

CHIPP Annual Meeting Lausanne, Sept. 2008

Technology Transfer in the field of Particle Physics

An international network under construction

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## Outline

- Background
- What is TT
- Situation in CH
- Q & A

## Background

- Delegations within CERN Council have expressed a strong interest to **increase efficiency of technology transfer (TT)** in the field of Particle Physics (PP)
- A dedicated taskforce was created in 2007 to study the situation and make proposals to the Council
- The taskforce has proposed the creation of a **professional TT Network based on existing TT offices/organizations** within the research institutions of the member states and with the CERN TT office
- The Council approved such proposal in March 2008 (however w/o financial support !)
- The project **Particle Physics TT Network** is currently in a conception phase (working groups)

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## TT in the field of Particle Physics Objectives as given by CERN Council

- Improve efficiency and effectiveness of particle physics TT activities in member states
- Enlarge technology offer
- Improve match between technology offer and industry needs
- Enhance visibility of PP activities

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## TT Network in the field of Particle Physics

### Initial members

- CERN : TT office
- DE : DESY, GSI
- FR : CEA, CNRS/IN2P3
- SE : Chalmers
- IT : INFN, Univ. Insubria
- DK : Copenhagen Univ.
- GR : NTUA
- BUL : Univ. Sofia
- CH : EPFL

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## What is TT ?

Bring interesting and innovative scientific results to a use for the ultimate benefit of society

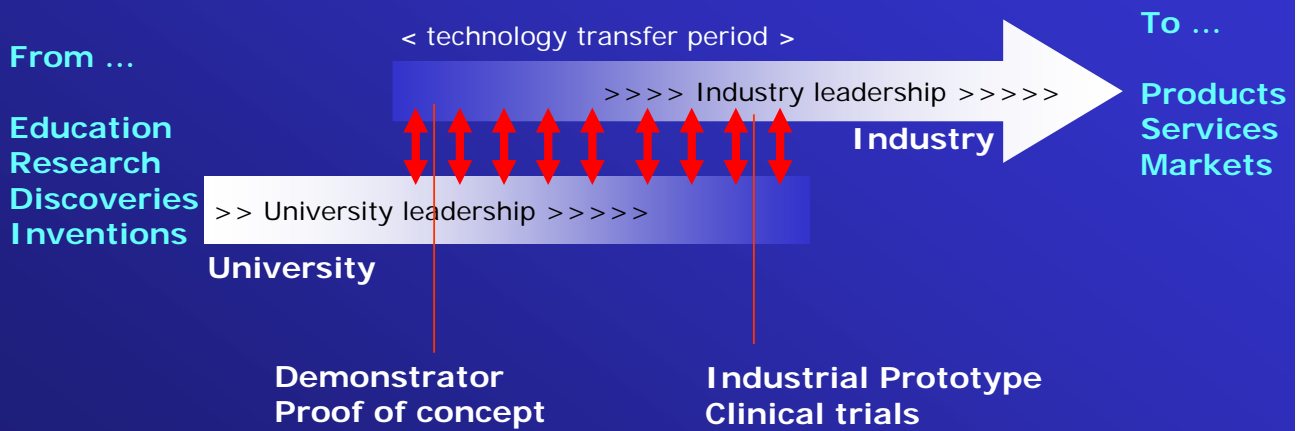
- > new products and services
- > new diagnostics and therapies
- > better use of resources
- > better environment
- > new jobs
- > new companies
- > ...

Large investments of public money in R&D lead to legitimate expected returns for society

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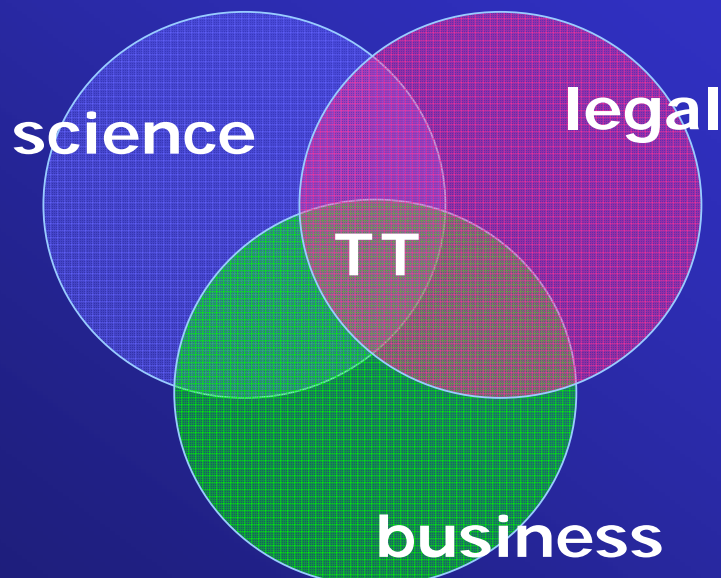
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# Transfer of knowledge and of technology to industry & economy : a challenging path ...



**The industrial partner shall have the leadership for the development as soon as possible !**  
Challenge : have an industrial partner early in the process !

## The TT office professional services for researchers



## Missions & activities of a TT office

- Negotiate and approve **Research Agreements** and **Partnerships** with third parties, NDAs, MTAs, ...
- Evaluate, protect and manage the **Intellectual Property (IP)** created within its institution
- Search for partners, negotiate, and manage **Licenses** and **Technology Transfer Agreements**
- Support the **creation of Start-Up companies** from its institution and manage interactions with such companies (licenses, equity, R&D, access to labs and facilities, conflicts of interests, etc)

## Further missions & activities of a TT office

- Maintain active relations with incubators / VC's / Seed funds / Science parks / ...
- Contribute to education such as courses and seminars in the fields of IP and innovation management for students and scientists
- Contribute to TT policies, regulations, best practices, ... on the local, national and international levels

## TT office : available skills and capabilities

- Practical knowledge of the « MARKETS » :
  - University - Industry collaborations
  - Technology Transfer (licensing)
- Science & technology
- Negotiations & business
- Legal aspects
- Intellectual property & patents matters

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## Technology Transfer & negotiation of research agreements

... always

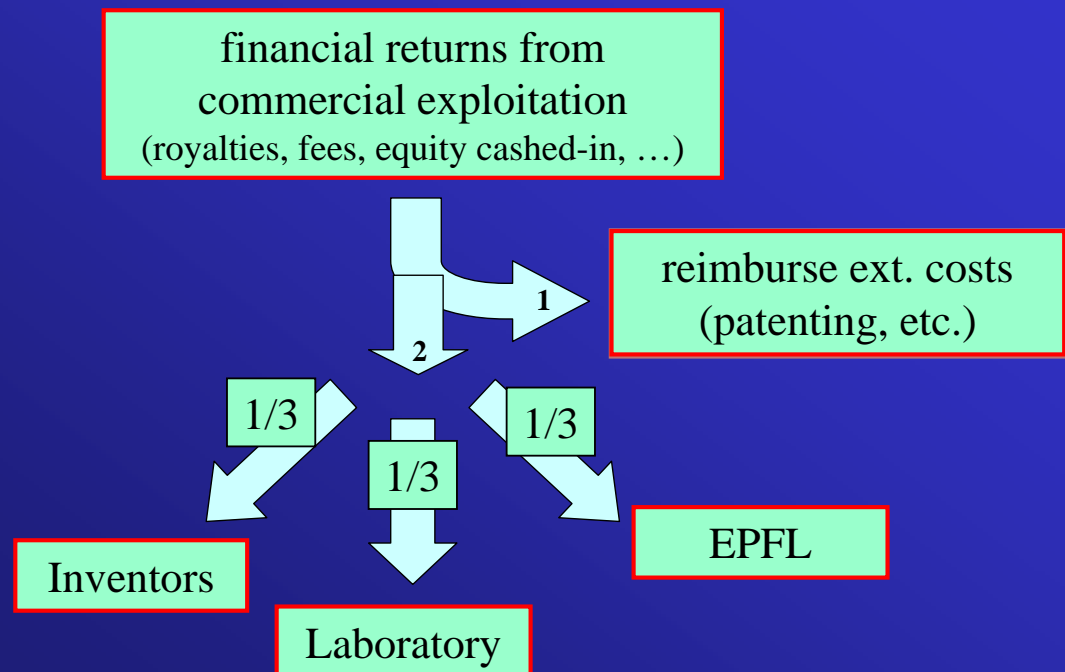
**in very close collaboration with the scientists, inventors and the responsible professors !**

**>> proximity & form a team :  
TT officers + scientists**

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## Financial incentive for inventors, software authors and labs

example of distribution of income from licensing / TT



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## TT : situation in CH

- All major universities and research institutes have now a professional TT office
- Overall good TT output from Swiss public R&D institutions
- A Swiss Technology Transfer Association (SWITT) with members (TT officers) from almost all Swiss public institutions :
  - > exclusive web list of available technologies
  - > education courses, seminars
  - > accesses to databases for TT offices
  - > development of good practices
  - > TT surveys
  - > communication, contacts with authorities, ...

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# Main Swiss TT offices

- Uni-Zürich & hosp. → unitectra SA
- Uni-Bern & hosp. → unitectra SA
- ETHZ → ETH-Transfer
- Uni-Basel & hosp. & HES → WTT Basel
- Uni-Lausanne & hosp. → PACTT
- EPFL → SRI-EPFL
- Uni-Geneva & hosp. → Unitec
- Paul Scherrer Institute → Techn. Transf. PSI

Data from IMD world competitiveness yearbook 2007

Switzerland is doing well in public-private TT

...

... but it needs to be actively maintained et further developed

Education 4.5.15

## KNOWLEDGE TRANSFER

2007

Knowledge transfer is

lacking between companies and universities

highly developed between companies and universities

Ranking	Country	Score
1	SWITZERLAND	7.12
2	SINGAPORE	7.04
3	ICELAND	7.00
4	ISRAEL	6.82
5	DENMARK	6.69
6	USA	6.33
7	AUSTRIA	6.29
8	CANADA	6.18
9	MALAYSIA	6.14
10	SWEDEN	6.10
11	FINLAND	6.06
12	GERMANY	6.00
13	NETHERLANDS	5.94
14	BELGIUM	5.77
15	NORWAY	5.75
16	AUSTRALIA	5.74
17	IRELAND	5.57
18	HONG KONG	5.55
19	TAIWAN	5.51
20	NEW ZEALAND	5.40
21	KOREA	5.37



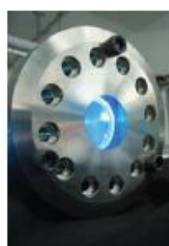
## Swiss TT survey 2006 (19 CH institutions)

- 2'654 new research projects with economic partners
- 404 invention disclosures registered
- 212 priority patent applications filed
- 196 license and option agreements executed
- 1'245 patent cases active end of 2006
- 824 active license agreements end of 2006
- 235 active licenses generated ca 9 mio CHF income
- 51 new start-up companies founded
- 330 start-up companies founded since 2000

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## A recent example of a start-up in PP

[www.arktis-detectors.com](http://www.arktis-detectors.com)



Arktis Radiation Detectors Ltd  
c/o ETH Zürich  
Institut für Teilchenphysik  
Schafmattstrasse 20  
CH-8093 Zürich  
Schweiz  
[info@arktis-detectors.com](mailto:info@arktis-detectors.com)

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# More information and links



[www.switt.ch](http://www.switt.ch)

## Technology Transfer Offices

### Academic Institutions

Universities and Federal Institutes of Technology	Technology Transfer Offices
• <a href="#">Ecole Polytechnique Fédérale de Lausanne (EPFL)</a>	• <a href="#">SRI</a>
• <a href="#">ETH Zürich</a>	• <a href="#">ETI</a>
• <a href="#">University of Basel</a>	• <a href="#">WT</a>
• <a href="#">University of Bern</a>	• <a href="#">Uni</a>
• <a href="#">University of Fribourg</a>	• <a href="#">Pol</a>
• <a href="#">University of Geneva</a>	• <a href="#">uni</a>
• <a href="#">University of Lausanne</a>	• <a href="#">pac</a>
• <a href="#">University of Neuchâtel</a>	• <a href="#">Bur</a> • <a href="#">Nel</a>
• <a href="#">University of Southern Switzerland</a>	• <a href="#">Tici</a>
• <a href="#">University of Zürich</a>	• <a href="#">Uni</a>
University Hospitals	Technology Transfer Offices
• <a href="#">University Hospital Basel</a>	• <a href="#">WT</a>

### Technology Transfer Offices

- [Bureau transfère Neuchâtel](#)
- [ETH transfer](#)
- [Innovationszen](#)
- [ITZ \(Innovation\)](#)
- [Others \(Contact\)](#)
- [pact](#)
- [Polygon](#)
- [SRI-EPFL](#)
- [Technologietra Fachhochschule](#)
- [Technologietra Technik, Windis](#)
- [Technology Transfer](#)
- [TechnologyTra](#)
- [Ticinotransfer](#)

### swiTT/list - Technology Opportunities from Swiss academic research institutes

swiTT is continually updating its new technologies from universities and other institutes of higher education. The technologies presented can form the basis of new product development in co-operation with business partners. A brief technical description and contact information is provided for each invention and technology.

If you want to be informed on new technologies of a certain field or with certain keywords, you may subscribe to our [Technology Alert](#).

Search for technologies that are interesting for you in swiTT's data base:

Keyword(s):

Institution:

TTO:

- Categories:
- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Advanced Materials                   | <input checked="" type="checkbox"/> Biotechnology & Pharmaceuticals         |
| <input checked="" type="checkbox"/> Chemical Processes & Compounds       | <input checked="" type="checkbox"/> Diagnostics                             |
| <input checked="" type="checkbox"/> Electrical & Electronics Engineering | <input checked="" type="checkbox"/> Information & Communications Technology |
| <input checked="" type="checkbox"/> Mechanical Engineering & Aerospace   | <input checked="" type="checkbox"/> Medical Devices                         |
| <input checked="" type="checkbox"/> Micro- & Nanotechnology              | <input checked="" type="checkbox"/> Sensors & Analytics                     |

Sorting by: [Title](#) | [TTO/Institution](#)

Ecole Polytechnique Fédérale de Lausanne, Switzerland (EPFL)



Academic research ↔ Economy & industry

« win - win »



TT : we work for our future ... and we count on you !

