Ecole Polytechnique Fédérale de Lausanne (EPFL)

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)

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

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

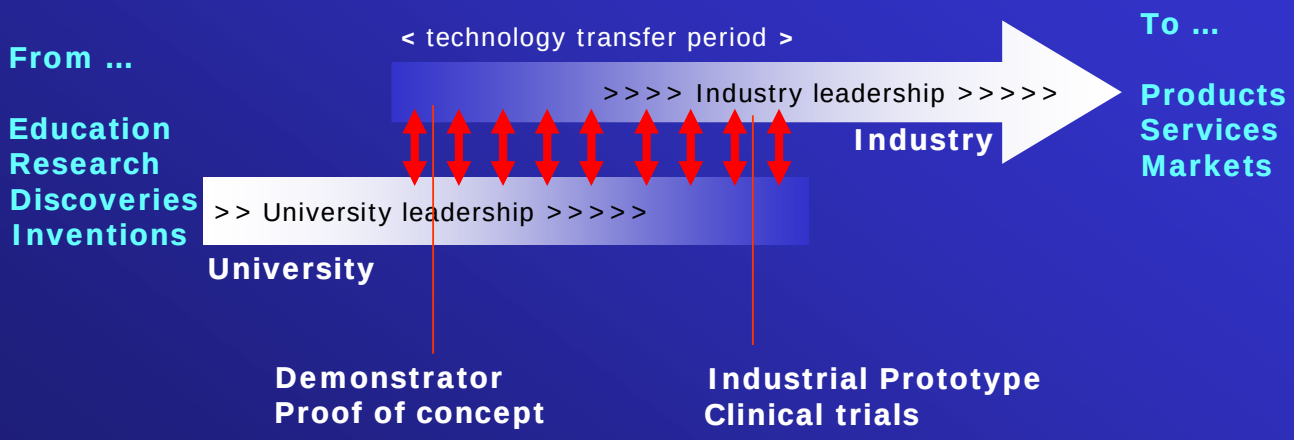
What is TT ?

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

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

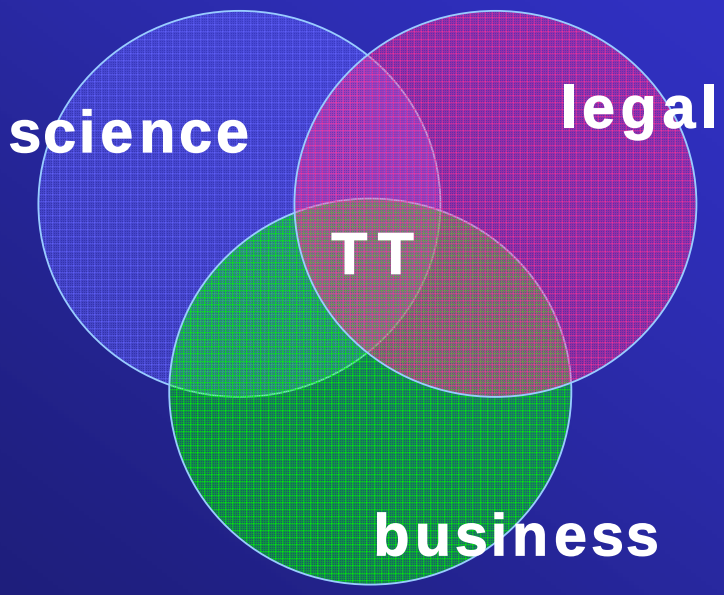


The industrial partner shall have the leadership for the development as soon as possible !

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

Technology Transfer & negotiation of research agreements

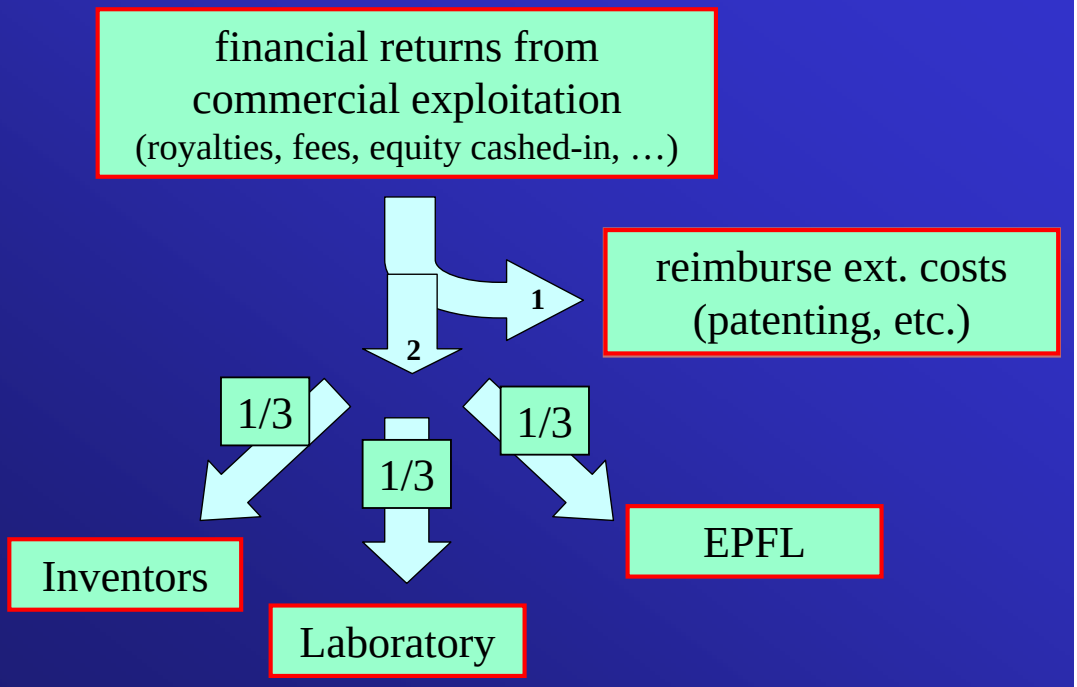
... always

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

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

Financial incentive for inventors, software authors and labs

example of distribution of income from licensing / TT



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, ...

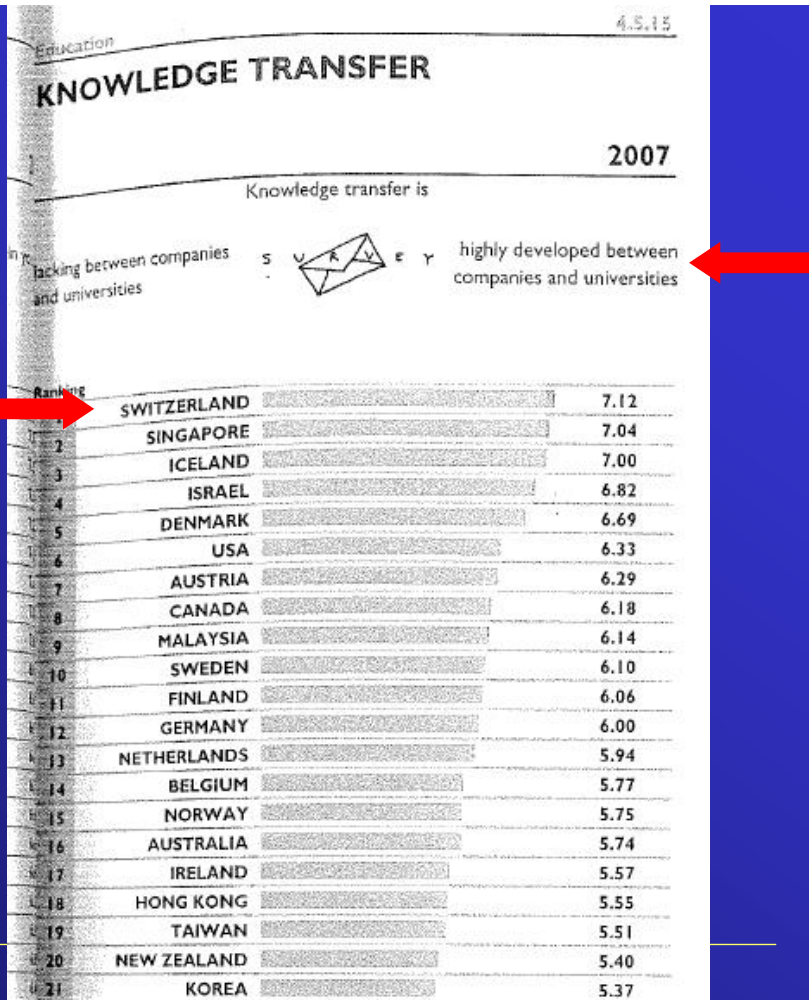
Main Swiss TT offices

Uni-Zürich & hosp. 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

KNOWLEDGE TRANSFER

2007

Knowledge transfer is

lacking between companies and universities ... highly developed between companies and universities

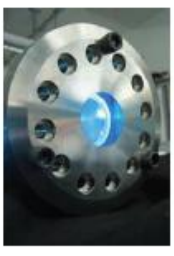
Ranking		
1	SWITZERLAND	7.12
2	SINGAPORE	7.04
3	ICELAND	7.00
4	ISRAEL	6.82
5	DENMARK	6.69
6	USA	6.33
7	AUSTRIA	6.29
8	CANADA	6.18
9	MALAYSIA	6.14
10	SWEDEN	6.10
11	FINLAND	6.06
12	GERMANY	6.00
13	NETHERLANDS	5.94
14	BELGIUM	5.77
15	NORWAY	5.75
16	AUSTRALIA	5.74
17	IRELAND	5.57
18	HONG KONG	5.55
19	TAIWAN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

Switt 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

A recent example of a start-up in PP

www.arktis-detectors.com



arktis
RADIATION DETECTORS

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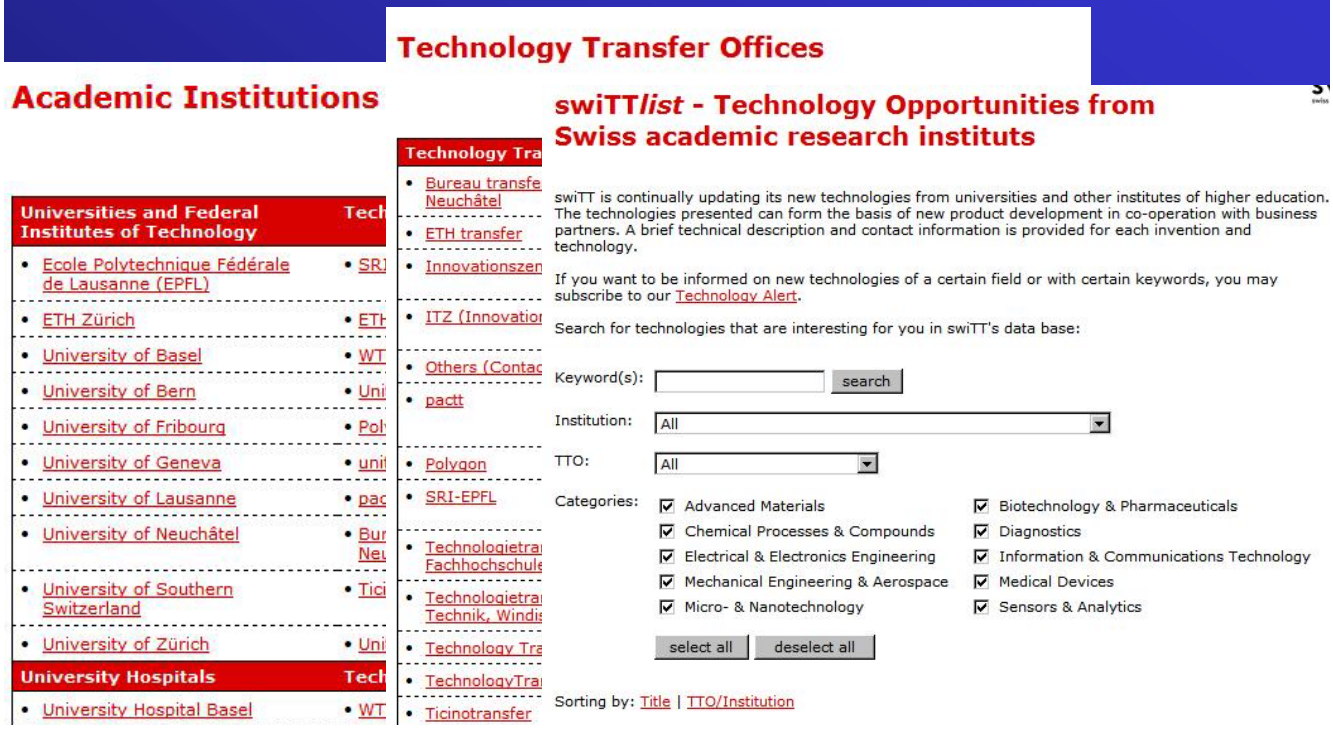
More information and links

swiTT swiss technology transfer association

www.switt.ch



Ecole Polytechnique Fédérale de Lausanne, Switzerland (EPFL)

ÉCOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE

Academic research ⟺ Economy & industry

« win - win »

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