

We help EPFL technologies
make a difference.



EPFL's three missions according to the Federal Act



Education



Innovation



Research





OUTLINE

EPFL at glance

Education

Research

Innovation

Collaborations

Campus

Innovation in 2023

**23**

NEW START-UPS
CREATED in 2023

**86**

PATENTS
FILED

**45**

LICENCES
SIGNED

**470**

MCHF RAISED BY
EPFL STARTUPS

**126**

INVENTIONS
AND SOFTWARE

**21.5**

MCHF RAISED FROM
INDUSTRIAL CONTRACTS
(DIRECT FUNDING)

**11.2**

MCHF RAISED FROM
INNOSUISSE PROJECTS

**100%**

OCCUPANCY RATE AT
EPFL INNOVATION PARK



We help EPFL technologies
make a difference.

TT @ EPFL
indicators
success stories



EPFL is an inspiring continuous engine for disruptive innovation

EPFL has spun out scale-ups, unicorns and IPOs



mindmaze

nexthink



SOPHIA
GENETICS™

ONWARD

logitech

astrocast

Bicycle®



EPFL – TTO in numbers

Deal flow (average of last 5 years)

- Disclosures of new technologies: **135/year**
- New patent filings (priority applications): **81/year**
- Granted patents: **96/year** (in EPO, US, JP, CN...)
- Licenses & TT agreements executed: **46/year**
- More than **200 industrial contracts/year**
- enable accelerates **~10 projects/year**

Portfolio (as of end 2023)

- Active patent families: **690 - 52%** under license or option
- EPFL **holds equity** rights **159** start-ups (136 options)



Inventions evaluation
Protection strategy
Licensing negotiation, execution, follow up

IP portfolio, license management,
 distribution of proceeds, amendments,...

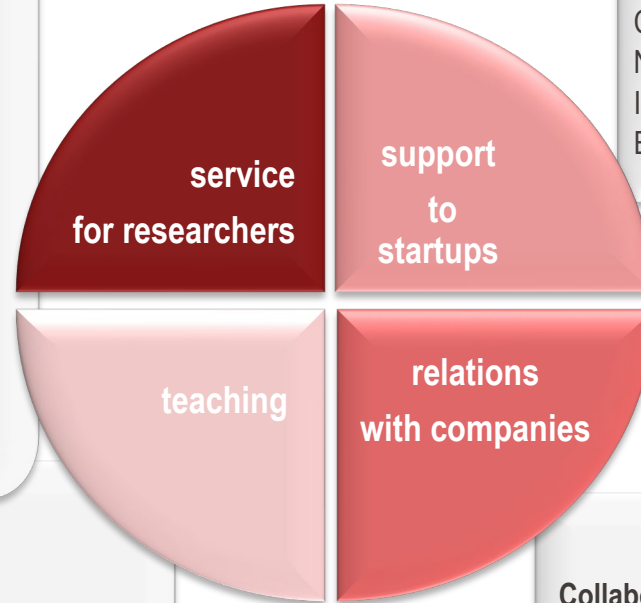
Collaboration Projects with industry
 negotiation, execution, follow up

MTAs with companies
 Negotiation and validation

Translational IP advice for the Legal services

MINTT course / doctoral school

Thematic modules and workshops, related to IP, TT and commercialization, particularities according to certain technological fields



Technology licensing
 Conflict of interest
 Networking
 Innograts
 Enable

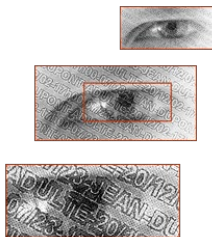
Collaboration contracts
Licensing
 negotiation/execution

EPFL licenses: examples

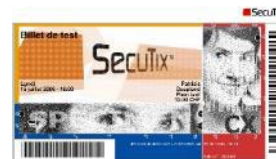


Photodynamic diagnostics and therapy
early detection of bladder cancer
licensed to Photocure (Hexvix, Cysview)
FDA approved 2010

HEXVIX®
Hexaminolevulinate 85mg



Algorithms for optical security
Color-management and
moiré technologies
licensed to various partners
banknotes, ID cards, tickets



EPFL technology and intellectual property

EPFL start up technology development and commercialisation

1. W02015172894 - METHOD FOR THE ELECTRICAL PASSIVATION OF ELECTRODE ARRAYS AND/OR CONDUCTIVE PATHS IN GENERAL, AND A METHOD FOR PRODUCING STRETCHABLE ELECTRODE ARRAYS AND/OR STRETCHABLE CONDUCTIVE PATHS IN GENERAL

FIG. 7B

STRETCHABLE ELECTRONIC STRUCTURES FORMED OF THIN WITH SOFT HETEROGENEOUS SUBSTRATE

Title
 [EN] STRETCHABLE ELECTRONIC STRUCTURES FORMED OF THIN FILMS INTEGRATED WITH SOFT HETEROGENEOUS SUBSTRATE
 [FR] STRUCTURES ÉLECTRONIQUES ÉTIRABLES FORMÉES DE COUCHES MINCES INTÉGRÉES DANS UN SUBSTRAT HÉTÉROGÈNE SOUPLE

IPC
 G01N 1/44 (2006.01) G01N 1/22 (2006.01)
 (Int. Cl.)

International Filing Date
 10.06.2012

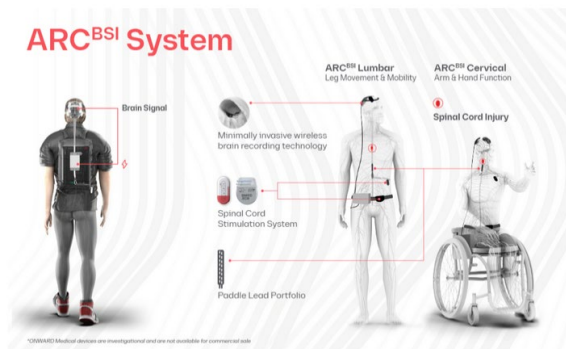
IPC
 G01N 1/44 (2006.01) G01N 1/22 (2006.01)
 (Int. Cl.)

FIG. 6a

Thin Film

Substrate

Flexible electrodes
 electrically stimulation of the
 spinal cord in very precise manner



ONWARD MEDICAL

- > Attractive IP conditions for companies

in research agreements, company obtains the priority right to file patents on EPFL inventions and right to use results and software

- > Publicly available conditions and templates: easier negotiations

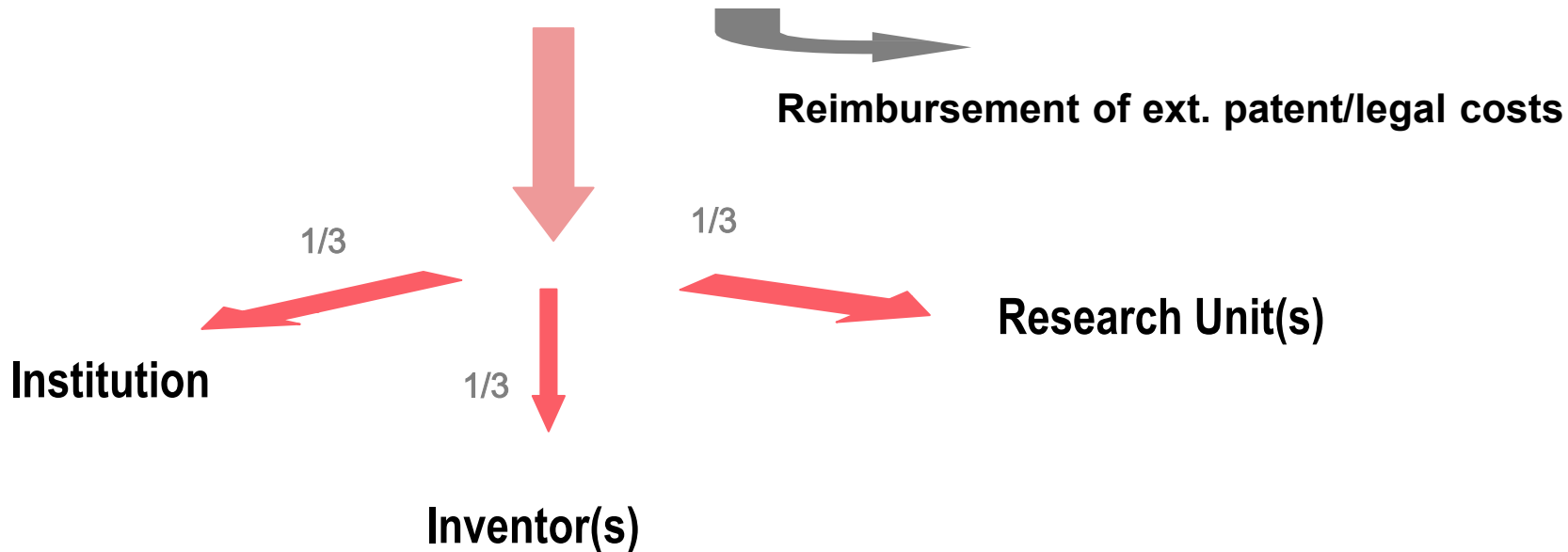
<https://www.epfl.ch/research/collaborate/establish-a-collaboration/industry-research-contracts/>

- > Contributions to indirect costs (20%-40%-60% overhead policy)

depending on type of activity and IP rights

Sharing Economic Success

Financial returns from commercial exploitation of the licensed / transferred technology (royalties, cash down- payments, sales of equity, ...)



Declaring an invention to the TTO

Technology Transfer Office (TTO)
EPFL Innovation Park, Bâtiment J
1015 Lausanne
Tél : 021 693 7023 Fax : 021 693 7040



CONFIDENTIAL

Invention Disclosure Form

Title (tentative) of the invention and scientific field

Who are the inventors?
(if more than three inventors, please attach additional forms like this one)

	☐ Yes / ☐ No	☐ Yes / ☐ No	☐ Yes / ☐ No
name, first name			
employer			
laboratory/char			
function			
work phone Nr			
private address			
street and Nr			
postal code, city			
private phone Nr			
nationality			
Estimated inventive contribution in % (total 100%)			

Please communicate to TTO-EPFL any changes of your private address

1. Description (should you have a scientific article draft, please use suitable parts of it in the following sections)

-> Please list any documents which, up to your knowledge, are relevant as state of the art. These include any documents which is publicly available today such as papers, patents, theses, conference presentations etc., including your own works, on the same or close topic as your invention.

-> Briefly summarize the main points of each publication and point out any similarities with your invention. Please highlight any limitations of the identified state of the art documents that would need to be addressed.

-> Please point out any previous speculations or suggestions in these works that mention or even hint at the work you undertook to make the invention, especially any plans for future work in the discussion of any publication.

-> Please state what problem your invention does solve, and what use or advantage it does provide. Please describe which aspects of your invention are new and improve on the current state of the art (e.g. in which respect is the invention better than the alternatives?)

-> Please explain if there was anything particularly unexpected, unusual or surprisingly advantageous about your findings. Do they contradict any previous literature?

-> Please describe how you overcame any technical obstacles or problems, where the solution was more than “routine technical problem solving”. Please point out whether, in your opinion, an expert technician in your field would have easily arrived at your solution based on common general knowledge.

-> Please provide drawings in black and white, solid lines without any shadings. Please be sure that graphs are intelligible when in black and white.

-> Please describe any exemplary embodiments of your invention that you have implemented. Please include any other descriptive parts that you deem necessary.

2. Industrial and/or commercial applicability

-> In which phase of development is the invention?

-> What will be the development phase over 6 months? And what will it be over 12 months?

-> How can patent infringement be detected? Can your invention be reverse-engineered?

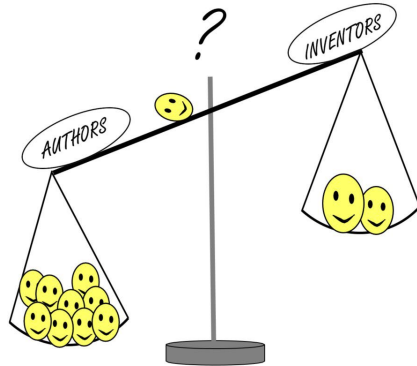
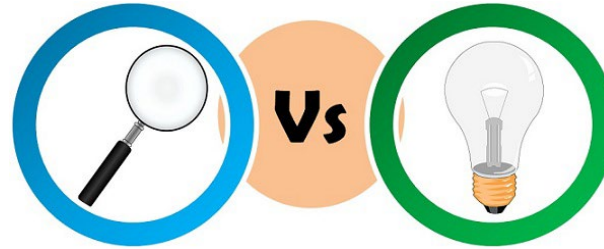
-> What are potential fields of commercial application and what are your expectations with regard to market potential?

-> Which development is needed to arrive at a tradable product or commercially applicable method? Describe important and significant steps in the development process.

-> Identify potential developers, producers and users. Identify potential competitors.

Care about

Discovery versus Invention



Designating inventors

EPFL Confidential
Technology Transfer Office

Invention Disclosure Form

Title (iterative) of the invention and scientific field

Who are the inventors?
(For more than three inventors, please attach additional forms like this one)

	100% / 100%	100% / 100%	100% / 100%
name, first name			
employer			
laboratory/center			
function			
work phone Nr			
private address			
email and Nr			
postal code, city			
private phone Nr			
nationality			
Estimated invention contribution in % (total 100%)			

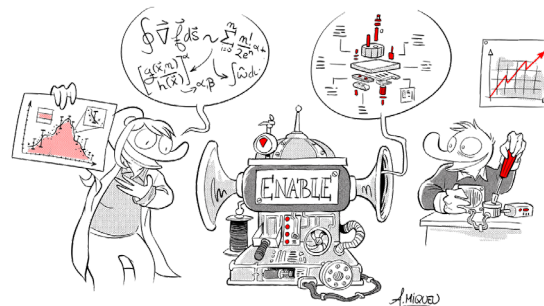
Please communicate to TTD-EPFL any changes of your private address

Early-stage funding up to 30K CHF for max 6 months

Program suited for technologies with patent application filed or in the process of being filed or software

Innovations with interesting commercial potential for licensing to an industrial partner

Expertise and human, technical and financial resources, to ensure the maturation and development of innovations



<https://www.epfl.ch/research/services/enable/>

Teaching / Doctoral School



The TTO is organising and providing a course on management of innovation and technology transfer on an annual basis -> **MINTT**

EPFL Doctoral School 3 **credits**

<https://www.epfl.ch/education/phd/doctoral-studies-structure/doctoral-courses/transferrable-skills-courses/mintt-course/>

swiTT annual report

SWISS TECHNOLOGY TRANSFER REPORT

EARLY DETECTION OF BLADDER CANCER BY FLUORESCENCE IMAGING

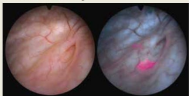
Background
Currently the bladder cancer is diagnosed by analysing the urinary cells and by performing a cystoscopy. Usually the examination is triggered when the patient sees blood in its urine.

A chemical developed at CHUV (ology service of the CHUV, directed by the Professor Patrick Jochoux) and EPFL (Medical Electronics group directed by Prof Hubert van den Buegh) development under the supervision of Dr. MER Georges Wagnière) allows much earlier detection. This chemical was licensed to Phoscam, a Norwegian company, which developed a product based on it. The said product recently received the FDA approval for marketing in the US. Cystoscopy performed with this compound (known as Hexafluor in Europe and CytoView(M) in the US) as an adjunct to the conventional white light cystoscopy, improves the detection of bladder cancer and reduces the rate of early tumour recurrence after fluorescence-guided resection, compared with white light cystoscopy alone. The solution containing hexyl aminodisulfate is injected in the bladder about one hour before the examination in order to allow the substance to be metabolized by the malignant cells.

This process is triggering the emission of fluorescence in malignant cells. The bladder is then examined with an endoscopic camera and lighted with a blue-violet light. This allows as well the monitoring of possible positive malignant cells remaining after the surgery for the tumour removal.

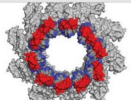
This method is now commercialized since three years by Phoscam in Scandinavia and GE Healthcare in the rest of the world. In Europe, it is reimbursed by the medical insurances. Royalties are since then cashed in by the institutions. Possible other types of cancer could be diagnosed in the future using this approach is using Prof Hubert van den Buegh.

CASE



TTO Licensing opportunities

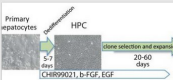
LIFE SCIENCE



Computationally designed epitope-focused immunogen enhancing subdominant neutralizing antibody responses

Synthetic polypeptide mimicking RSV site II epitope for efficiently boosting preexisting immunity

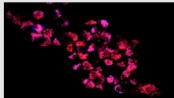
See ref 61923



Method for preparing proliferative induced hepatic progenitor cells

Experimental protocol for the generation of induced HPC from primary human hepatocytes

See ref 61942



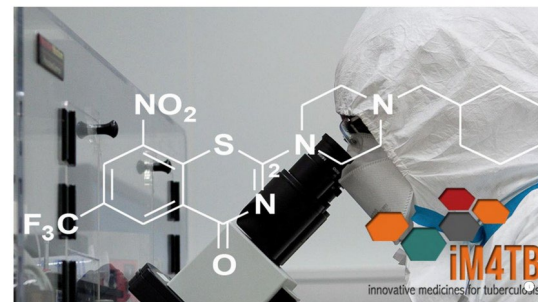
Dual fluorophore radiometric probe for in vivo pH measurement

Overlap image of the fluorescence from a pH-independent (Cy5) and pH-dependent (SFHx) channels

See ref 61807

Mediacom

EPFL non-profit iM4TB awarded \$2.45m for anti-TB drug clinical trials



The Bill & Melinda Gates foundation has awarded EPFL-based non-profit iM4TB \$2.45 million to take their innovative anti-tuberculosis drug PBTZ169 into clinical trials.

24.04.17

NEWS

- All Global Health Institute news
- Life Sciences | SV news
- All news

LinkedIn TTO NewsLetter TTO



EPFL TTO Technology Transfer Office

We help EPFL technologies make a difference.
Higher Education · 2,109 followers



71 followers in your network

✓ Following

Visit website

More

Home About Posts Videos

TTO services and support to the research community

- > <https://www.epfl.ch/research/services/units/technology-transfer-office/>



Scientists

Disclose & Protect IP

Do you see commercialization potential for your research? Follow this link.

Software Licenses

Learn how to share your software.

Agreements

Find out more about industrial research contracts and access our templates.

NDA's & MTAs

EPFL has established standard NDAs and MTAs templates to share confidential information and material.

enable

enable invests in tomorrow's technology. We support creative innovators as they move their ideas from the lab to the market.

Mintt

mintt is a course for EPFL PhD students organized by the EPFL Tech Transfer Office.

Companies

Licensing Opportunities

Explore EPFL technologies available for licensing.

Collaborate with EPFL

Understand the different ways to set-up collaborations between EPFL and industry.

Agreements

Find out more about industrial research contracts and access our templates.

Start-ups

Licenses

Guide lines for start ups. EPFL encourages the transfer of research results to products and services through licensing. Follow the link or contact our tech transfer team!

Conflict of Interest

See here how to manage a possible conflict of interest.

Support

Academic courses, support programs and more to help you create your own company.

Technology Transfer Office

We help EPFL technologies
make a difference.

IP, patents licensing



- TECHNOLOGY TRANSFER OFFICE

Forms of Intellectual Property

Patents

IC layouts

Industrial
designs

Know How

Trademarks

Copyrights

Plant
variety

Confidential
Information

Making information
available to the public to
encourage downstream
innovation

Providing monopoly
rights to encourage
investment



Quid pro quo of intellectual property

Checks and balances

Monopoly rights:

- Right to exclude
- Right to sue
- Right to obtain compensation (damages, accounts for profits...)



- Exceptions and defenses e.g. Research exemption, bolar exemption (patents)... Fair use/ fair dealing (copyright)
- Invalidity and revocation procedures
- Compulsory licences
- Competition law
- Export controls

The patent as a tool

“A governmental license that gives the holder exclusive rights to a process, design or new invention for a designated period of time.”

Patents may be used to :

- Prevent others to use the invention
- Prevent others to sell product / services covered by a claim
- Grant licenses
- Possible deals with competitors (cross licensing)
- Leverage (capital) funding (e.g. start-up)

What a patent is not:

A patent is **not an authorization** to use or market the invention (not a guarantee for «freedom to operate» or market authorization)



Invent

create, have a new and useful idea which can be realized (process, machine, device, substance, system, ...)

provide a technical solution to a technical problem

Discover

find, explain, describe, demonstrate,
make known something which exists which was not known before

a discovery is not patentable

Patent **AND** Publish (*rather than patent **OR** publish ..*)

If you estimate that your results can be the basis for the development of a marketable product, contribute to commercial services

If your results provide or draw a solution to an existing problem in a new and non obvious (original) manner;

<https://www.epfl.ch/research/services/protect-intellectual-property/>

Patent **AND** Publish (*rather than patent **OR** publish ..*)

PUBLICATION means any type of disclosure making publicly available (part or of) the information

abstracts

abstracts prior peer review / prior conference / prior talks

figures

online pre publications

announces of grant obtainment

online repositories

presentation

conference talks

posters

thesis publications (possibility of 3 months embargo with Ecole Doctorale)

Patentability conditions

1. Novelty:

The invention must be different from what is known, published (i.e. from “prior art”) including your own publications or presentations

(Special in the US: 12 months “grace period”)

2. Inventive step:

The invention is not obvious for someone skilled in the art

(more difficult than novelty, rather subjective)

3. Industrial applicability:

The invention must be technical and reproducible and susceptible of industrial application

Licensing

Asset licensed: **IP**

Patents, copyrights,
trademarks,

prototypes, biological
materials ..

Technology Licensing

Patents, (Software)

Patents, Software, reagents

Exclusive, FoU, subl. rights

Non exclusive (FoU) (subl. rights)

Upfront / Equity

(Upfront)

Min ann. fee, Product royalty, (Use fee)
Subl. % (milestones)

Annual fee ; Product Royalty / Use fee

Patent costs

(Patent costs)

Licensing Trends

EXCLUSIVE

chemical molecule / material

apparatus, device

technical protocols
(confidential)

NON EXCLUSIVE

software

methods
of manufacture

platform technology

prototype
technical protocols

non patented
biological
Materials, cell lines (*)

reagents

(*) typical exceptions: clones for mABs production

Licensing terms

Nature of the license (licensor)

Exclusive / Non Exclusive / Sublicensing / limitations by application, by territory, time, etc.

Financial counterpart(s) (licensee)

Upfront payment

Annual minimum royalties (can be creditable against actual royalties (yearly basis)

Product Sale Royalty (% of sales, fee / unit sold)

Process Use Royalty (% of amounts invoiced / fee per time, unit sold, ..)

Share in equity value / shareholding (st up)

Patent Expenses (future, or past and future)

Operations (licensor / licensee)

Patent Prosecution roles, responsibilities/ roles Infringement / share of benefits

Diligence (licensee)

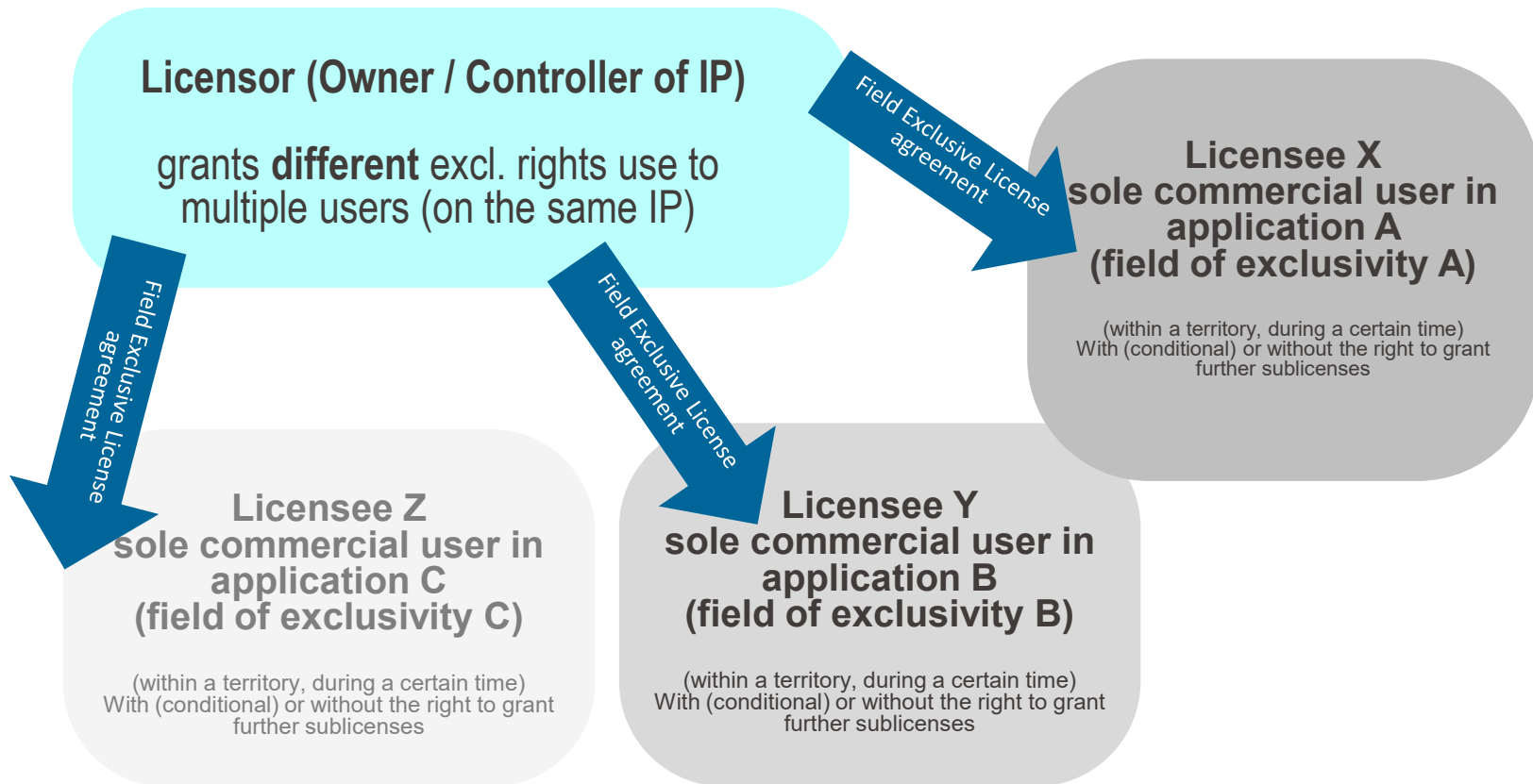
Milestone payments, technology performance achievement (in time, in volume)
cf also Annual minimum royalties

Legal Gov't rights, warranties, responsibilities limitations, Indemnity and Insurances

Licensing scenarios / single exclusive license



Licensing scenarios / multiple exclusive licenses



Licensing scenarios / multiple non exclusive licenses

Licensors (Owner / Controller of IP)

grants fairly identical rights use to multiple users
(on the same IP)

Non. excl. License agreement

Licensee commercial user (no exclusivity)

(within a field, within a territory,
during a certain time)
without the right to grant further
 sublicenses

Licensee commercial user (no exclusivity)

(within a field, within a territory,
during a certain time)
without the right to grant further
 sublicenses

Licensees commercial users (no exclusivity)

(within a field, within a territory,
during a certain time)
without the right to grant further
 sublicenses

Technology Transfer Office

We help EPFL technologies
make a difference.

Thank you for
your attention!

