STARTER SEMINARS 2020
SESSION: INTRODUCTION TO INTELLECTUAL PROPERTY RIGHTS

Hugo Loosvelt
IP : WHY?

IP RIGHTS PROVIDE THE OWNER THE RIGHT TO PREVENT THIRD PARTIES FROM MAKING, USING, OFFERING FOR SALE, SELLING OR IMPORTING INFRINGING PRODUCTS IN THE COUNTRY WHERE THE IP RIGHTS ARE GRANTED AND AS LONG AS THE IP RIGHTS ARE VALID

1) Allow the owner to conclude contracts (R&D collaboration, licensing, …)
2) Promote investment in R&D and generate ROI
3) Tax deduction / optimalisation
IP: WHY?

**LEGAL RIGHT**
- Patents
- Copyright
- Trade marks
- Registered designs
- Trade secrets

**WHAT FOR?**
- New inventions
- Original creative of artistic forms
- Distinctive identification of products or services
- External appearance
- Valuable information not know to the public

**HOW?**
- Application and examination
- Exists automatically
- Use and/or registration
- Registration*
- Reasonable efforts to keep secret
PRODUCT CARRY MANY IP RIGHTS

TRADE MARKS:
• Made by “Apple"
• Product “iPhone 6"
• Software “iOS”

PATENTS:
• Data-processing methods
• Semiconductor circuits
• Chemical compounds
• Handling methods
• …

TRADE SECRETS:
? Designs (some of them registered):
• Form of overall phone
• Arrangement of buttons in oval shape
• Three-dimensional wave form of buttons
• …

COPYRIGHTS:
• Software code
• Instruction manual
• …
WHO OWNS THESE RIGHTS?

You:

- When you have created the work
- When you were hired as a freelancer / consultant

Your employer:

- When the work was created on the job

Need to check / arrange terms and conditions in contracts & regulations !!
A Flemish university owns research results
VUB recognizes rights of inventors
Inventors have the obligation to collaborate in the valorization procedure
VUB pre-finances patent procedure and recuperates costs only if there is an income
Income will be distributed among inventors, the research lab and the VUB
Rights & obligations of a ma/BA student?

- Master owns the IP rights to his research results
- Ma student gains access to VUB confidential information: need for NDA to be signed
- In case of involvement in third party R&D collaboration and/or VUB valorization file (e.g. pending patent): need to transfer IP rights to VUB!
- Defence: confidential version behind closed doors; external reviewers to sign a NDA / inform VUB TechTransfer to evaluate valorization opportunities / ‘reduced’ version to be publicly available
- Students promoter: best placed and key role!
- Increasing awareness with students! Good thing!
- Documentation and paper trail is key to discriminate between contribution and IP rights of VUB personnel and Ma student -> lab notebook
Confidential information:

- Customer list
- Marketing plan

Know-How

- ‘technical’ knowledge of personnel

Trade secrets

- Formula Coca-Cola
- Process creating optimal conditions
TRADE SECRETS

Legal framework: EU trade secrets directive (Directive 2016/943)

Trade secret = piece of information that meets the following:
- It is NOT generally known or readily accessible:
- Has commercial value because it is secret:
- Has been subject to reasonable steps to keep it secret by the person lawfully in control of the information

> most research data are trade secrets at least for some period of time!
(at least in the early stages of collection / generation and BEFORE any public disclosure / data sharing)

Trade secret are legally protected in instances where the confidential information was obtained illegitimately

Complementary to IP rights:
- Allow for everlasting protection (as long as the conditions remain fulfilled)
- No need for originality, does not discriminate between types of data
- No private or exclusive rights to its use: independent discovery of same information remains possible
- Cannot prevent competitors from copying and using the same solutions -> reverse engineering is lawful!
This Non-Disclosure and Confidentiality Agreement (the “Agreement”), is executed as of the ______ day of __________________________, 20____ (the “Effective Date”), BY AND BETWEEN:

VRIJE UNIVERSITEIT BRUSSEL (VUB),
with offices at Pleinlaan Ϯ, ϭϬϱϬ Brussel, herein represented by Prof. Dr. Paul De Knop, Rector, acting on request of Prof. Dr. ____________________, Promoter, who is responsible for VUB’s performance under this agreement and who is co-signing this agreement for acknowledgement and acceptance,
hereinafter called “Disclosing Party” or “Receiving Party” as the case may be;

AND

_________________________________
with offices at _________________________________
represented by ____________________________
hereinafter called “Disclosing Party” or “Receiving Party” as the case may be;
hereinafter jointly referred to as “Parties” or each separately as “Party”,

WHEREAS, the Parties have acquired and/or developed a substantial amount of valuable Confidential Information, as hereinafter defined, which the Parties acknowledge to be of a confidential character, requiring suitable security and protection;

WHEREAS, the Parties desire to enter into discussions and exchange information for the sole purpose as described hereunder and desire to ensure that the Confidential Information, as hereinafter defined, revealed during such discussions will be protected from disclosure;

NOW, THEREFORE, in consideration of the premises and mutual covenants contained herein, the Parties hereto agree as follows:

Template available @ www.vubtechtransfer.be
Unilateral or bilateral
Be careful: definition of confidential information
Purpose
No IP rights licensed, assigned, ...
Duration
To be signed by Rector
DOCUMENT / REGISTER YOUR RESEARCH!!

(Electronic) Lab notebook / data management system / i-depot provides legal documentation of ideas (as reduced to practice), research results

Helps to establish date of invention, authors, inventors, etc
Protects any result of creative activity:

- literary works, art, drama or musical works, presentations, software code, instruction manuals, questionnaires, etc.

- **Software code**

- movies, photographs, translations, editions, collages, adaptations etc.

- typographies, sound recordings, broadcasts, performances

- Database: (original) structure
excludes:

✓ What is part of nature or not produced by human
✓ What is produced by a machine (data, images, ?)
✓ Technical solutions (→ patent)
✓ Sport achievements
✓ Governmental documents
Works must be

Original:

✓ = must show personality of the author, ie upon creation creative choices have been made between various options going beyond mere technical requirements
✓ Does not require to be new / exceptional imagination / never been publicly disclosed !!!

Expressed in concrete shape:

✓ Does not require carrier (eg presentation, choreo, ...)
✓ No abstract ideas
✓ No style (eg rap): not attributable to an author
Moral rights:
• the right to have a work published anonymously or pseudonymously
• requirement to acknowledge or credit the author of a work which is used or appears in another work
• the right to the integrity of the work
Financial rights: such as
• To produce copies or reproductions of the work and to sell those copies (including, typically, electronic copies)
• to import or export the work
• to create derivative works (works that adapt the original work)
• to perform or display the work publicly
• to sell or assign these rights to others
• to transmit or display by radio or video
COPYRIGHT: WHAT RIGHTS

- Infringement if a person does any of the exclusive acts restricted by copyright without the permission of the owner. There are limited exceptions (non-commercial research, private study, teaching, disabled persons)

- Until **70 years** from the end of the year in which the last surviving author died (for related rights it depends)
COPYRIGHT: GOOD PRACTICES?

- Date your work and use copyright symbol

- Gather evidence of being the original author in case needed: e.g. i-DEPOT.

- Other precautions:
  use watermarks, keep logbook (laboratory notebook)

- Use copyright notices (eg on your website / mail): cfr
next slide
- the right to **exclude** others from making, using, selling, offering for sale, or importing the patented invention

  Not the right to practice your invention yourself!! -> one might need a license to obtain freedom to operate

- **granted by a national** government to an inventor or their assignee

  No global patent exists, only an international or European application procedure !!

- for **max. 20 years** (subject to payment of maintenance fees)

- in exchange for the **public disclosure** of the invention

  The invention cannot be kept secret!! Quid pro quo!!
QUID PRO QUO

Reveal invention

Get exclusivity

... so that others can learn from it and improve upon it!
<table>
<thead>
<tr>
<th></th>
<th>Copyright</th>
<th>Patent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protection for</td>
<td>Form (source code)</td>
<td>Functionality (algorithm)</td>
</tr>
<tr>
<td>No protection for</td>
<td>Functionality (work around, reprogram)</td>
<td>Form (source code)</td>
</tr>
<tr>
<td>Ownership</td>
<td>Creator / author</td>
<td>Applicant &lt;-&gt; inventor</td>
</tr>
<tr>
<td>Registration</td>
<td>Not required, burden of proof !!</td>
<td>First to file / register</td>
</tr>
<tr>
<td>Validity</td>
<td>70y after death author</td>
<td>20 years from date of filing</td>
</tr>
</tbody>
</table>

**In both cases:**

- Transfer of right / license is required for third party use
- No guarantee for freedom to operate
- Right can be used for innovation income reduction
- Published patent application are publications
COPYRIGHT VS PATENTS

EXPRESSION — IDEA

SYMBOLIC — FUNCTIONAL

LITERAL — NON-LITERAL
PROTECTING SOFTWARE?

- Copyright: concrete shape (source code, user interface, …)
  - Fast, cheap, simple
  - Does not protect technical solution provided by software
  - Can be licensed: e.g. basis for free / open source software…

- Patent right: computer implemented invention (solution to a technical problem, more than just the software)
  - Expensive
  - Technical aspects of the invention: must be **novel**, needs to involve an **inventive step**
  - Can be licensed

- Trade secret?

- Registration: notary act, i-depot, escrow agent depot
Art 52 (1) European patents shall be granted for any inventions, in all fields of technology, provided that they are:
- new,
- involve an inventive step
- are susceptible of industrial application.

Patent office conducts a search and examination before granting a patent.

Strong differences (in interpretation -> case law) between countries/regions depending on different jurisdictions!!

European patent convention (EPC) -> http://www.epo.org
Sources: EPC 2000 art. 52, 54-57, 100, 138, R. 42, 43, 44
Art 54 (1) EPC: An invention shall be considered to be new if it does not form part of the state of the art.

Art 54 (2) EPC: The state of the art shall be held to comprise everything made available to the public by means of a written or oral description, by use, or in any other way, before the date of filing of the European patent application.

INVENTOR is BEST CANDIDATE to destroy the novelty of his invention!

Need to perform thorough prior art search!!
State of the art is not limited to scientific literature…

**Figure 1**

buoyant bodies 1 are inserted into a sunken vessel 4 through a tube 3 from a salvage ship 2

Images from 'The Sunken Yacht', © 1949 Walt Disney Corporation
An aircraft tyre or wheel is provided with pockets or ridges 6, which catch the airflow past the wheel and cause 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.
**NOVELTY**

No publication **prior to filing**
e.g. no article, press release, conference presentation/poster/proceedings or blog entry

**No sale/exchange** of products incorporating the invention prior to filing, be careful when showing prototypes on trade fairs, exhibitions

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

Contact IP office! File a record of invention.
PATENTS: INFORMATION SOURCE!

Avoid duplication of R&D efforts and spending

- 80% of all technical information in patent documentation (OESO)
- Duplication of R&D efforts: costs 20 billion EURO/year; 25% of all R&D efforts ... on inventions that have been invented yet (European Commission)
- Define technology trends: what is in a patent application now, is the product of tomorrow...
- Preparing new patent: writing/ studying patentability

Find solutions to technical problems

- 85% of all patents no longer in force
- Vast number of inventions available for free
- Patent contain reliable information due to exigency of sufficiency of disclosure, enablement, clarity (for person skilled in the art to be able to repeat the experiments)
Free patent databases:

- espacenet: http://ep.espacenet.com
- google patents: http://www.google.com/patents
- WIPO patentscope http://www.wipo.int/pctdb/en/search-struct.jsp

More detailed information in patent register: http://www.epoline.org/portal/public
INVENTION: SUBJECT OF CLAIMS

- Claim: (technical) features of an invention
- # features in claim is inversely proportional to scope of protection
- Infringement of claim: if infringing on all features of the claim
- Dependent versus independent claims
INVENTION: WHAT CAN BE CLAIMED

(depending on evolving case law and patent law in various jurisdictions

• a product / compound
• a method of producing a product
• a process
• a computer implemented method (if further technical effect)
• a use of a product
• “[Composition] for use in the treatment of [disease]”

• Even hybrid claims such as: Drug X for use in a method of treating a patient with cancer, wherein the method comprises: (i) determining whether a test sample from the patient comprises a mutation in gene 1; and (ii) if the test sample from the patient comprises a mutation in gene 1 administering to the patient an effective amount of drug X.”
A ball that is fun to use, easy to catch and looks nice.

How can you protect it from imitation?

- "Fun to use" → cannot be protected
- "Looks nice" → registered design
- "Easy to catch" = technical function → patent
CLAIMS: EXAMPLE

Patent Claim: "A ball that is easy to catch."

Making a ball "easy to catch" is a technical problem. Problems cannot be patented – but specific solutions can! What is the **technical feature** that makes the ball easy to catch?

Patent Claim: "A ball comprising a **core region** and plural elastomeric **filaments** radiating from the core region."

You don’t want anyone circumventing the patent by replacing the ball **shape** with something else!

Patent Claim: "An amusement **device** comprising a core region and plural elastomeric filaments radiating from the core region."

A prior art search will show whether the invention – **as claimed** – is actually **new**.
Your patent attorney found US 3,759,518, "Foot impellent toy", which discloses a similar invention.

"... said toy having a plurality of flexible strands ..."
Your invention as claimed

"An amusement device comprising a core region and plural elastomeric filaments radiating from the core region."

"... radiating in plural angularly offset planes from the core region."

US 3759518

"A toy of a disc-like body ... including ... a plurality of flexible strands radiating outwardly from said ... center ... having sufficient inherent rigidity to retain the pattern of a circular plane."

- New!
- Inventive step (modification yields new function of making it easier to catch)!
Claim to be filed:

"An amusement device comprising a core region and plural elastomeric filaments radiating in plural angularly offset planes from the core region."
PATENT ATTORNEY

Private – patent attorney (EU, US, BE) or patent attorney in a company: certified attorneys

- technical / scientifical university degree + examination by EPO, DIE, USPTO after minimum 3 years of practice

Role: General and Legal advice in IP matters:

- Opinions
- Patent drafting
- Filing and prosecution
- Oppositions
- Appeals
- Infringement
- Due diligence

BUT: the inventors input is crucial!
Example: Patenting the button (From: www.iusmentis.com)

Assumption: only cloaks without fastening mechanism exist

Alice’s invents the button and gets a patent granted with claim:
‘a cloak with a front opening, with a row of fasteners down one side of the front opening, and a row of holes at corresponding locations down another side of the front opening into which the fasteners can be inserted’

Independently Bob gets claim granted:
‘a cloak with a front opening, having at least one metallic hook at one side of the front opening, and at least one receptacle for said hook at the other side’

-> Bob: • can litigate people who sell metallic hooks
   • but not wooden buttons
   • can litigate people using a single hook as opposed to Alice whose claim requires a row of buttons
What about?

Ilan: manufacturer of cloaks with buttons
   -> license from Alice (‘fasteners’) but not from Bob (‘metallic hooks’)

Jack: produces cloaks with metallic hooks on one side which are plugged into holes on the other side
   -> license from Bob, but also from Alice (covers fasteners of all shapes)

Keanu: produces cloaks with fasteners, but instead of holes he provides loops made of string through which rectangular wooden buttons are to be put
   -> outside the scope of Bob’s claim (wooden buttons)
   -> outside the scope of Alice’s claim (do not have a row of holes)

Leo: shirt manufacturer who puts buttons on shirts, not on cloaks
   -> outside the scope of Bob and Alice
WHERE TO APPLY FOR A PATENT

Patent rights can only be enforced in countries where patent is granted
To obtain a granted patent in a country: 3 routes

- Patent application(s) in National patent office(s):
- Patent Cooperation Treaty

There is no such thing as an international patent!
PATENT: COSTS

~ 125000 after 20 y / ~ 15000 after international phase: may be more depending on costs patent attorney, opposition costs, # designated countries
EP protection can be obtained in 42 Countries:
EPO contracting states (ratifying the EPC)
Market of > 600 million persons
Validation by contracting states required after EP grant
Unitary Patent will be valid in 13-25 blue countries that ratify the UPC Agreement: max. 418 million persons
What is a Unitary Patent?
- A UP is not a “Union Patent”
- A UP is a bundle EPs tied together with unitary effect (Art. 3(1) UPR)

Principle of unitary effect
- Unitary character: uniform protection and equal effect in all UPC countries
- Condition: EP must have same set of claims in all UPC countries
- Single territory: can only be transferred or revoked in all UPC countries
- No UP in non-EU countries and EU countries which do not participate in the enhanced cooperation or have not (yet) ratified the UPC Agm
THE UNITARY PATENT (UP)

Advantages
- Uniform protection (legal certainty)
- In one single territory (consisting of all UPC countries)
- Reduction of costs
- Translational costs
- Single renewal fee for whole UPC territory
- The EPO shall act as a centralized one-stop-shop for administering UPs (Art. 9 UPR)
- UP cannot be enforced/revoked in national courts
- File license statement with EPO (Art. 8 UPR)
- UP more valuable

Potential disadvantages
- Possibility of central validity attack in UPC
- Renewal fee may be too high if protection is only needed in less than four UPC countries
- Loss of flexibility under the "all or nothing" regime of the UP
- The problem of collision with older national rights after grant of the UP
- Litigation costs may be higher in UPC than in a national court
Strict reading of the law leads one to believe that software “as such” is not patentable.

European Patent Office (EPO) Board of Appeals interpreted “as such” very broadly in several cases.

20,000 software patents approved by the EPO, 6,000 applications per year in UK.

There is software patentability in Europe.
COMPUTER IMPLEMENTED INVENTION

- an invention whose implementation involves the use of a computer, computer network or other programmable apparatus

- with features realised wholly or partly by means of a computer program

Guidelines G-II, 3.6

Examples:
- a program-controlled ...
- washing machine cycle;
- car braking system.
Case law has decreed that only software that has a “technical effect” can be patented.

The term is not in the legislation, and therefore there is no clear definition of technical effect.

Lack of consistency in its application.

*Merrill Lynch [1989] RPC 561: "There must... be some technical advance on the prior art in the form of a new result."*
processing **physical data** parameters or control values of an industrial process

processing which **affects the way a computer operates**
- saving memory, increasing speed
- security of a process, rate of data transfer etc.

the **physical features of an entity**
- memory, port etc.
### TECHNICAL IS...

<table>
<thead>
<tr>
<th>Further Technical Effect</th>
<th>No Further Technical Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control of a brake in a car</td>
<td>Aesthetical effects of music or a video</td>
</tr>
<tr>
<td>Faster communication between mobile phones</td>
<td>New rules for an auction scheme</td>
</tr>
<tr>
<td>Secure data transmission (encryption of data)</td>
<td>Selling and booking sailing cruise packages</td>
</tr>
<tr>
<td>Resource allocation in an operating system</td>
<td>Calculation of a pension contributions</td>
</tr>
</tbody>
</table>
EXAMPLE II: COMPUTER-IMPLEMENTED BUSINESS METHOD

A computer-implemented method of controlling payment and delivery of content within a computer system comprising a user terminal, a provider server and a database which are connected via a communication network, the method comprising:

- the provider server receiving a request for content from the user terminal;
- the provider server accessing in the database content information describing the requested content;
- the provider server accessing regulation information in the database describing at least one regulation that is related to the payment and the content information of the requested content and to geographical information of the user;
- determining the geographic location of the user;
- the provider server determining whether the requested content satisfies the at least one regulation;
  - if so, delivering the requested content to the user terminal
  - if not, transmitting a payment request to the user terminal.

Does this merit a patent?
(Big) Data and IP rights: issues

Certain elements of big data lifecycle may fall within the scope of protection of IP rights such as:

- **Copyright:**
  - originality criterion difficult: no raw data protected? Need to be presented in original way? In deep learning analytics are being done on unstructured data (no author involved) …
  - needs to be presented in tangible form -> what about dynamic datasets?
  - need for authorisation of copyright holder of each individual data …
  - moral rights: cannot be assigned validly in some countries, what rights does the assignee of the data have to use, modify data protectec by copyright?

- **Database rights**
  - In big data hard to distinguish between generation and obtainment of data … (CJEU rejected rigths for creation of data as such)

- **Trade secrets:** in big data context requirements may be hard to fulfill

- **(Patents: data sharing may have implications for acquisition of patent protection in inventions with respect to novelty and inventive step requirements)**

A lot of differences in (case) law between countries, eligibility for protection to be examined case by case, need to arrange terms and conditions in contracts!!
THANK YOU

Hugo.loosvelt@vub.be / 026293865