Technology Transfer Models

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CREATED IN 1991 THROUGH THE UNIVERSITY OF COIMBRA

PROMOTES INNOVATION

ESTABLISHES THE CONNECTION BETWEEN THE SCIENTIFIC ENVIRONMENT AND THE PRODUCTION SECTOR

BRINGS TOGETHER 41 ASSOCIATES
RESEARCH AND TECHNOLOGICAL DEVELOPMENT

IPN’s technological infrastructures includes a set of six RTD laboratories in different technological areas

BUSINESS INCUBATION AND ACCELERATION

Promotes the creation and development of innovative technology-based companies

HIGHLY SPECIALISED TRAINING

Provides high-level training, emphasizing “hands-on” training
RTD LABORATORIES

RTD PROJECTS IN CONSORTIUM WITH COMPANIES

INNOVATION AND TECHNOLOGICAL DEVELOPMENT

TECHNOLOGY TRANSFER

ESSAYS AND DIAGNOSTICS

ACCESS TO AN EXTENSIVE NETWORK OF RESEARCHERS, MAINLY FROM THE UNIVERSITY OF COIMBRA

LAS
Laboratory for automation and systems

LED&MAT
Laboratory for wear, testing & materials

LIS
Laboratory for informatics and systems

LEC
Laboratory for electroanalysis and corrosion

LABGEO
Laboratory for geotechnics

FITOLAB
Laboratory for phytopathology
BUSINESS INCUBATOR
# 25 Years of Incubation (1996-2020)

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Companies (Dec 2019)</td>
<td>&gt; 330</td>
</tr>
<tr>
<td>Survival rate for supported companies</td>
<td>&gt; 75%</td>
</tr>
<tr>
<td>Annual business turnover (2018)</td>
<td>&gt; 200M€</td>
</tr>
<tr>
<td>Export rate of highly qualified jobs created</td>
<td>&gt; 60%</td>
</tr>
<tr>
<td>Highly qualified jobs created</td>
<td>&gt; 2,500</td>
</tr>
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</table>
ESA BIC PORTUGAL INCUBATION CENTRE

GOALS 2015–2020:
30 COMPANIES
430 WORK STATIONS
IMPACT OVER €6.5 MILLION

UNTIL NOW:
30 COMPANIES CREATED
(16 IN COIMBRA)
BUSINESS ACCELERATOR
**RTD + INNOVATION**
- Consortium research
- Technology transfer
- Specialized services

**INTERNATIONALISATION**
- Market Info & Research
- Softanding Services
- Raising Capital
- Training & Coaching

**NETWORKING + ACCESS TO SCIENTIFIC KNOWLEDGE**
- UC, IPC and other national and international RTD organisations
Agenda

Technology Transfer
• Overview and setup of TTO’s (Technology Transfer Office)
• Roles, processes, methodologies, tools for TT and innovation management.

Good practices and examples:
• Different exploitation paths and Licensing options.

Strategy for startups:
• What are Intellectual Property Rights (IPR: trademarks, patents).
• How to deal with IP/IPR issues? Why should IP be an integral part of a business strategy.
• How can IPR be enforced and the basic mechanisms of making money with IP assets: Licensing and commercialization examples
A) Technology Transfer

Overview and setup of TTO’s (Technology Transfer Office)
Roles, processes, methodologies, tools for TT and innovation management.
**Technology Transfer fundamentals**

Bridging science to the market

Universities, R&D centers and institutions

Broad scope of actions/activities

Contract Research / R&D partnerships / Technology Licensing / Spin-off creation / Know-how dissemination (publications, open science initiatives)

Need for dedicated staff to train/promote/monitor tech transfer activities
Technology Transfer Office

TTO

Office/Structure installed near an University / R&D Center

Permanent basis

Dedicated staff

Reporting to the top management (Rectory/Board)

Managing tech transfer activities and IP protection/internal regulation

Training and raising awareness

Cross competences: legal/IP, economics, marketing, strategy
Technology Transfer Office
TTO
Technology Transfer Office
TTO
**Technology Transfer Office**  
**Tools for TT and innovation management**

- IP Internal Regulation (relationships between staff and institution)
- Invention Disclosure Forms (patenting)
- NDA – Non-disclosure Agreements
- R&D Consortium Agreements
- Contract Research

Case Studies & Reports  
(creating success stories)
B) Good practices and examples:

Different exploitation paths and Licensing options.
Possible Exploitation paths

1. Contractual exploitation
2. Direct exploitation
3. Spin-off creation
Possible Exploitation paths

1. Contractual exploitation

Granting IP rights to a contractual counterpart + compensation

Contract Research – upfront payment (plus royalties? Possible)

R&D Partnership agreements, consortiums – royalties, upfront payments

Co-ownership, license-back deals? Possible
Possible Exploitation paths

2. Direct exploitation

Out-Licensing proprietary technologies to a third party under compensation
Possible Exploitation paths

3. Spin-off creation

Granting exclusive exploitation rights to the promoters/inventors

Creation of a company dedicated to said exploitation

Royalties to the R&D party (licensor)
C) IP Strategy for startups
C) IP Strategy for startups

What are Intellectual Property Rights (IPR: trademarks, patents).

How to deal with IP/IPR issues?

Why should IP be an integral part of a business strategy?

How can IPR be enforced and the basic mechanisms of making money with IP assets: Licensing and commercialization examples
IP in a nutshell: a roadmap of IP Rights
Intellectual Property Rights: overview

- Industrial Property Rights
  - Patents/Utility Models
  - Semiconductor Masks
  - Trademarks+Distinctive Signs
  - Design
  - Copyright (Author Rights)
  - Related Rights (Performance)
  - Software and Database Protection

- Copyright
Intellectual Property Rights:

- Technical features
- Distinction
- Design/External Appearance
- Patents
- Utility Models
- Trademarks/Other D. Signs
- Design Rights
# IP Rights in brief

<table>
<thead>
<tr>
<th>SCOPE</th>
<th>PATENT</th>
<th>TRADEMARK</th>
<th>DESIGN</th>
<th>COPYRIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inventions</td>
<td>Inventions (Technical Solutions)</td>
<td>Signs</td>
<td>Aesthetical characteristics</td>
<td>Works / Software/ Databases</td>
</tr>
<tr>
<td>DURATION</td>
<td>20 years since first filing date</td>
<td>10 years (indefinitely renewable)</td>
<td>25 years (5 years*5)</td>
<td>Author’s life + 70 years after death</td>
</tr>
<tr>
<td>REQUISITES</td>
<td>Novelty, Inventive Step, Industrial Application</td>
<td>Availability (unregistered)</td>
<td>Novelty Singularity</td>
<td>Originality</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No likelihood of confusion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FORMAL APPLICATION</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
</tr>
</tbody>
</table>

**Novelty**, **Inventive Step**, **Industrial Application**

**Availability** (unregistered)

**No likelihood of confusion**

**Novelty Singularity**

**Originality**
IP – Cross examples of protection

- Patents (several...)
- Design Protection
- Copyright (Apps)
- Copyright (Software)
- Trademark
IP – Cross examples of protection
IP protection: from basic concept to the market

Prior art searches

Confidentiality and NDA

Staff and team ownership due diligence

Joint projects/Open Innovation efforts

Patent application

Freedom of operation / Patent search report outcome

Trademark and Design protection

Copyright on packaging and instruction manuals/materials

IP Rights maintenance (fees)

Exploitation/Prosecution/Anti-counterfeiting and anti-infringement strategies
Prior art searches

Intensive use of patent databases (e.g. Espacenet):
https://worldwide.espacenet.com/

Avoid redundancy on R&D (25% of all R&D efforts!)

Assess the surrounding landscape
(areas of research, “hot topics”, inventors, companies)

Prevent third party IP infringement

Be prepared for “your” patent application – learn with good examples of patent drafting!
Prior art searches:

Intensive use of patent databases (e.g., Espacenet):

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Novelty and Confidentiality

Lack of novelty/early disclosure as first “cause of death” of patent applications!

Restrict disclosures to the minimum!

Be careful with your network and dissemination activities!

Critical need for prior assessment of all project disclosures, assuring the protection of its core assets

Require the signing of **NDA Non-Disclosure/Confidentiality Agreements** with any third parties out the the “core project” team: industrial/prototype partners, VC and investors, technology evaluators
Staff and team ownership due diligence

R&D as a team work! Multiple intellectual contributors

Team members coming from prior entities (companies, universities) which may claim IP rights on research efforts.

The current “project economy” model: high rotation of staff between projects/companies, “today with you, tomorrow away” – securing generated IP

R&D Staff with different degrees of commitment:
employees, consultants, scholars, occasional contributors ...

All must sign written agreements assigning IP rights!
Joint R&D Projects and Open Innovation

Joint R&D actions involving different entities (companies, R&D institutions, Universities)

Careful negotiation and written agreements on IP issues (ownership, compensations)

Never neglect the existence of internal IP Regulations in Science partners (namely Universities)

Avoid “last minute negotiations” and litigation on IP/royalties and compensations
Patent applications are very expensive, time consuming and lengthy processes!

Careful assessment of the “target countries” for protection, but always seek for international protection.

Clever use of the PCT rule to postpone heavier patent costs (national phases).

**Patent attorney fees as the “best investment” on IP:** a poorly redacted patent application (claims) is a nightmare!
Freedom of operation / Patent search report outcome

Repeat patent database searches:
Control new published patent applications, assess freedom of operation of the invention

Patent Search Report as a powerful sign of the “future” of the application: refusal or granting
Trademark and Design protection

Other ways of value aggregation to the project/invention

Trademark as an “eternal” intangible asset, applicable to any kind of project/reality

Design Protection circumventing possible refusal of patent protection due to lack of novelty/inventive step - secondary protection of the device external design
Copyright on packaging and instruction manuals/materials

Copyright mentions in all manuals and additional materials

Extension to software and databases
IP Rights maintenance (fees and notifications)

Payment delays on patent/trademark/design renewal fees may determine public domain/cease of protection!

Be active on any claims/demands from third parties and IP Offices with regard to all IP applications

Nominate a person responsible for IP Management (CIPO-Chief IP Officer), relationships with Patent Attorneys and IP Offices
Exploitation/Prosecution/Anti-counterfeiting and anti-infringement strategies

Explore all ways of extracting value of generated IP – sell/license/spin-out/joint-venturing

Be active on prosecution and vigilant on potential infringers/counterfeiters

No use of investing on IP protection without a strong follow-up!
Technology Transfer Models
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