



TRANSFERT DE TECHNOLOGIES À L'EPFL TECHNOLOGY TRANSFER AT EPFL

GUIDE FOR SCIENTISTS



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- Facilitate the transfer of research results to the economy.
 - Build strategies to further develop research results.
 - Protect and manage EPFL's intellectual property.
- Negotiate research and technology transfer agreements.
 - Encourage the creation of start-ups.

These are the missions of EPFL's technology transfer office.

The purpose of this guide is to introduce the technology transfer process to the EPFL research community.

INVENTION

The technology transfer adventure starts when a scientist thinks that his/her research results might have the potential for commercial exploitation.

What's an invention?

An invention is a creation, either in idea or concrete form, which solves a significant technological problem or brings a novel solution to a major challenge.

Inventions are not always patentable.

Who is an inventor?

An inventor is a person who has brought one or more new and original elements to an invention. An author on a publication or the head of a research group is not necessarily an inventor.

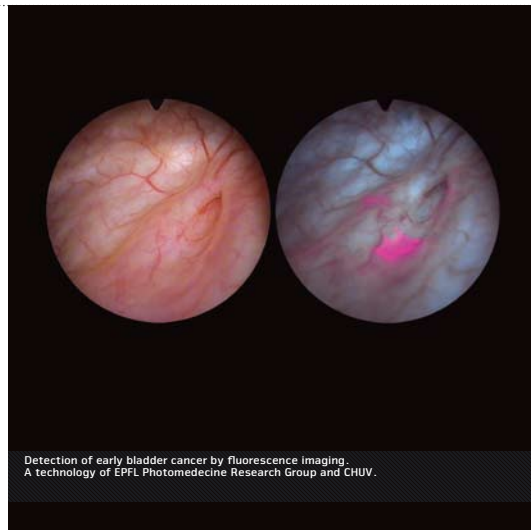
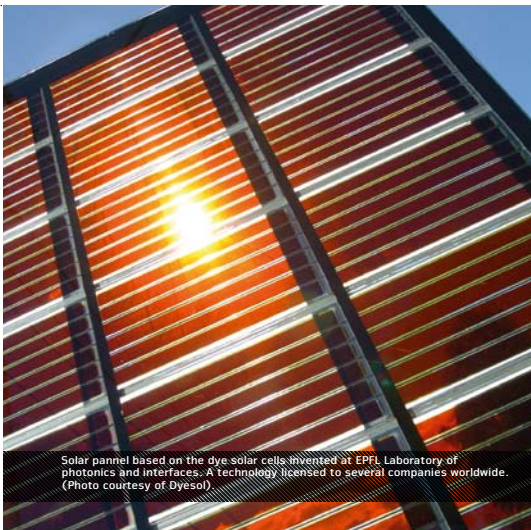
In order to allow the transfer of a new technology to the market, researchers must disclose their inventions to the SRI. This helps clarifying the following elements:

- the invention
- its novelty and applications
- the list of all inventors (internal and external)
- the context or project in which it came about
- possible external partners
- key dates (its discovery, its publication, etc.)

In order to make such disclosure, the researcher sends an invention disclosure (downloadable on sri.epfl.ch) to the SRI along with a written description of the invention that clearly describes its novelty and commercial potential.

THE INVENTION DISCLOSURE

PUBLICATIONS: In order to safeguard all the protection potential of an invention, the above steps must be taken before any public communication takes place (conference abstract, poster, website posting, scientific publication, etc.) and within a reasonable time frame in order to make arrangements for protecting the invention, if appropriate.



01

Following the announcement of the invention, the SRI evaluates its potential together with the inventors and the head of the research group or laboratory, establishing with them a development strategy.

The evaluation includes the following principal criteria:

- patentability (novelty, originality, and applicability)
- concrete applications
- economic potential
- limiting factors for licensing (third-party rights, etc.)
- identification of possible licensees

EVALUATING
THE INVENTION

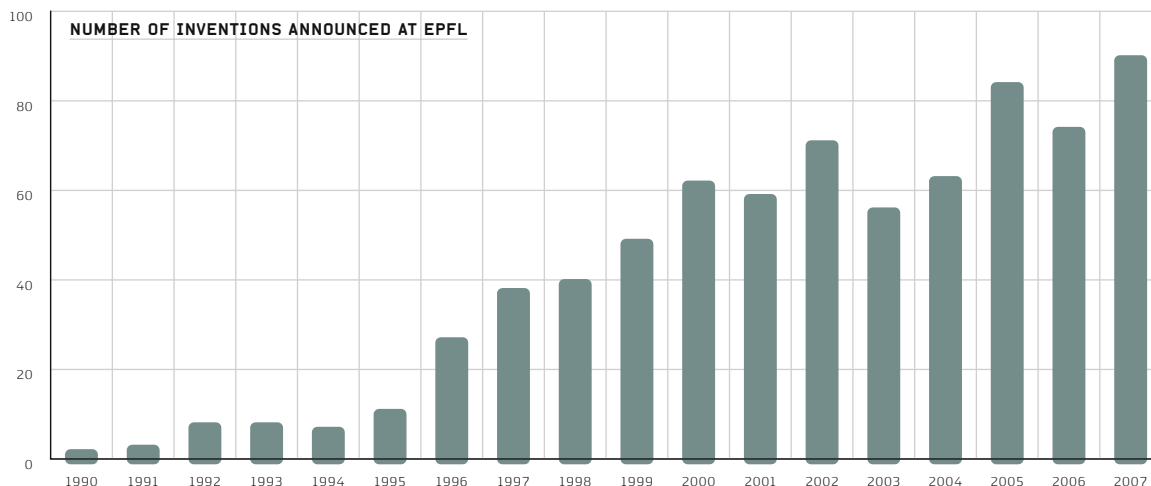
OWNERSHIP OF THE INVENTION AND INVENTORS' EARNINGS: EPFL is the owner of its employees' inventions. Inventors have the right to one third of net revenue resulting from the commercialisation of their inventions, to use as they wish.

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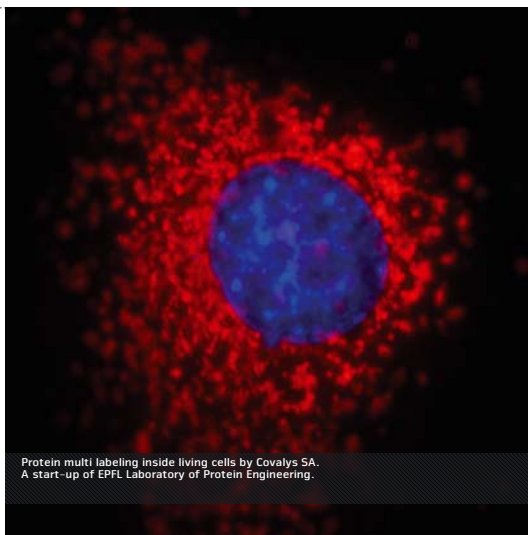
The SRI is in charge of managing EPFL's inventions and licensing them to industrial partners. It guides the evaluation process, helps inventors to define the context of the invention and to identify its commercial potential. The SRI also works with inventors to define a strategy to protect and transfer the invention as well as to identify possible partners.

Successful technology transfer or licensing requires the motivation and commitment of inventors from the very beginning of the adventure!

ROLE OF THE SRI



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INTELLECTUAL PROPERTY



Definition

Intellectual property (IP) is an ensemble of rights related to inventions and other creations of the mind. It includes mainly patents, copyrights and trademarks.

The purpose of IP in the academic context

IP is a tool that protects research results, with the ultimate goal of transferring them to industry.

This protection is often an important criterion in the decision of a business partner to invest in the development of a technology or a commercial product based on results academic research.

PUBLISH OR PATENT? One does not exclude the other, it's just important to get the timing right; that is, file a patent application before publishing.



A patent is a document, delivered by an authority, that confers to its owner the right to exclude others from making, using, selling, importing, or offering an invention for sale for a fixed period of time.

The patent owner may give other parties permission to use the patented invention via license agreements. The patent may also be sold.

Filing a patent application

Filing a complete patent application can take from one to three months. The SRI commissions a patent agent specialized in the scientific domain of the invention. Inventors send him as detailed as possible a description of their invention, a base upon which the patent agent will write up the application and file it in EPFL's name. (since EPFL is the owner of inventions made by its employees)

The procedure of granting a patent

To be patentable, the invention must be:

1. Novel (different from prior art).
2. Inventive (non-obvious to those in the field).
3. Practical for industrial applications and reproducible.

If the patent office considers that these conditions are not met, the patent office will transmit objections that initiate an exchange of letters. In this process, the patent agent needs support and assistance from the inventors.

The procedure for granting a patent begins by filing the initial application (called priority filing) in a national or regional office (for example the European Patent Office). During the 12 months that follow, it is possible to extend the geographical coverage of the application by an international filing called PCT (Patent Cooperation Treaty) or by filing applications with other national offices. In the case of a PCT filing, there is a deadline of 30 months from the date of the priority filing to choose the countries in which the patent application will be further filed.

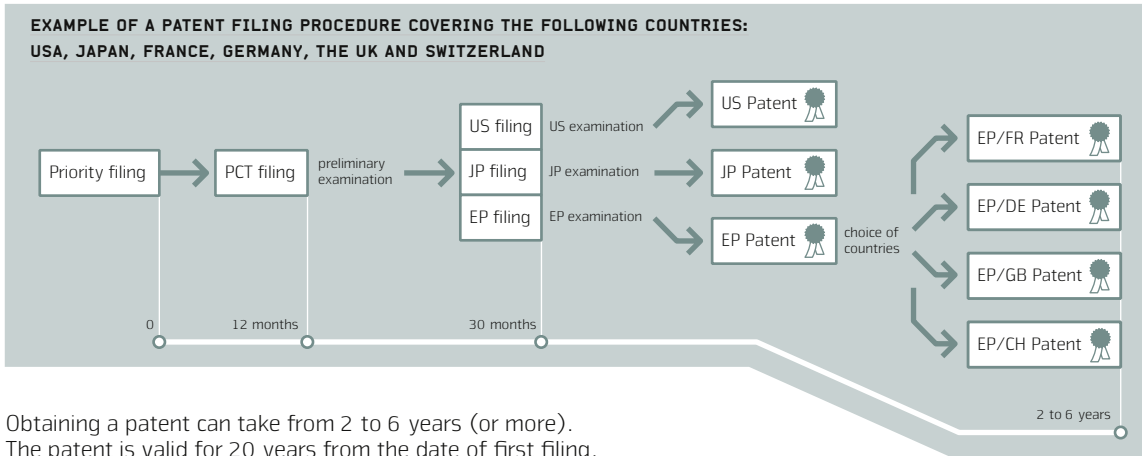
PATENTS



Fast, precise and flexible robotics.
Delta Robot from EPFL Robotic Systems Laboratory.



Increasing the speed, quality and cost effectiveness of molecular diagnostic through a unique magnetic handling technology. Developed at EPFL Microsystems Laboratory and licensed to Spinomix SA, a start-up of EPFL.

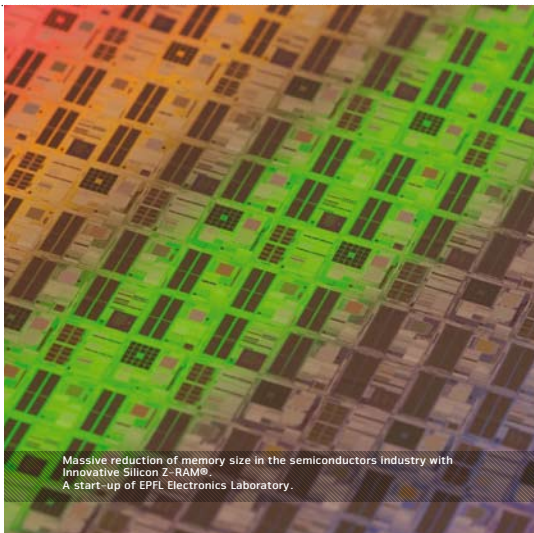
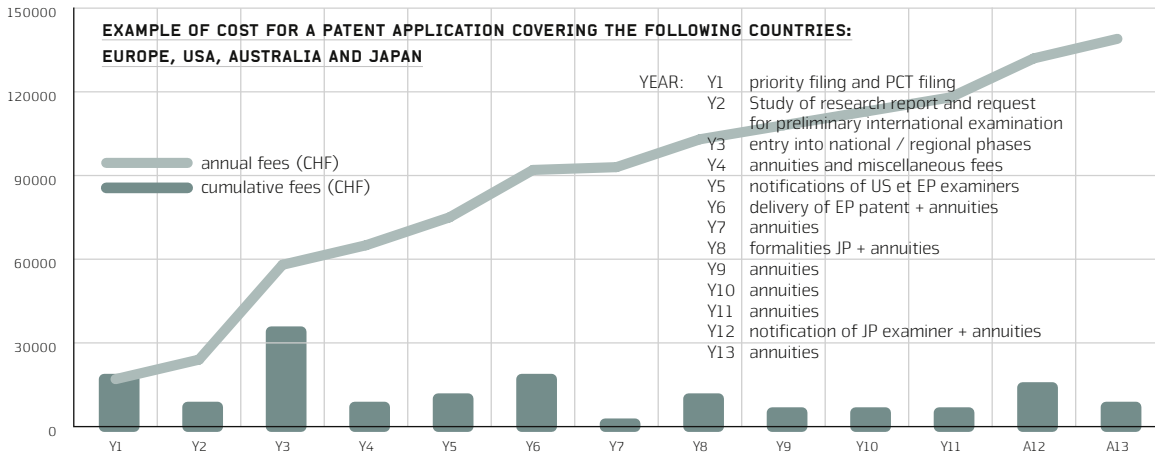


Obtaining a patent can take from 2 to 6 years (or more).
The patent is valid for 20 years from the date of first filing.

The price of a patent

There are several costs involved: the fees of the patent agent, the official taxes that must be paid during the patent process and the annual fees during the life time of the patent. These costs depend on the number of countries in which patent protection is desired (see the schema below).

The SRI covers the initial filing costs. After that, the costs are usually shared with the laboratory, then eventually covered by industrial partner(s).



02

Software can be protected in two ways (cumulative), by copyright or by patent (when the software produces a technical result).

Copyright protection offers two advantages. First, there are no formal requirements, because there is no filing or obligatory registration. Second, it's free.

On the other hand, copyright only protects the code (source and executable), the software structure and its documentation. It does not protect algorithms or underlying concepts.

SOFTWARE

COPYRIGHT NOTICE: We recommend that you place a copyright notice on software that identifies the copyright holder, for example: © 2008, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland.



The second type of protection – the patent – offers a more complete protection that can cover the software's functions, as well.

Open-source software

These are software programs that are freely distributed, including the source code. According to some open-source licenses (for example GPL GNU), anyone who modifies an open-source code must also make the modification available in open-source. The author of the initial software (or his/her assignee) retains the right to be mentioned as such on the software.

A trademark is a distinctive sign. Its purpose is to protect the names of products and services. The "distinctive sign" may consist of an ensemble of letters or words, an image, a logo, a 3D form or a sound.

The price of a trademark

The costs of registering a trademark include official taxes as well as professional fees (an attorney or IP specialist, for example). As a rough guide, the official taxes for filing and registering a common trademark, valid in all the EU countries, runs about CHF 3,000, not including complementary taxes such as the class tax, which must be paid for each class of products or services beyond the third one.

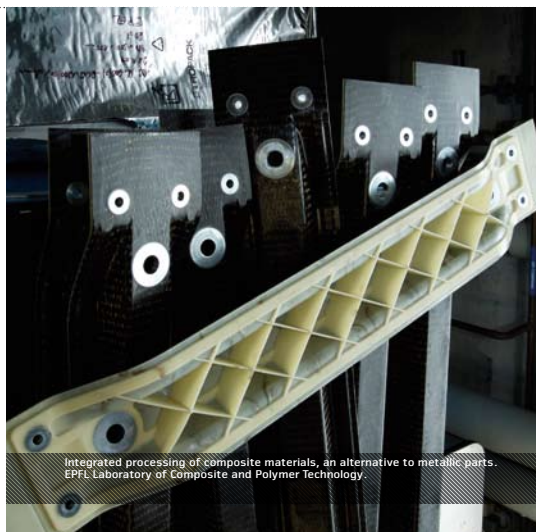
Conditions for granting a trademark

To obtain the registration of a trademark, it is necessary to:

1. Verify that an identical or similar trademark has not already been registered.
2. File the trademark with one or several national or regional offices.
3. Choose the classes of products and services that will be protected by the trademark.

A trademark has an initial validity period of 10 years but can be renewed indefinitely.

TRADEMARKS



Integrated processing of composite materials, an alternative to metallic parts.
EPFL Laboratory of Composite and Polymer Technology.

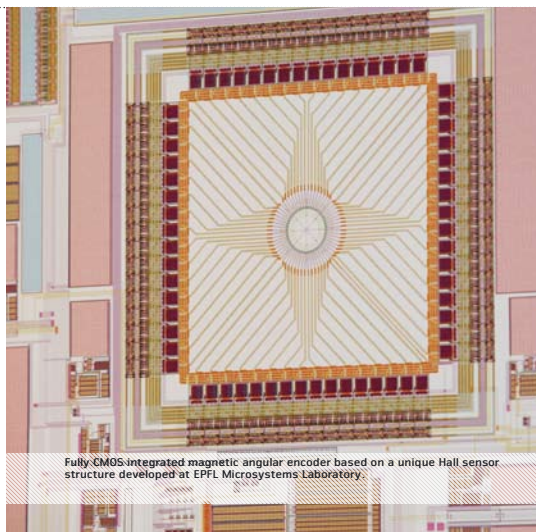
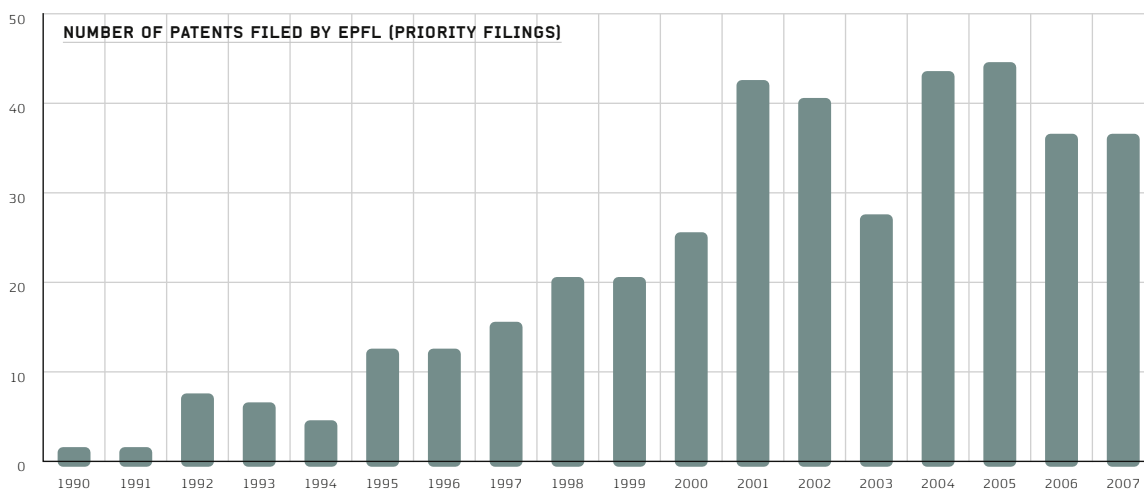


Computer networks security through behavioral intelligence from NEXThink, a start-up of EPFL Artificial Intelligence Laboratory.

02

The SRI is responsible for filing the patent application and following the patent process as well as managing EPFL's intellectual property in general. The SRI advises EPFL researchers in all aspects of technology transfer and intellectual property.

ROLE OF THE SRI





LICENSES

A license allows the transfer of technology that is protected by intellectual property rights. Filling the patent is not the final goal – the objective is to conclude licensing agreements.

A license is a contract by which the licensor grants the licensee, under certain conditions, the right to use a patent or software in order to develop and commercialize products or services based upon such patents or software.

License agreements are long term relationships.

EPFL grants licenses to existing businesses (PMEs or large companies) and to start-ups. In general, when inventors present a credible start-up project, EPFL favors the grant of a license to such start-up.

The collaboration between inventors and the SRI is critical for the success of a licensing deal. In particular, the active participation of inventors in the identification of potential licensees is very important.

The transfer of technology is a source of satisfaction for inventors – the impact of their research extend beyond the academic environment in the industrial world.

INVENTORS:
KEY ROLES AND
MOTIVATION

The license can be either exclusive, when the licensee is granted a monopoly on exploitation, or non-exclusive, when the licensor reserves the right to grant licenses to other parties. Generally, the license is limited to industrial applications that the licensee wishes to develop. In the negotiation process, it is important to take into account other research projects of the laboratory concerned.

In general, the exclusive licenses should grant the licensee the right to grant sublicensees.

SCOPE OF
LICENSES

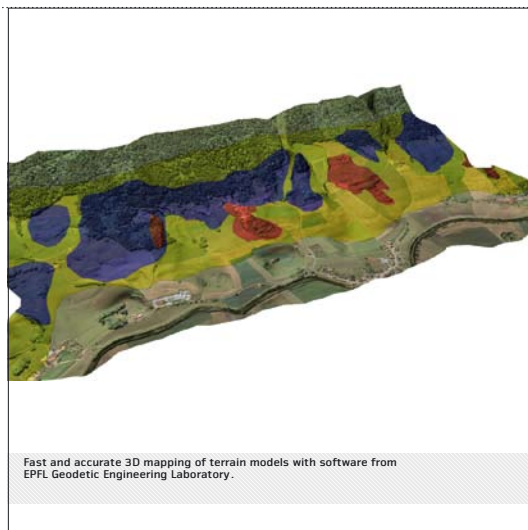
For exclusive licenses, it is important that the licensee will further develop and exploit the technology. This is why such licenses usually contain specific milestones.

When seeking possible licensees, confidentiality agreements are signed so that the invention can be presented without endangering the patent process.

CONFIDENTIALITY
AGREEMENTS

Sometimes businesses are interested by an invention but want to evaluate it or carry out complementary studies themselves over a period of time, before committing to a license. In these cases, option agreements are the appropriate instrument.

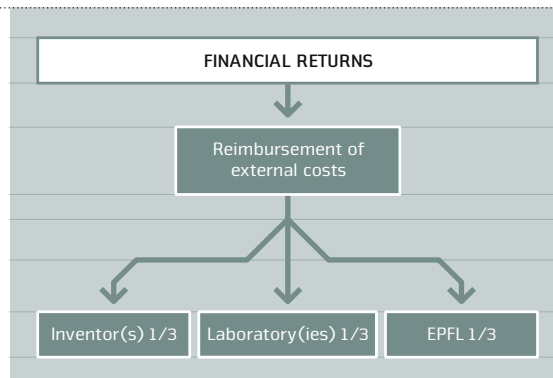
OPTION
AGREEMENTS



03

In consideration for the license, the licensee pays EPFL a remuneration that can take different forms: royalties on products or services sold, royalties on sub-licenses, upfront payments, annual payments, or stock in the start-up company. These amounts are the result of a negotiation between EPFL and the licensee.

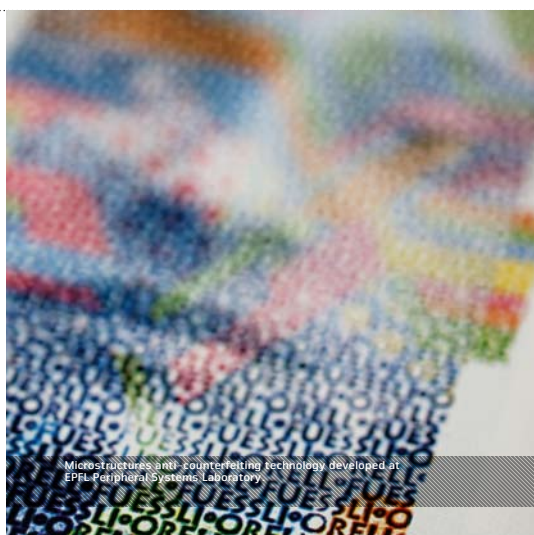
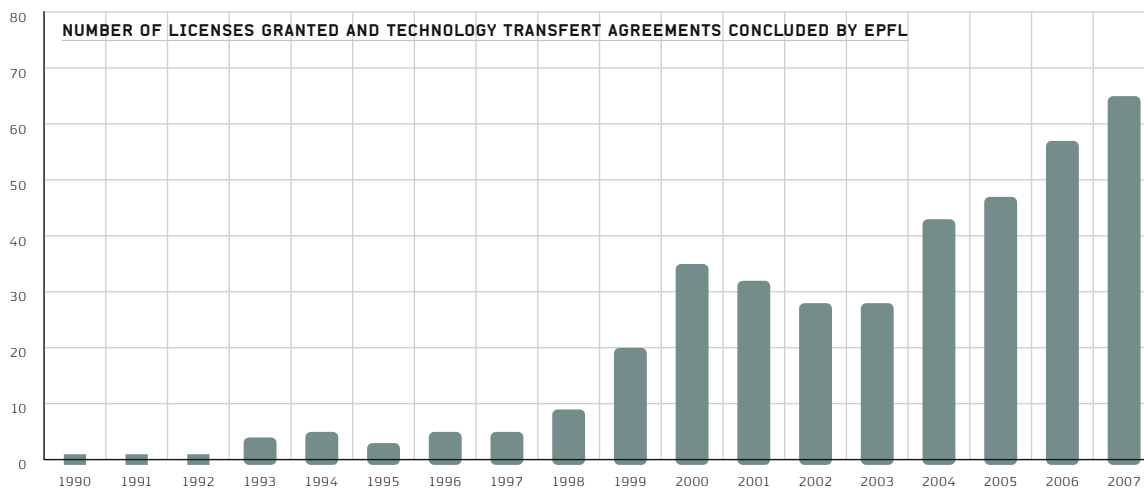
Revenues thus obtained by EPFL are divided into three equal parts after deduction of external patent and development costs: 1/3 to inventors, 1/3 to the laboratory in which the invention was made, and 1/3 to EPFL.



FINANCIAL RETURNS

The SRI defines a transfer strategy in collaboration with the inventors and the heads of laboratories concerned, identifying the businesses to contact, the type of license and the domains of application. The SRI negotiates and manages license agreements including financial management.

THE ROLE OF THE SRI



START-UPS

Often, the development of an invention includes the creation of a company that focuses on developing the commercial potential of the invention.

EPFL encourages the creation of companies that wish to develop and commercialize the technologies issued from the research done in its laboratories. The use of these technologies requires an agreement between EPFL and the start-up.

When the technology involved is covered by one or more patents (or patent applications), the contract used is typically the exclusive license, allocated in the start-up's sector of activity. For software agreements, a non-exclusive license is usually agreed upon.

A series of programs designed to help in the creation of start-ups are available to EPFL inventors:

— **EPFL Innovation network**

Offers support for projects with industrial transfer potential or for start-ups particularly via the allocation of financial support.
<http://vpiv.epfl.ch/IN-en.htm>

— **The EPFL Science Park (PSE)**

Provides coaching services financed by SRI to members of EPFL who want to validate a project, space for early-stage projects in its incubator, and space for companies who have already started their activity.
<http://www.parc-scientifique.ch/>

— **Foundation for Technological Innovation (FIT)**

Allocates loans with favorable conditions for start-ups projects.
<http://www.fondation-fit.ch/>

— **venturelab**

Offers an ensemble of courses designed to inform and educate those who are thinking of founding a start-up.
<http://venturelab.ch/>

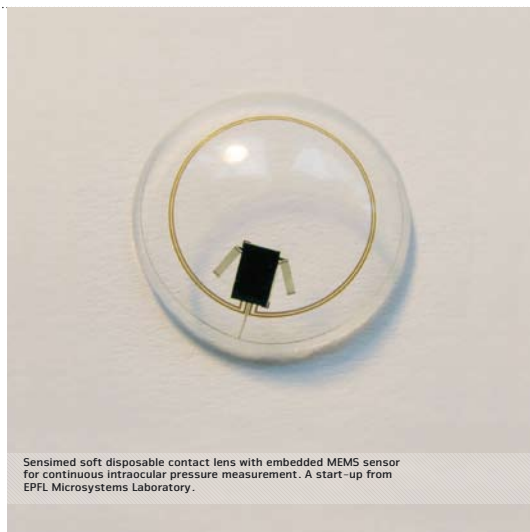
— **venture-kick**

Provides gradual financial support, in three stages, before the creation of a company.
<http://www.venture-kick.ch/>

— **CTI Start-up**

Manages a development, coaching and validation program for start-ups projects on the national scale.
<http://www.ctistartup.ch/>

SUPPORT PROGRAMS

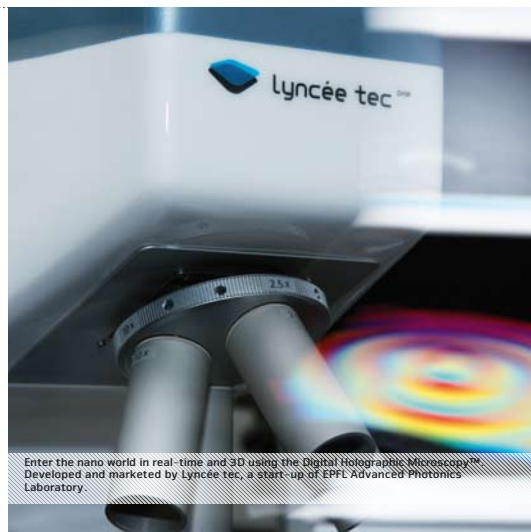
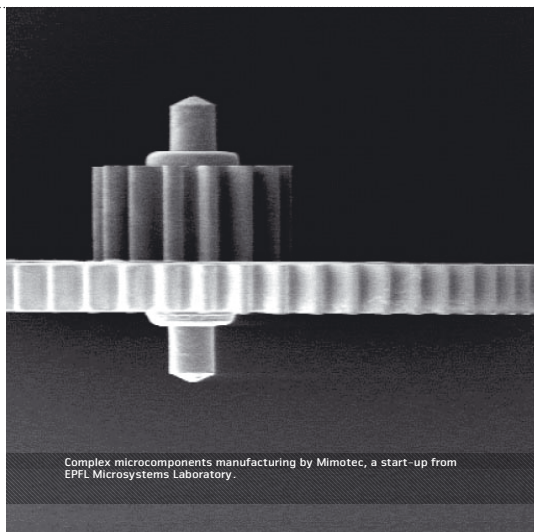
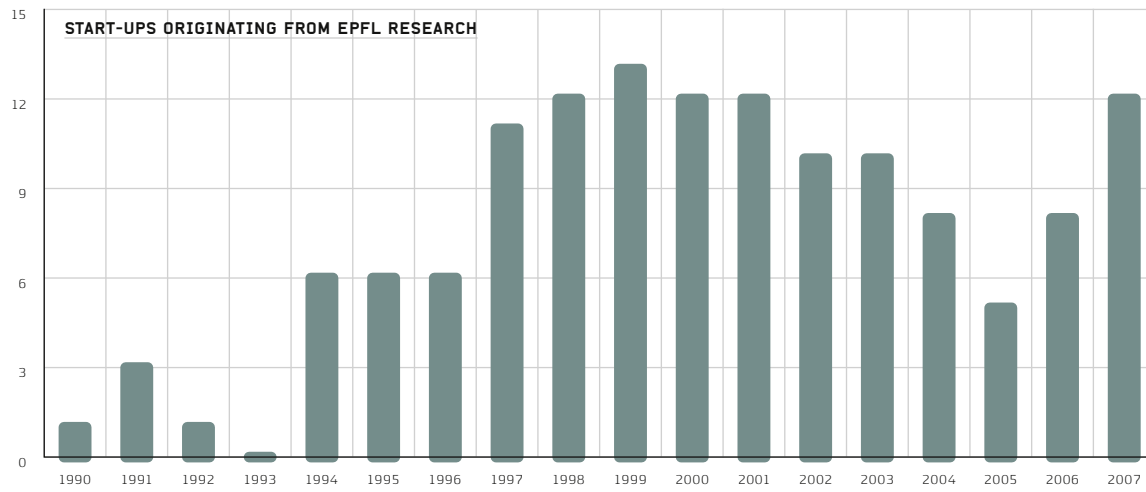


04

When EPFL professors or employees participate in the creation of a start-up, it's important to settle questions of potential conflicts of interest related to the situation. Those concerned should contact the SRI.

You will find the EPFL directives concerning the management of conflicts of interest on the site: <http://polylex.epfl.ch> (collaborators chapter).

CONFLICTS OF INTEREST



RESEARCH CONTRACTS

05

A very effective way to transfer technology and expertise is within direct cooperation with companies, either in the framework of research projects or by furnishing scientific services. EPFL encourages its laboratories to enter into cooperation agreements with industry and with public and private organizations that support scientific research. In the context of such agreements, it is essential to determine by means of a contract the following principal aspects:

- planned work program, duration of the project, milestones
- budget and funding
- rights on results, patents and software (intellectual property)
- scientific publications
- confidentiality of shared/exchanged information
- responsibility of the parties

RESEARCH CONTRACT: execution of a scientific research project financed by an external partner who obtains rights on the intellectual property generated. EPFL researchers must maintain the right to publish the scientific results.

INDUSTRIAL GRANT: financial contribution by a company to a scientific research project without any counterpart other than regular information on the results obtained and an option to negotiate access rights to intellectual property generated.

The SRI is your partner for drafting, negotiating and approving research and service contracts. Don't hesitate to call upon us quite early in the process, in order to assure that the agreements reach an efficient and successful conclusion.

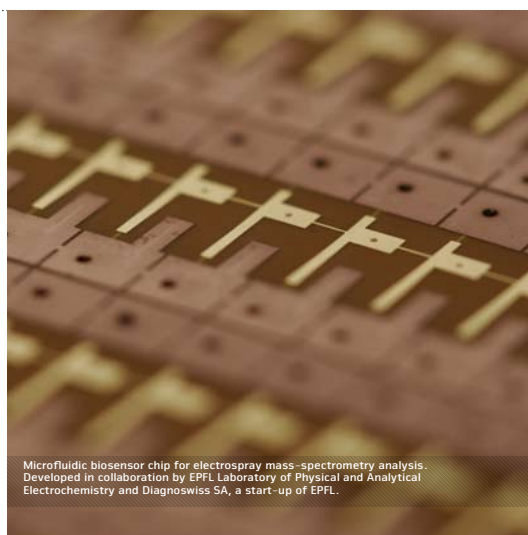
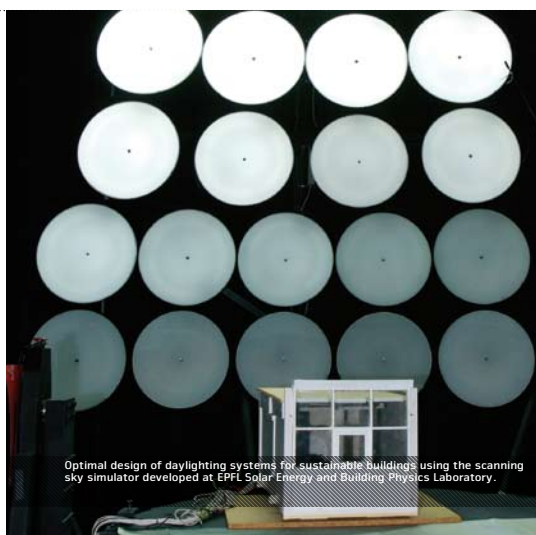
Rules applicable at EPFL concerning research and service contracts can be found in the DCRTT (EPFL Directives on research and technology transfer of March 1 2007, <http://polylex.epfl.ch>, chapter "valorisation").

SERVICE CONTRACT: execution of services for an external partner by using expertise, knowledge and existing installations: tests, routine analyses, expert opinions, expert advice, access to equipment, etc. Results from service contracts belong to the partner, the methods and tools remain the property of EPFL.

GRANTS AND OTHER CONTRACTS: other research-related contracts can be drawn up, for example: for scientific research projects supported by public grants, foundations or other non-profit organizations; for the transfer of biological material (MTA) or the protection of confidential information (NDA); for the execution of European projects; etc.

OVERVIEW

TYPES OF CONTRACTS

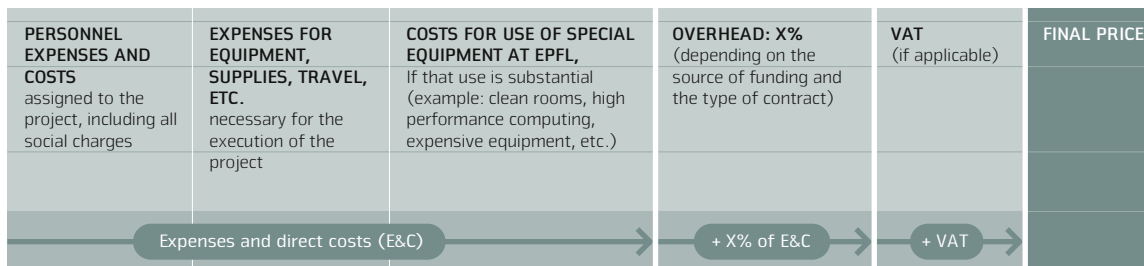


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BUDGET AND OVERHEAD

As a general rule, funding from a partner must cover all the direct expenses and all direct costs involved in the project with, in addition, an overhead that depends on the source of funding and the nature of the work being done. For services, the final price must be reasonable compared with the market price (no unfair competition

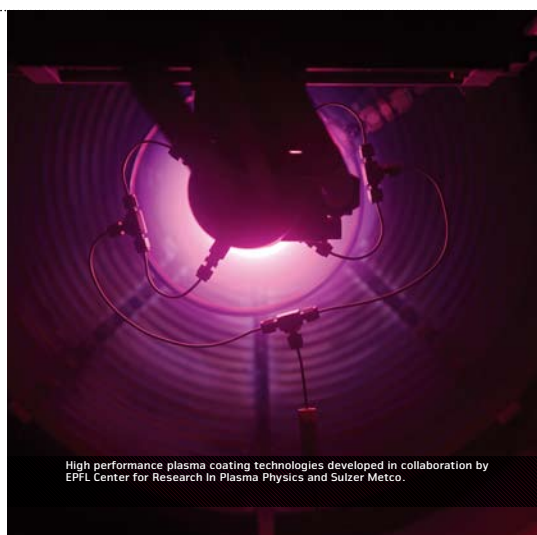
with the private sector). The use of commonly accepted hourly fees is also possible, particularly for services; often these fees already include an overhead for general fees and indirect costs.



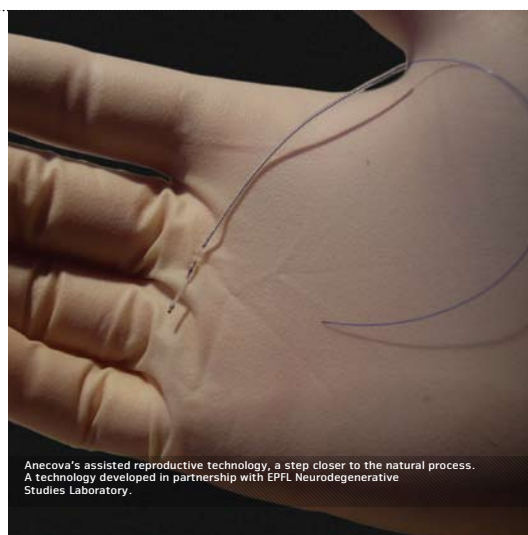
Applicable Overheads:

SOURCE OF FUNDING	TYPE OF CONTRACT	OVERHEAD (to add to expenses and direct costs)
Company or other for-profit entity	Research contract	40%
	Industrial grant	20%
	Service contract	60%
Public or private non-profit entity (canton, commune, federal office, foundation, association, etc.)	Research contract	20%, as long as EPFL retains the non-exclusive and free right to use and exploit the results
	Service contract	60%
Public science funding agency (SNF, CTI, NIH, CE, etc.)	Grant	Annex 4 of DCR TT, see http://polylex.epfl.ch , chapter "valorisation"
	European Project	According to rules of the European Commission and specific EPFL decisions
Any entity	Gift/donations, without compensation	0%

Overhead rates given in this table may change, please consult the DCR TT (polylex.epfl.ch) or contact SRI to verify applicable rates.



High performance plasma coating technologies developed in collaboration by EPFL Center for Research in Plasma Physics and Sulzer Metco.



Anecova's assisted reproductive technology, a step closer to the natural process. A technology developed in partnership with EPFL Neurodegenerative Studies Laboratory.

05

Before proposing a contract draft to an external partner, please contact the SRI to prepare the negotiation framework. Establishing the negotiation framework makes it possible to consider the interests and other projects of the laboratory concerned, such as: domain for exclusivity envisaged for the partner, royalties (yes or no), type of license for EPFL outside the domain reserved for the partner, specific clauses for software. Then, the SRI prepares an initial agreement proposal or modifies the proposal sent by the partner. The negotiation is usually led by the SRI, in close collaboration with the head of the laboratory.

CONTRACT
NEGOTIATION

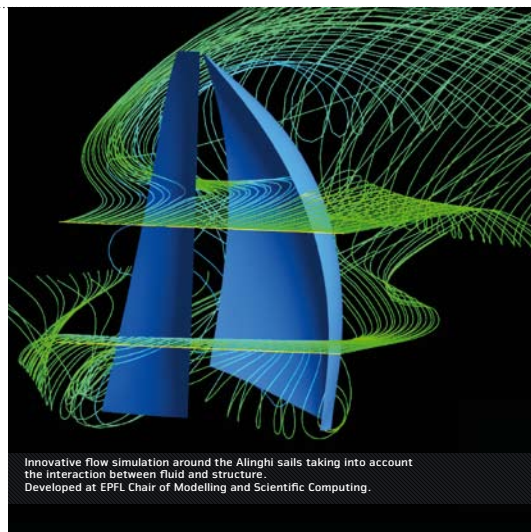
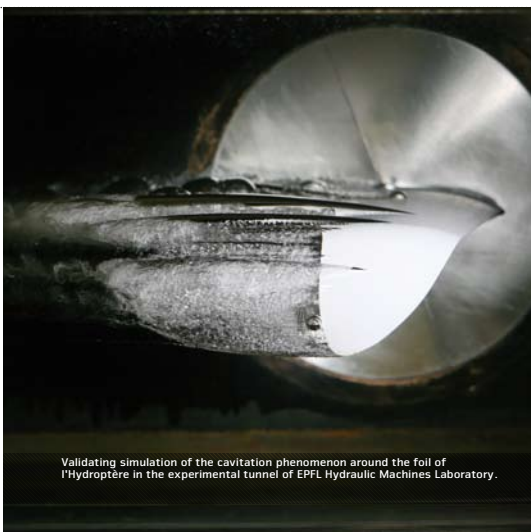
Contracts of more than 50,000.- CHF are subject to approval by EPFL, via the SRI, before signature. This is also the case for European contracts and consortium agreements. Grants from the SNF or CTI are not subject to prior approval. However, agreements with industrial partners in the context of CTI projects are subject to approval by EPFL, via the SRI.

APPROVAL
AND SIGNATURE

The SRI is also responsible for defining the type of contract and the applicable overhead. These decisions are communicated to the laboratory and the financial services office.

The management of research contracts is the responsibility of the head of the laboratory concerned, or the head of a group who is acting in proxy for his/her superior.

For contracts less than 50,000.- CHF, the SRI determines the applicable overhead upon request of the laboratory – by default, an overhead of 60% will be applied by the financial services office.





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BACK OFFICE AND
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<http://sri.epfl.ch>
under "INFOS"

EPFL START-UPS

IMPRESSUM

direction of the project: EPFL-SRI / www.epfl.ch/sri

text and content: SRI team

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graphic design: oxyde / www.oxyde.ch

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