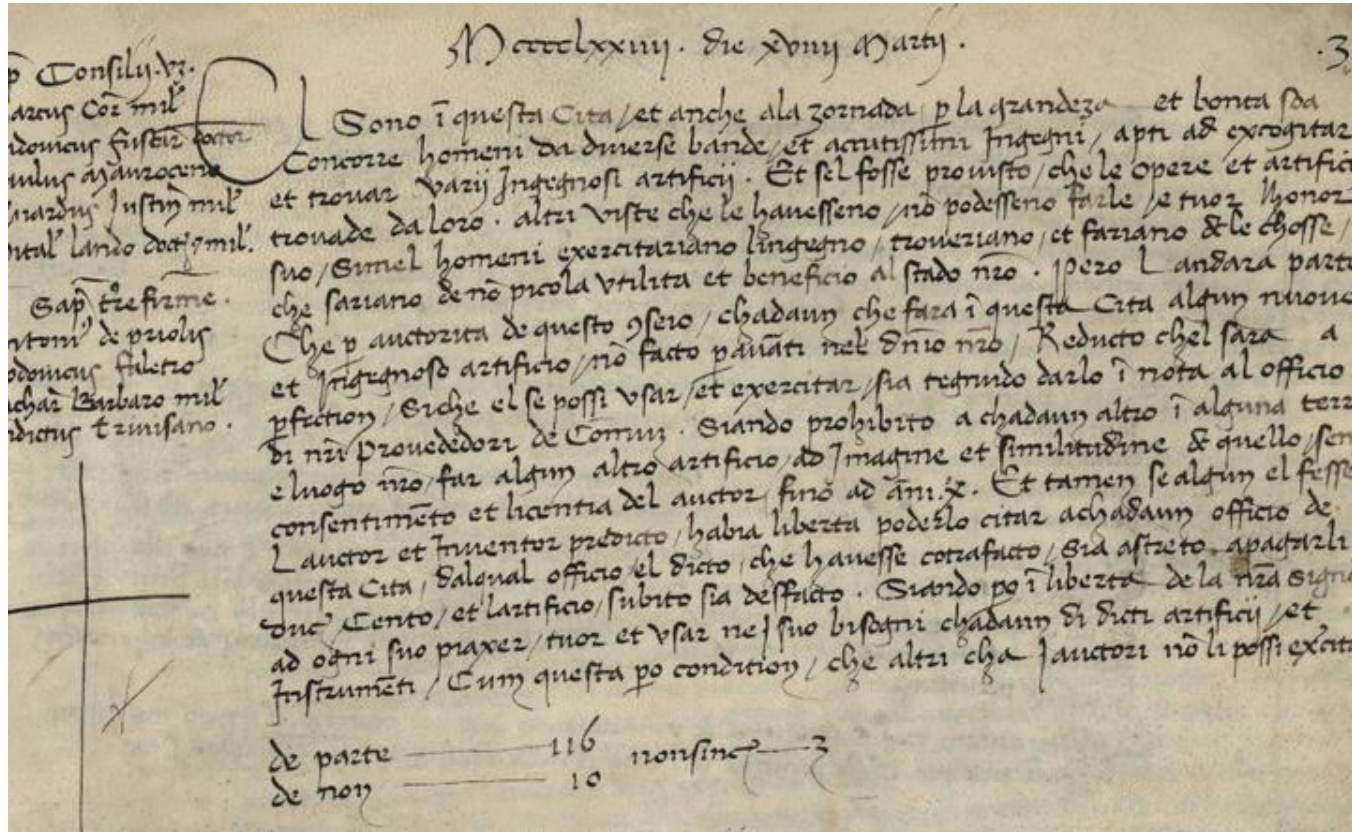
# The first account of a "patent system"

In the ancient Greek city of Sybaris (destroyed in 510 BC), leaders decreed:

*"If a cook invents **a delicious new dish**, no other cook is to be permitted to prepare that dish for one year.*

*During this time, only the inventor shall reap the commercial profits from his dish. This will **motivate others** to work hard and compete in such inventions."*

# The first patent law - Venice 1443



# The first patent law - Venice

## Senate of Venice, 1474:

"Any person in this city who makes any new and ingenious contrivance, **not made heretofore in our dominion**, shall, as soon as it is perfected so that it can be used and exercised, give notice of the same to our State Judicial Office, it being **forbidden up to 10 years** for any other person in any territory of ours to make a contrivance in the form and resemblance thereof."

# Today

Patent systems harmonized	up to 20 years of protection
Incentive to <b>innovate</b>	grant protection
Incentive to <b>share knowledge</b>	publish the invention's details

# The "social contract" implicit in the patent system

**Reveal**  
invention



**Get**  
exclusivity

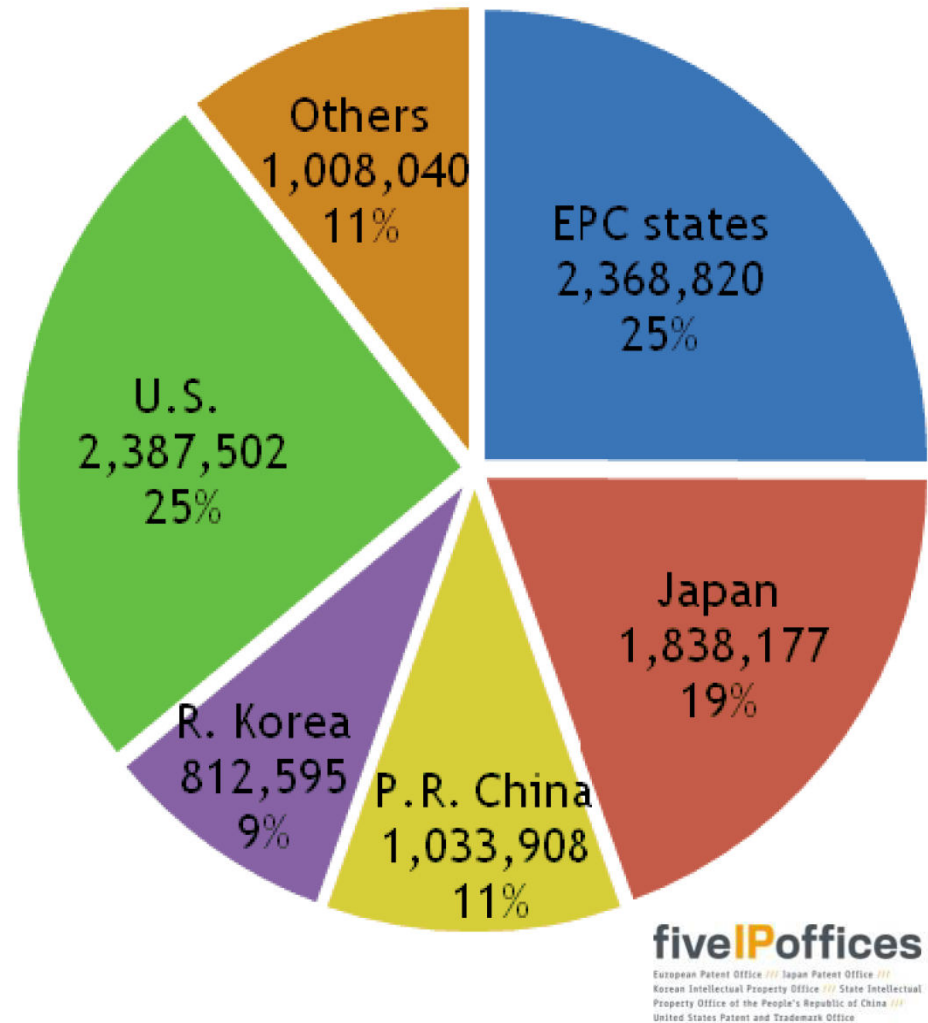


... so that others can learn from it  
and improve upon it!

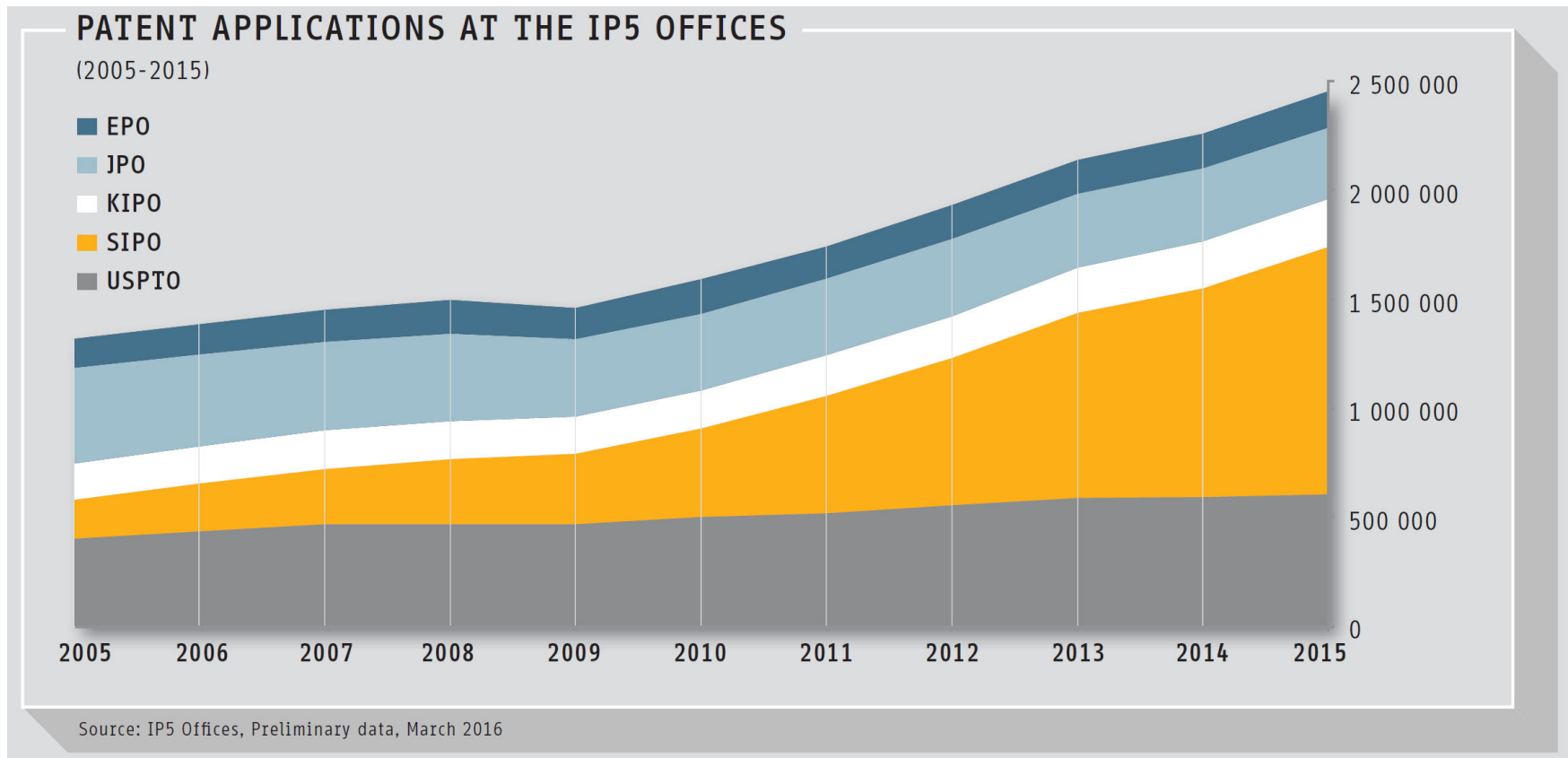


## Some statistics

- End 2013: 9.4 million patents in force in the world
- Every year >2 million patent applications filed
- Patent protection is sought in an average of 11 countries per invention

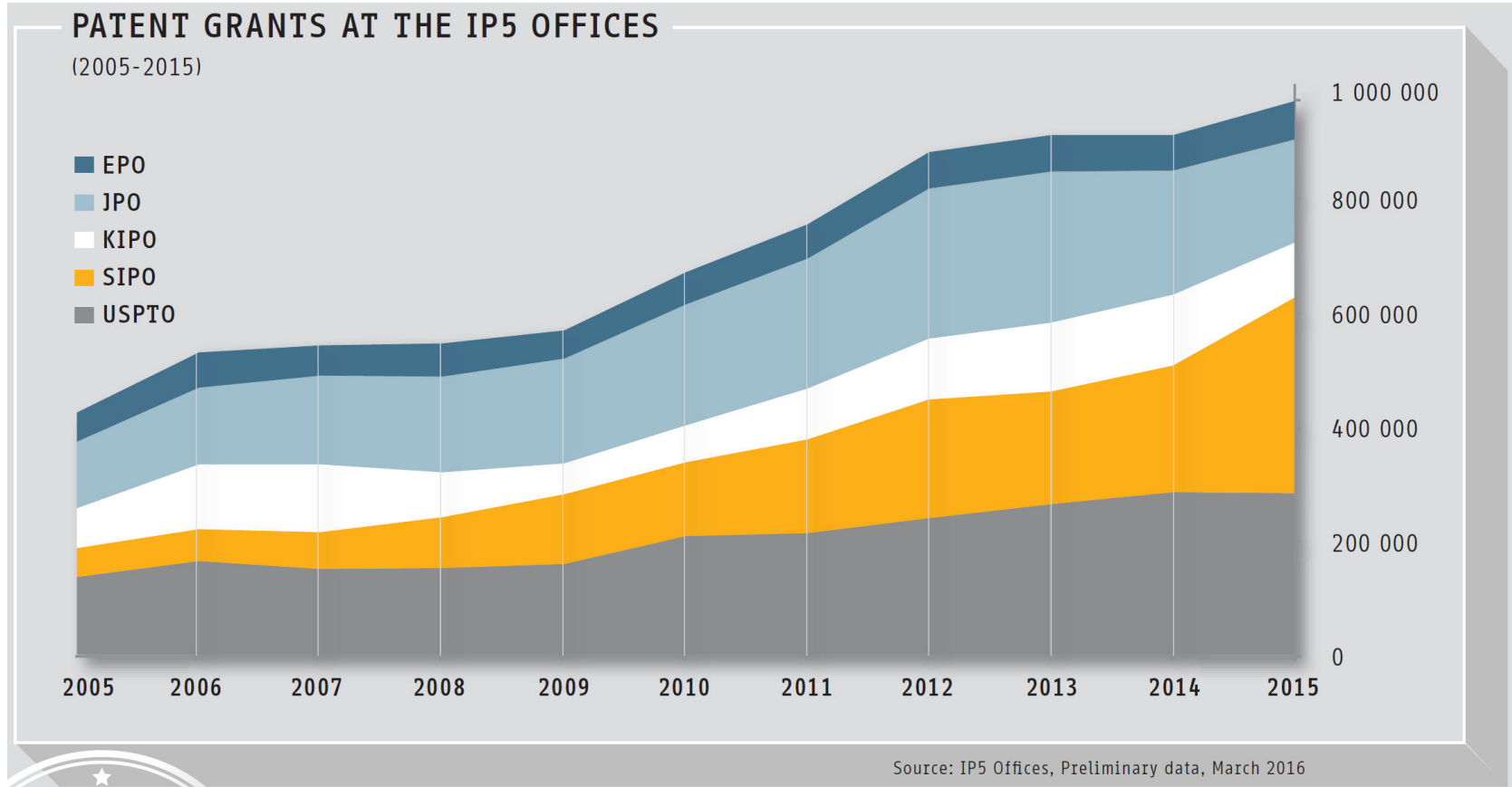


# IP5 Offices – Patent filings – 2015



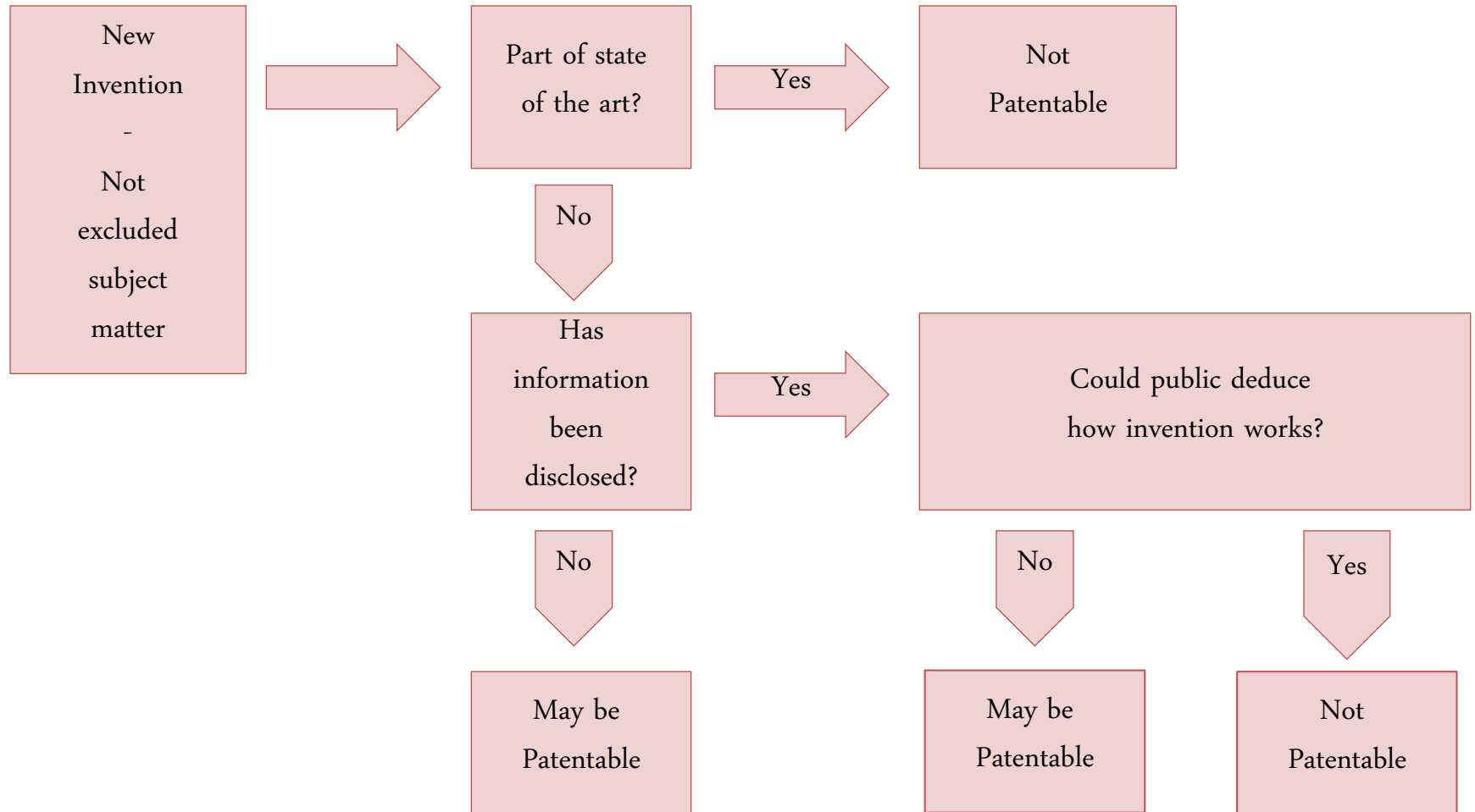
Growth 2015: +8.6%

# IP5 Offices – Patents granted – 2015

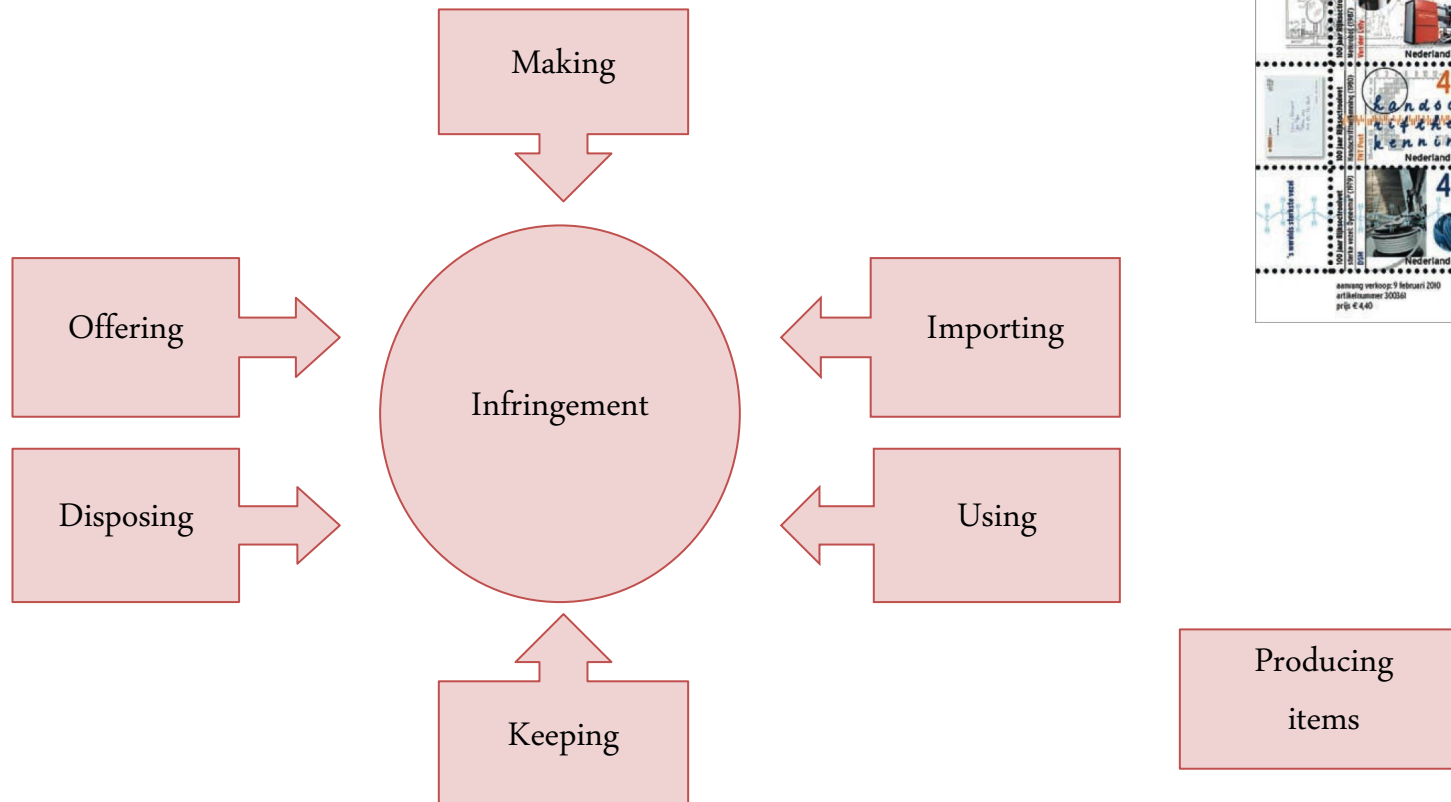


2015: 1,000,000 patents approved

# Patentability



# Patent scope of protection



# Defences to Patent Infringement

- Private (non-commercial) use
  - Individual formulation
- Experimental use
  - Research exemption
    - Commercial
    - Non-commercial
  - Clinical trials
- Prior use



# Rights conferred by the patent

- Prevent others from making, using, offering for sale, selling or importing infringing products in the country where the patent was granted
- Sell these rights or conclude licensing contracts
- For up to 20 years from the date of filing of the patent application

The patent does not grant the right to use the invention!

A patent search  
is indispensable!!!

# What does a patent look like?

- Bibliographic information
  - Inventor, proprietor, date of filing, technology class, etc.
- Abstract
  - Around 150 words as a search aid for other patent applications
- Description
  - Summary of prior art (i.e. the technology known to exist)
  - The problem that the invention is supposed to solve
  - An explanation and at least one way of carrying out the invention
- Claims
  - Define the extent of patent protection
- Drawings
  - Illustrate the claims and description



**Europäisches Patentamt**

**European Patent Office**

**Office européen des brevets**



Publication number: **0 201 184 B1**

12

## EUROPEAN PATENT SPECIFICATION

45 Date of publication of patent specification: **16.12.92** 51 Int. Cl.<sup>5</sup>: **C12P 19/34**, C12N 15/10,

//C12Q1/68,C07H21/00

21 Application number: **86302299.2**

22 Date of filing: **27.03.86**

Divisional application 92201226.5 filed on  
27/03/86.

54 **Process for amplifying nucleic acid sequences.**

30 Priority: **28.03.85 US 716975**  
**25.10.85 US 791308**

43 Date of publication of application:  
**17.12.86 Bulletin 86/46**

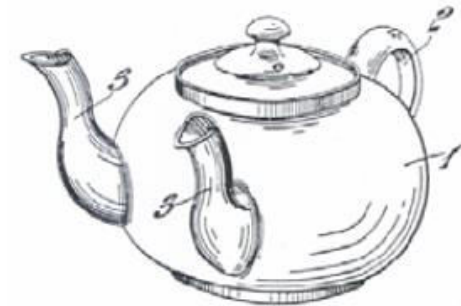
45 Publication of the grant of the patent:  
**16.12.92 Bulletin 92/51**

73 Proprietor: **F. HOFFMANN-LA ROCHE AG**  
**Postfach 3255**  
**CH-4002 Basel(CH)**

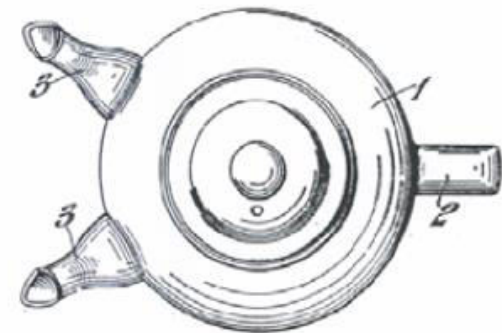
72 Inventor: **Mullis, Kary Banks**  
**447 Beloit Avenue**  
**Kensington California 94708(US)**

# Structure of the description

- Prior art
  - Teapot with one spout
- Drawback of prior art
  - Time-consuming
- Problem to solve
  - Reduce filling time
- Solution
  - Provide a second spout
- Advantage of the invention
  - The time needed to fill multiple cups is reduced



*Fig. 1.*



*Fig. 2.*

# Teapot with two spouts



# Teapot with seven spouts





# What can be patented at the European Patent Office?

Inventions that are...

- **new** to the world (no previous public notice)
- **inventive** (i.e. not an "obvious" solution)
- susceptible of industrial application

## **NOT:**

- Mere **ideas** not reduced to practice
- **Software** as such  
(but algorithms that achieve technical results)
- **Business methods**
- Medical therapies, plant varieties, **etc.**
- ...

# 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 / blog entry



- No sale of products incorporating the invention prior to filing



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

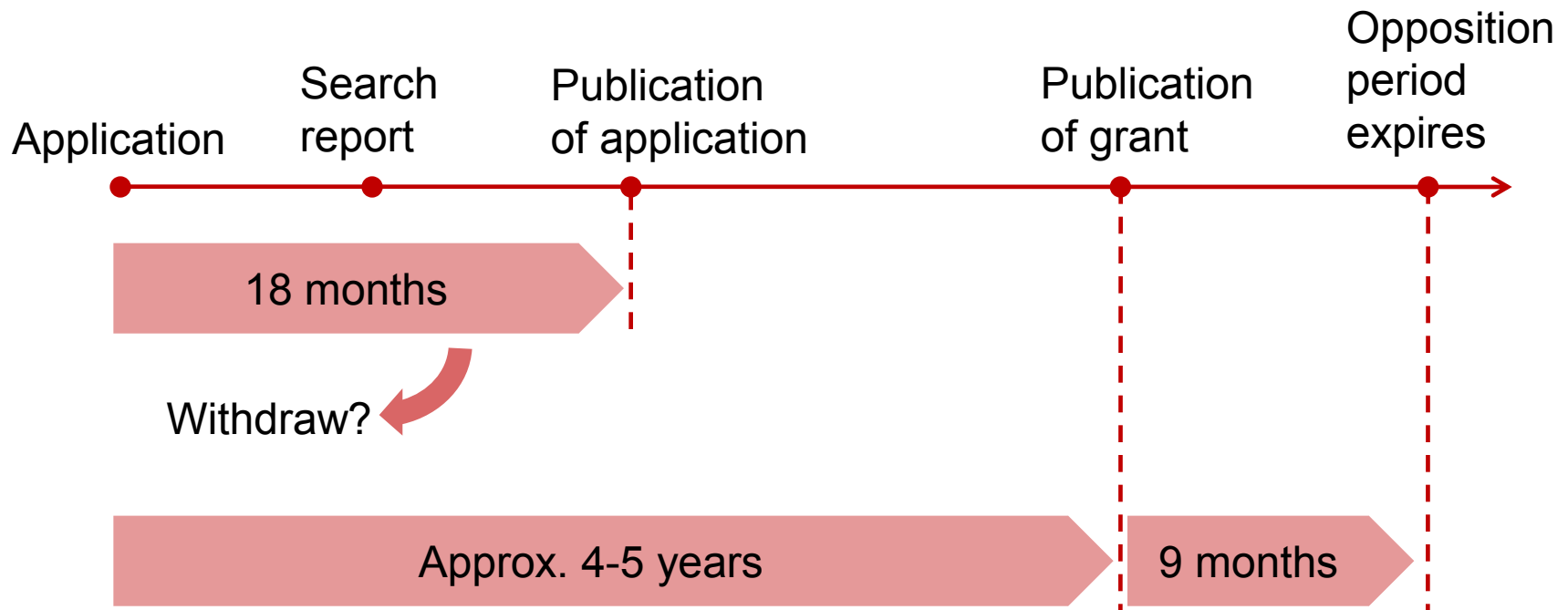


- Seek professional advice soon!
- File before others do!

# Where to apply for a patent

- National patent offices
  - National patent **valid only in the country where it is granted**
  - Non-residents can also apply for a patent
  - One year of "priority" for subsequent applications
- European Patent Office
  - A European patent is **equivalent to national patents** in the countries where it is granted (the applicant chooses the countries)
- Via the Patent Cooperation Treaty
  - Just one application for > 145 countries
  - After the initial application phase, the international application leads to multiple national patent examination procedures
  - **Decisions with cost implications can be delayed** until 30-31 months after filing (e.g. choice of countries to file in)
- There is no such thing as an international patent!

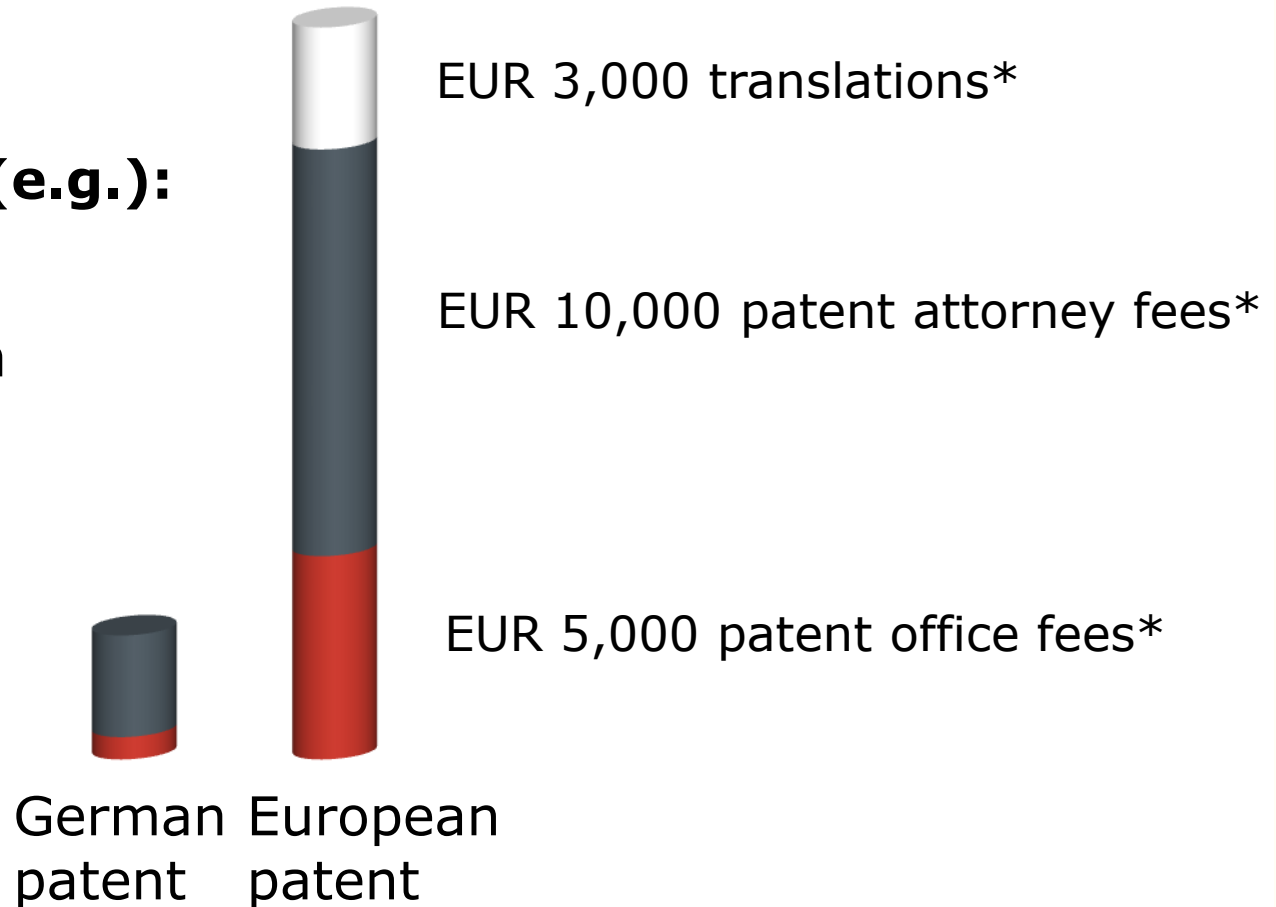
# The patent procedure at the EPO



# Cost of a European patent up to grant

## Protection in (e.g.):

Germany  
United Kingdom  
France  
Italy  
Spain  
Switzerland



\* Estimated cost. Actual cost depends very much on the specifics of the individual case.

# Advantages and disadvantages of patenting

## Advantages

- Exclusivity enables investment and higher returns on investment
- Strong, enforceable legal right
- Makes invention tradable (licensing)

## Disadvantages

- Reveals invention to competitors (after 18 months)
- Can be expensive
- Patent enforceable only after grant (this can take 4-5 years)



# Alternatives to patenting

## Information disclosure (publishing)

- |   |   |
|---|---|
| <ul style="list-style-type: none"><li>• Cheap</li><li>• Prevents others from patenting the same invention</li></ul> | <ul style="list-style-type: none"><li>• Does not offer exclusivity</li><li>• Reveals the invention to competitors</li></ul> |
|---|---|

## Secrecy (creating a trade secret)

- |  |   |
|--|---|
| <ul style="list-style-type: none"><li>• Cheap (but there is the cost of maintaining secrecy)</li><li>• Does not reveal the invention</li></ul> | <ul style="list-style-type: none"><li>• No protection against reverse-engineering/duplication of invention</li><li>• Difficult to enforce</li><li>• "Secrets" often leak quite fast</li></ul> |
|--|---|

## Do nothing

- |  |   |
|--|---|
| <ul style="list-style-type: none"><li>• No effort required</li></ul> | <ul style="list-style-type: none"><li>• Does not offer exclusivity</li><li>• Competitors will often learn details</li></ul> |
|--|---|

# How patents are used

- Protecting products and processes
  - Increasing turnover and profits
  - Attracting investors
- Licensing
- Cross-licensing
- Blocking competitors
- Building reputation
- ...
- Not used

# Patent management

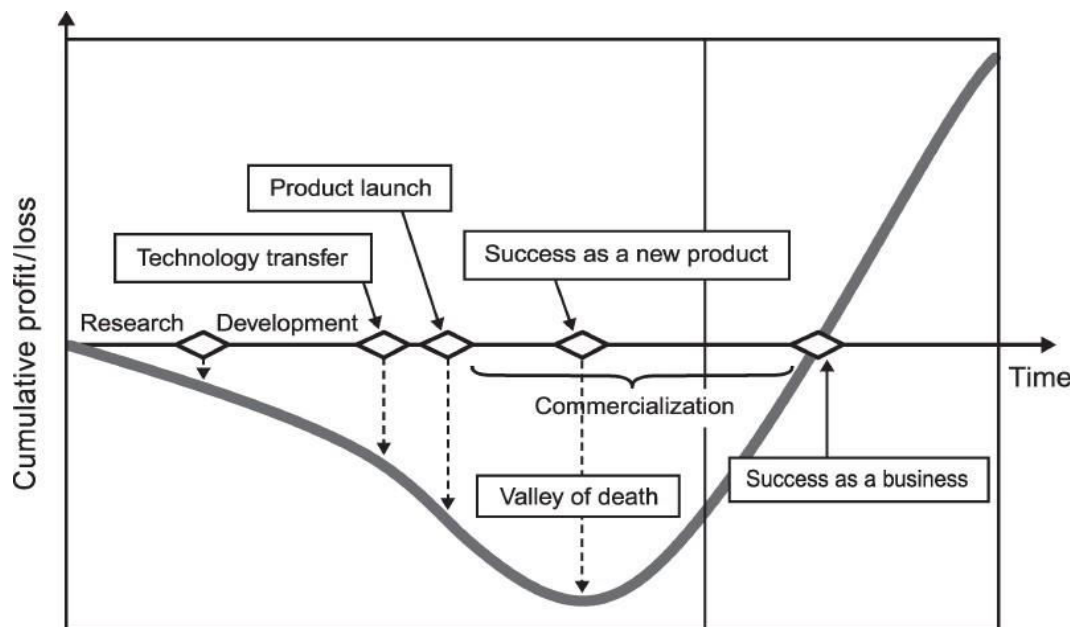
- Patent strategy
  - Offensive/defensive
  - Internationalisation
  - Kind of exploitation: licensing or own use
- Patent information
  - Keep abreast of technology
  - Avoid infringing patents
  - Understand the competitive landscape
- Communication
  - Compile convincing evidence that your patents are valuable
  - Inform investors and banks, clients and prospective employees
- Maintenance
  - Pay renewal fees, observe deadlines
  - Strengthen important patents and get rid of ones with no value

## 25% of all R&D efforts ...

... are wasted each year on inventions that have already been invented

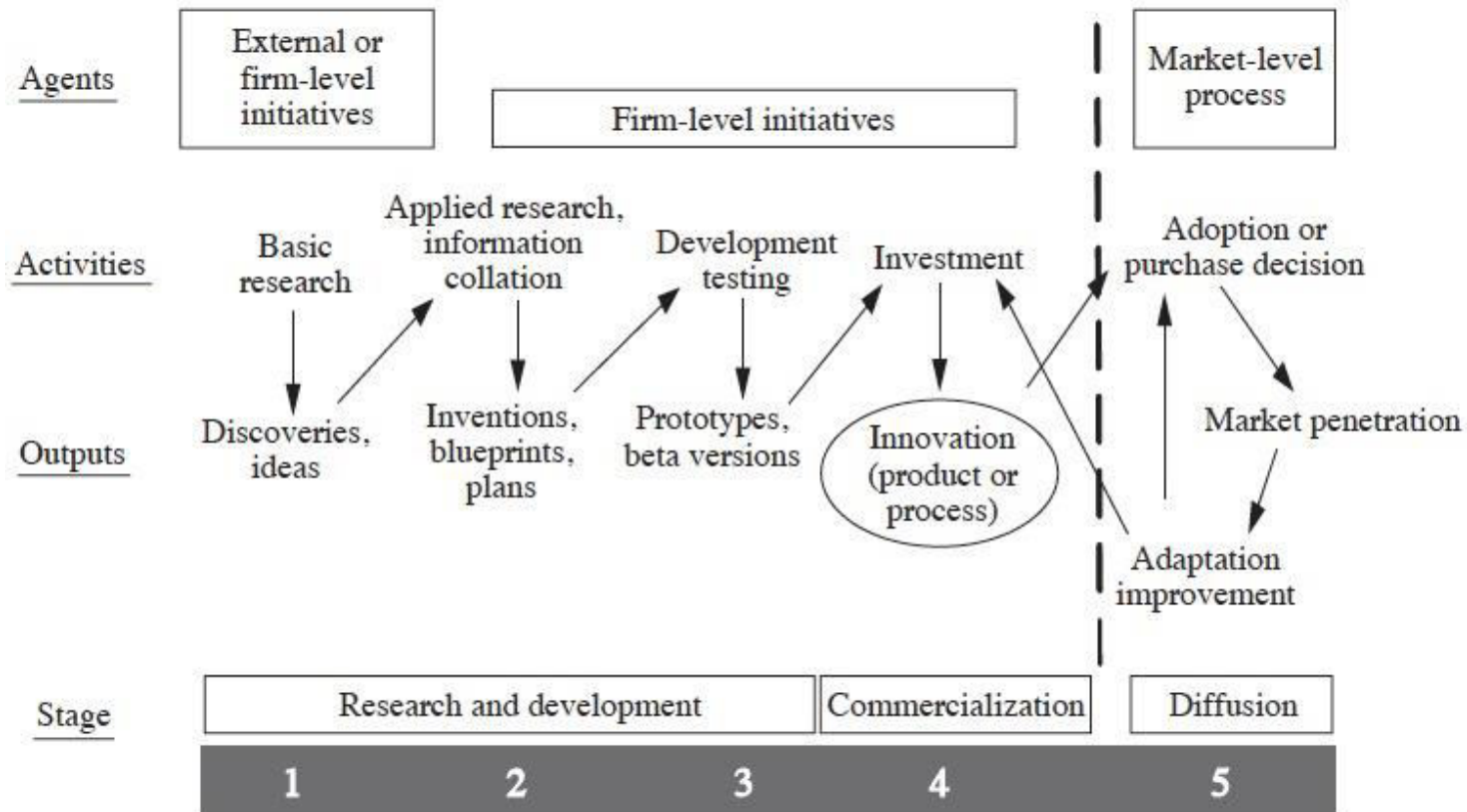
Don't start your R&D until you have done a search!

# Valley of Death

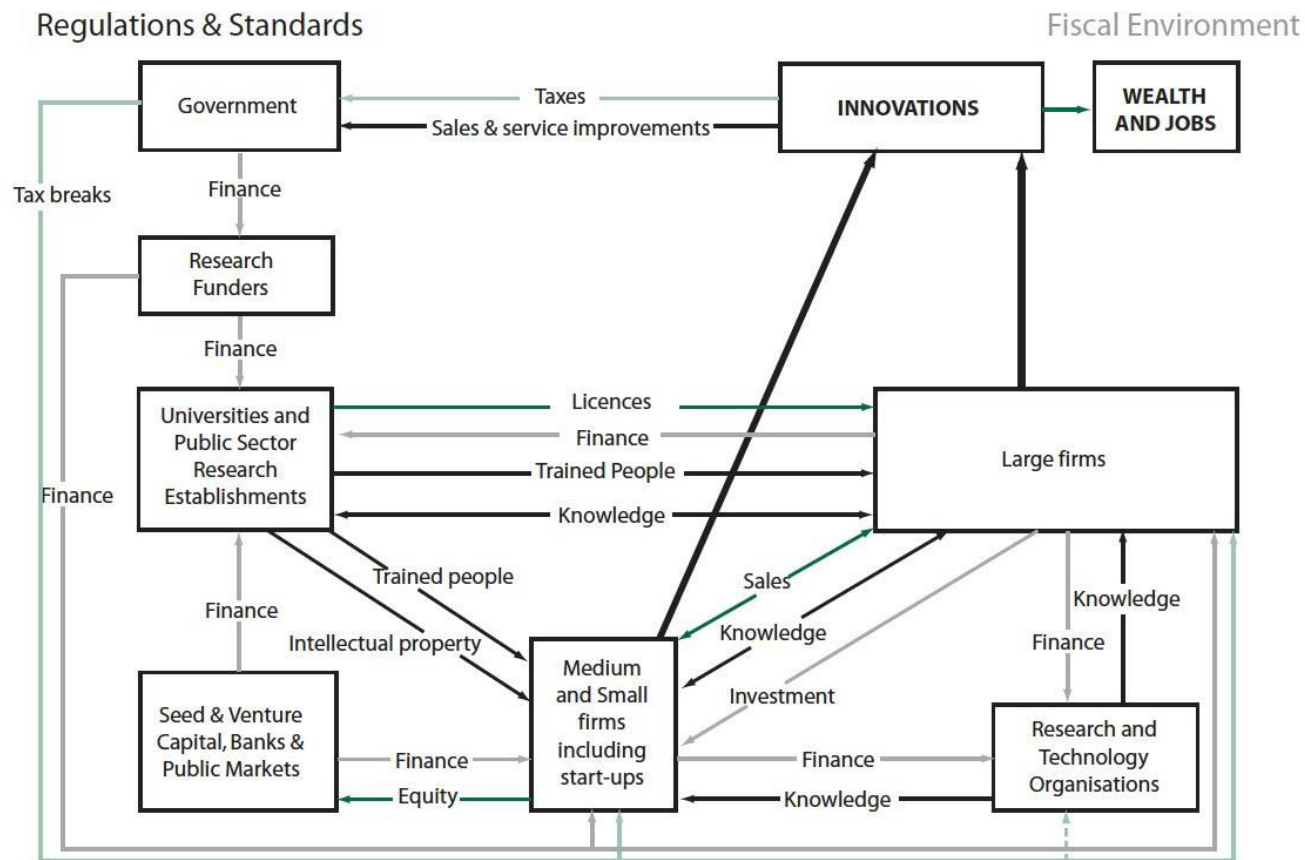


- Lack commercial potential
- Commercialised later by parties that have not and will not contribute to sustaining the research base responsible for developing them

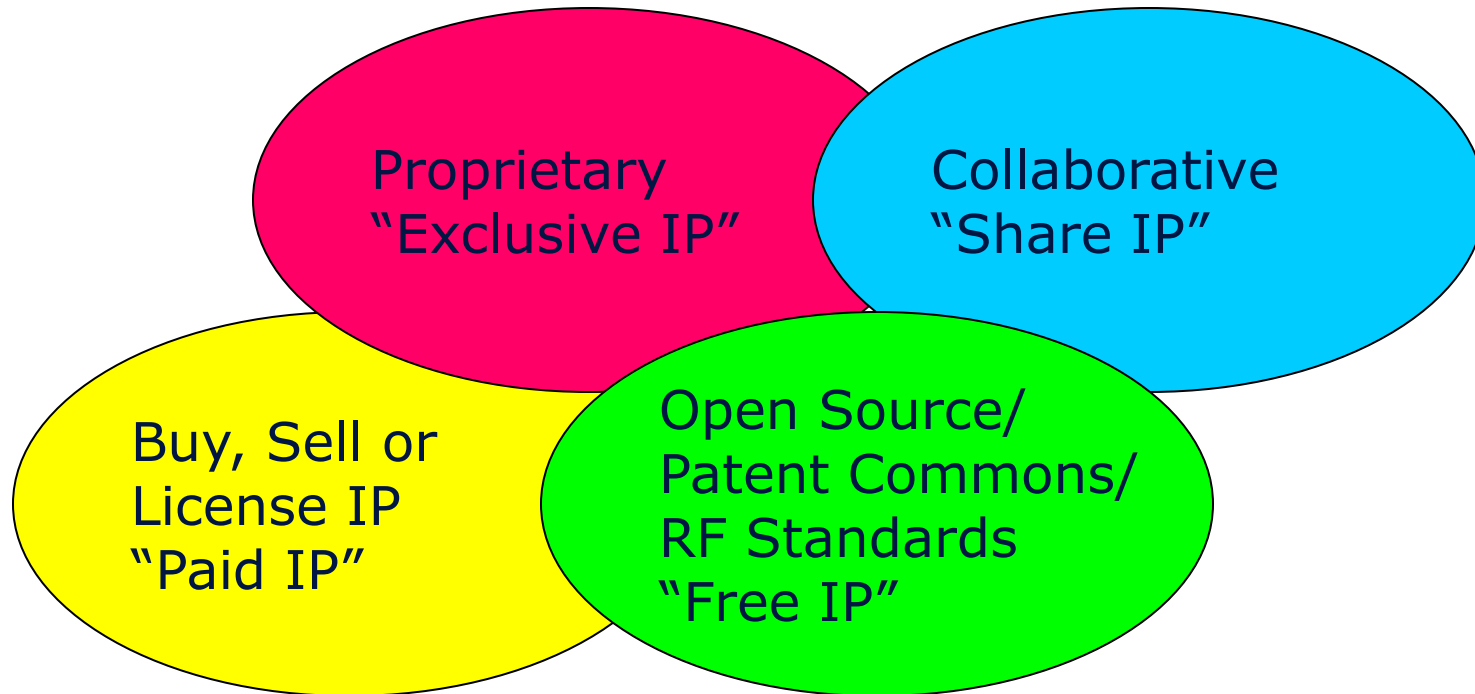
# Innovation linear?



# Innovation is dynamic



# New Intellectual Property Landscape



Companies have to choose how to use IP and make the right arrangements in collaborations (legal framework)



# How to create value out of your IP?

Exclusivity

Create exclusivity

Proprietary  
"Exclusive IP"

Exchange

Cross-license

Collaborative  
"Share IP"

Buy, Sell or  
License IP  
"Paid IP"

Licensing

Pro-active license

Buy, Sell or  
License IP  
"Paid IP"

Asset

IP as payment in M&A

Buy, Sell or  
License IP  
"Paid IP"

Insurance

IP to defend against claims

Proprietary  
"Exclusive IP"

Open Source/  
Patent Commons/  
RF Standards  
"Free IP"

## Keep in mind ...

- IP does not equal innovation
- IP flourishes in an open society
  - Innovation; Transfer
    - Licensing, spin-off creation, start-ups, subsidies, prizes, standardisation
  - Public policy
    - Disclosure, transparency, participation, public-private partnerships, tax credits, competitiveness clusters

**GB-A-2 365 393**

UK Patent Application (12) GB (11) 2 365 393 (13) A  
(43) Date of A Publication 20.02.2002

(21) Application No 0019361.5

(22) Date of Filing 07.08.2000

(71) Applicant(s)  
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**Peter John Ginn**

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United Kingdom

(51) INT CL<sup>7</sup>  
B64C 25/40

(52) UK CL (Edition T )  
B7G G8H

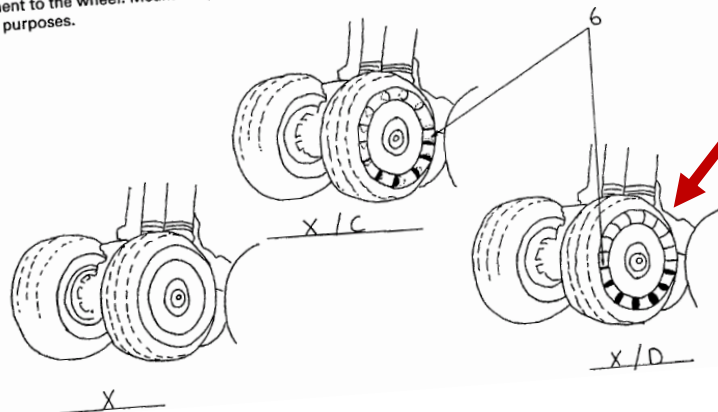
(56) Documents Cited

GB 2334925 A	GB 2242401 A
GB 2193932 A	GB 2080217 A
GB 1407358 A	GB 0516738 A
US 4040582 A	US 3233849 A

(58) Field of Search  
UK CL (Edition R ) B7G  
INT CL<sup>7</sup> B64C 25/40

(54) Abstract Title  
Rotating aircraft wheels prior to landing

(57) An aircraft tyre or wheel is provided with pockets or ridges 6, which catch the air flow past the tyre to prevent the air from causing the wheel to rotate. The pockets/ridges may be formed in the tyre or an additional member for attachment to the wheel. Means may be provided for diverting air from a pocket into the wheel assembly for cooling purposes.



US-A-1833019

Nov. 24, 1931

J. A. FAUCHER ET AL.

AIRPLANE TIRE

Filed Nov. 1. 1929

1,833,019

Fig. 1.

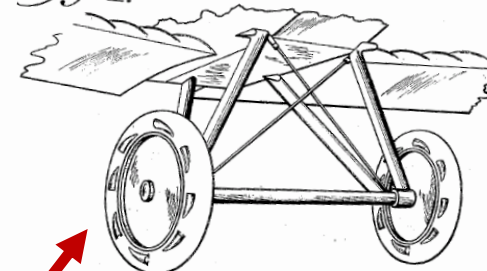
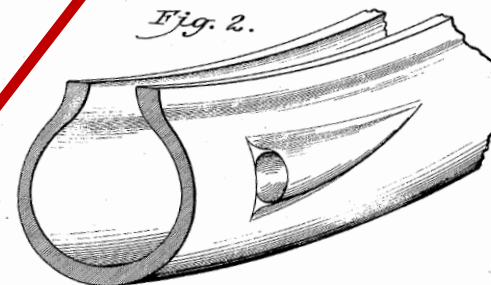
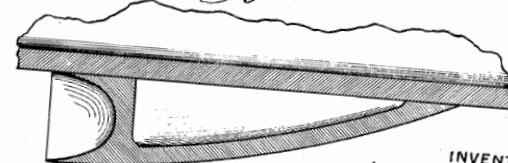


Fig. 2.

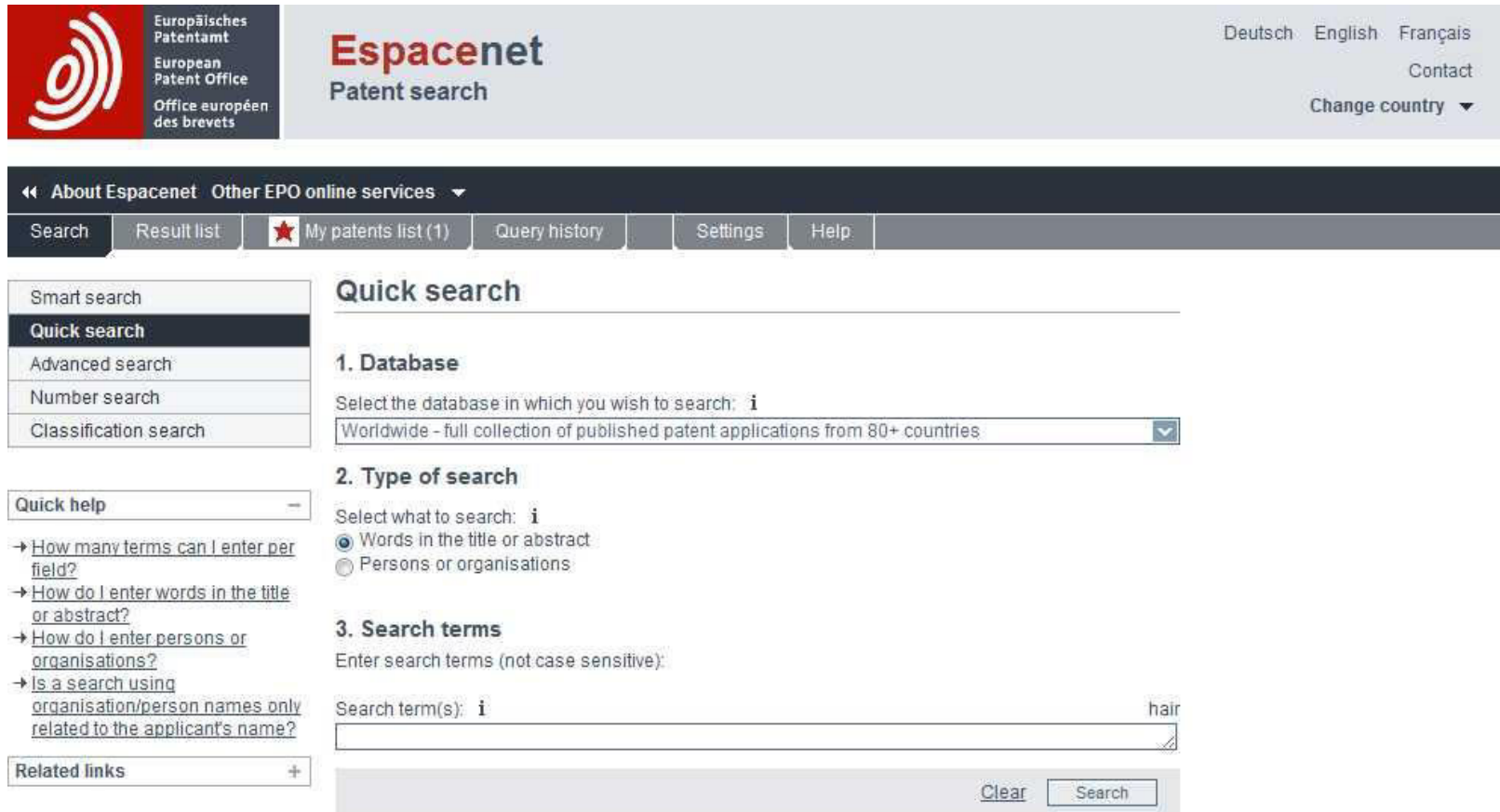


*Fig. 3.*



INVENTORS  
Joseph A. Faucher  
Erle P. Halliburton  
BY  
*Walter L. Fikes*  
ATTORNEY

# Searching for patents is not easy ...



The screenshot shows the Espacenet Patent search website. The header includes the European Patent Office logo and text in German, English, and French, along with a 'Contact' link and a 'Change country' dropdown. A navigation bar contains links for 'About Espacenet', 'Other EPO online services', 'Search', 'Result list', 'My patents list (1)', 'Query history', 'Settings', and 'Help'. The main content area is titled 'Quick search' and is divided into three sections: 1. Database, 2. Type of search, and 3. Search terms. The 'Database' section has a dropdown menu set to 'Worldwide - full collection of published patent applications from 80+ countries'. The 'Type of search' section has two radio buttons: 'Words in the title or abstract' (selected) and 'Persons or organisations'. The 'Search terms' section has a text input field with 'i' entered, a 'Clear' button, and a 'Search' button. On the left side, there is a 'Quick help' section with links to various FAQs and a 'Related links' section with a plus sign.

Europäisches Patentamt  
European Patent Office  
Office européen des brevets

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Patent search

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Classification search

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→ [How do I enter persons or organisations?](#)  
→ [Is a search using organisation/person names only related to the applicant's name?](#)

Related links +

**Quick search**

**1. Database**  
Select the database in which you wish to search: **i**  
Worldwide - full collection of published patent applications from 80+ countries ▼

**2. Type of search**  
Select what to search: **i**  
☒ Words in the title or abstract  
☐ Persons or organisations

**3. Search terms**  
Enter search terms (not case sensitive):  
Search term(s): **i** hair  
Clear Search

Free worldwide patent information is available at  
<http://worldwide.espacenet.com>

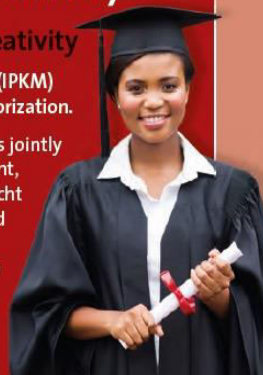


## Advanced Masters Intellectual Property and Knowledge Management (LLM/MSc)

**Redesign yourself as a master of inventions and creativity**

The Masters Intellectual Property Law and Knowledge Management (IPKM) integrate IP law with portfolio management, entrepreneurship and valorization.

In its common programme, lawyers, economists, scientists and engineers jointly deal with real-life problems in multidisciplinary teams, covering copyright, trade mark, patents and design law. Intensive modules offered at Maastricht University and abroad expose all students to EU, US and Asian IP law and practice. In the MSc-track, specialized IP modules are offered on life and computer sciences, claim drafting and interpretation, and EPC procedure and opposition. The LLM track offers specialized courses focusing on comparative litigation practice, author's and neighbouring rights, Community trade mark and design law, competition law and taxation.



### IPKM participates in international networks

Students benefit from:

- access to the European IP Institutes Network (EIPIN) congresses and activities and to the Institute for Globalisation and International Regulation (IGIR) as part of our honours programme;
- access to the Pan-European Seal of the Office for Harmonization in the Internal Market (OHIM) and the European Patent Office (EPO);
- a six-month remission of the period of professional training for the European Qualifying Examination (EQE).

In addition, the IPKM also offers a separate EQE exam training, designed to increase the knowledge and skills of candidates who already have a basic understanding of European patent law, to the level required for passing the exam.

*The IPKM is accredited by the Dutch-Flemish Accreditation Organization (NVAO) and by the Examination Board of the EPO.*



For more information see [www.maastrichtuniversity.nl/ipkm](http://www.maastrichtuniversity.nl/ipkm)



## EQE-Training at Maastricht University

Cees Mulder and Nyske Blokhuis

**In October 2015 Maastricht University will again provide training for candidates preparing for the European Qualifying Examination.**

The EQE-training programme is designed to increase the knowledge and skills of candidates who already have a basic understanding of European patent law, to the level required for passing the Exam. The courses are designed using state of the art teaching methodologies enabling you to score an optimal amount of points at the EQE to pass the Exam.

The training for each of the papers starts with a 3-day course, offered in the historical centre of Maastricht. The aim of the course is to familiarize yourself with the methodology for tackling the paper and to get to know the fellow candidates and teachers. To further deepen your knowledge and skills after the 3-day course, you will be given access to the Electronic Learning Environment of Maastricht University all the way to the date of the EQE. Via this medium, you will receive online instruction to further practice your drafting skills. In addition, there are opportunities to interact online with fellow students and the teachers.

Currently, we offer:

- 3-day Paper D Methodology: Monday 5 - Wednesday 7 October 2015;
- 3-day Paper C Methodology: Monday 19 - Wednesday 21 October 2015.

Each course is followed by online coaching till the 2016 EQE. The EQE-training will be given by Cees Mulder and Nyske Blokhuis. Both, European patent attorneys and renowned tutors who have been teaching for many years in preparing candidates for the EQE.

### IPKM

The EQE-training is associated with the Advanced Masters Intellectual Property Law and Knowledge Management (IPKM) given at Maastricht University. The IPKM is accredited by the Examination Board of the European Patent Office, resulting in a six-month remission of the period of professional training for the European Qualifying Examination (EQE).

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