



IMPRESSUM

Editor

swiTT – Swiss Technology Transfer Association
3000 Bern
switt@switt.ch
www.switt.ch

swiTTreport Committee

Herbert Reutimann, Unitectra, Universities of Basel, Bern and Zurich
Robert Rudolph, Paul Scherrer Institut (PSI), Villigen
Domenico Alexakis, swiTT Office

CONTENTS

IMPRESSUM	2
CONTENTS	3
SWITT	4
SWITT MISSION	4
SUMMARY	5
RÉSUMÉ	6
ZUSAMMENFASSUNG	7
1. INSTITUTIONS PARTICIPATING AND DATA COLLECTION	8
2. INSTITUTIONAL RESOURCES FOR TECHNOLOGY TRANSFER	10
2.1 Services Provided	10
2.2 Staffing	11
3. RESEARCH COLLABORATIONS WITH PARTNERS FROM THE ECONOMY	11
3.1 Research Agreements Handled by the TTO's	11
3.2 Type of Collaboration Partners	13
4. COMMERCIALIZATION ACTIVITIES	14
4.1 Invention Disclosures	15
4.2 Patenting Activities	15
4.2.1 Priority Patent Applications	15
4.2.2 Patent Portfolio - Active Patent Cases End of 2010	16
4.3 Licensing	17
4.3.1 Licenses and Sales of Intellectual Property (IP)	17
4.3.2 Type of Licensing Partners	18
4.3.3 License Portfolio and License Income	18
4.4 Start-up Companies	19
5. GLOSSARY	21
APPENDIX 1 – DETAILS DATA 2007 - 2010	22
APPENDIX 2 – KEY PARAMETERS FOR INDIVIDUAL INSTITUTIONS	23
APPENDIX 3 – QUESTIONNAIRE	23

Supported by



SCHWEIZERISCHER NATIONALFONDS
ZUR FÖRDERUNG DER WISSENSCHAFTLICHEN FORSCHUNG



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra
Swiss Confederation



Federal Department of Economic Affairs, IDEA
Federal Office for Professional Education and Technology OPET
Innovation Promotion Agency CTI

SWITT

swiTT, the Swiss Technology Transfer Association, is the association of the professionals in Switzerland dealing with the interaction between public research and industry. swiTT currently has more than 100 members from all parts of Switzerland. Most of them work in technology transfer at public research institutions, others are employed in the private sector. For further information about swiTT, please refer to www.swiTT.ch.

Among other services, swiTT operates swiTTlist, a unique portal with current technology opportunities from Swiss public research institutions available for licensing and development by industry. For further information please refer to www.swiTTlist.ch.

SWITT MISSION

COOPERATION – DEVELOPMENT – SERVICES - DIALOGUE

- ▶ Facilitates and strengthens cooperation and technology transfer between Swiss public research institutions and the private sector; (COOPERATION)
- ▶ Offers professional development to its members and other practitioners involved in technology transfer within public institutions and the private sector; (DEVELOPMENT)
- ▶ Provides services of common interest to its members, their institutions and other stakeholders involved. (SERVICES)
- ▶ Maintains an active dialogue with research institutions, the private sector and the authorities to foster optimal processes and regulatory framework / regulations. (DIALOGUE)

SUMMARY

The annual survey „swiTTreport“ is the most comprehensive analysis of the technology transfer activities of Swiss public research institutions. The report covers two main areas, a) research collaborations of the participating institutions with private or public partners, and b) the activities for the economic exploitation of research results from these institutions. The Swiss public research institutions interact very actively with partners in the economy. These activities are collectively designated in the report as “technology transfer” (TT) activities. With regard to scientific disciplines, the report mainly focuses on the areas of life sciences, natural sciences and engineering sciences.

Data on technology transfer activities from six cantonal universities and the two Federal institutes of technology (collectively Universities), from five universities of applied sciences (UAS), and three research institutions in the ETH domain (RI) were available for this years' report. However, some of the data were incomplete or fragmentary, and the figures presented in this report clearly underestimate the real situation. Data from several institutions were not available or were too fragmentary to be included in the report. In most figures, the data for 2010 are compared with the data from previous years although the institutional basis is not always the same.

The respondents reported their results to swiTT voluntarily, and the data presented in the report are on an “as-reported” basis. For reasons of confidentiality, the report mainly contains aggregated numbers. However, some of the key parameters are presented on an individual basis but only for those institutions that agreed to do so. On account of the difference in mission, organization and objectives of the three types of institution (Universities, UAS, RI), their data are reported separately.

Overall, the respondents reported the following key figures on technology transfer activities in 2010:

3035 new research projects with economic partners were initiated

470 invention disclosures were registered

224 priority patent applications were filed

196 license and option agreements were executed

63 start-up companies were created, of which 44 were based on a license or transfer of IP and 19 on know-how from the institutions

A conservative extrapolation of the partial data received shows that the institutions covered in this report overall started more than 4'000 new research projects with external business partners last year. Larger companies (>250 employees) are the most common cooperation partners of the Universities whereas the UAS most often cooperate with either public institutions or with small and medium-sized enterprises (SME). At the RI the majority of partners are public institutions.

Universities account for most of the commercialization activities reported, i.e. about 83% of all cases. Commercialization occurs most frequently with SME, including start-ups (59%). In about 24% of the cases the partner was a large company, in 17% it was another public institution.

Numerous international studies confirm the collaborative culture between academia and industry in Switzerland and the excellent technology transfer performance of Swiss universities and other public research institutions. Easy access to academic researchers and well defined technology transfer processes are important criteria for companies to relocate their business to Switzerland. Maintaining a system which is based on fair partnership between academia and industry together with the continuous optimization of processes will be important aspects to further strengthen Switzerland's leading position in the international context.

RÉSUMÉ

L'enquête annuelle «swiTTreport» est l'analyse la plus complète des activités de transfert de technologies réalisées par les institutions de recherche publiques suisses. Le rapport couvre deux domaines majeurs: a) la collaboration en matière de recherche des institutions participantes avec des partenaires privés ou publics et b) les activités liées à la commercialisation des résultats de recherche obtenus par ces institutions. Les institutions de recherche publiques suisses coopèrent très activement avec des partenaires économiques dans ce que le rapport désigne collectivement sous le terme d'activités de «transfert de technologies» (TT). S'agissant des disciplines scientifiques, l'accent est mis principalement sur les sciences de la vie, les sciences naturelles et l'ingénierie.

Le rapport de cette année s'est appuyé sur les données relatives aux activités de transfert de technologies de six universités cantonales et deux écoles polytechniques fédérales (ci-après collectivement les «universités»), de cinq universités de sciences appliquées («UAS») et de deux institutions de recherche dans le domaine EPF («RI»). Certaines données étaient toutefois incomplètes ou fragmentaires si bien que les chiffres présentés dans ce rapport sous-estiment clairement la situation réelle. Par ailleurs, les données de plusieurs institutions n'étaient pas disponibles ou étaient trop fragmentaires pour être incluses dans le rapport. Dans la plupart des cas, les chiffres de 2010 sont comparés avec les données des années précédentes, bien que la base institutionnelle ne soit pas toujours la même.

Les personnes interrogées ont communiqué volontairement à swiTT leurs résultats qui sont présentés dans ce rapport tels que rapportés. Pour des raisons de confidentialité, le rapport contient principalement des chiffres agrégés. Certains des paramètres clés sont toutefois présentés individuellement si les institutions ont donné leur accord. Compte tenu des différences de mission, d'organisation et d'objectifs des trois types d'institutions (universités, UAS, RI), leurs données sont présentées séparément.

Dans l'ensemble, les personnes interrogées ont communiqué les chiffres clés suivants sur les activités de transfert de technologies en 2010:

- 3035 nouveaux projets de recherche ont été lancés avec des partenaires économiques
- 470 annonces d'inventions ont été enregistrées
- 224 demandes de brevet prioritaires ont été déposées
- 196 contrats de licence et d'option ont été exécutés
- 63 start-up ont été créées dont 45 étaient fondées sur une licence ou un transfert de PI et 21 sur le savoir-faire des institutions

D'après une extrapolation conservatrice des données partielles reçues, les institutions couvertes dans ce rapport ont dans l'ensemble démarré plus de 4000 nouveaux projets de recherche avec des partenaires d'affaires externes l'an dernier. Les sociétés de taille plus grande (>250 employés) sont les partenaires de coopération les plus communs des universités, tandis que les UAS coopèrent plus souvent avec des petites et moyennes entreprises (PME). Dans le cas des RI, la majorité des partenaires sont des institutions publiques.

Les universités sont responsables de la plupart des activités de commercialisation rapportées, à savoir environ 83%. Dans 59% des cas, leur partenaire était une PME ou une spin-off, dans environ 24% des cas, une grande société et dans 17% des cas, une autre institution publique.

D'innombrables études internationales confirment la culture de collaboration entre les milieux universitaires et économiques en Suisse et l'excellente performance des universités et autres institutions de recherche publiques suisses dans le domaine du transfert de technologies. La facilité d'accès aux chercheurs universitaires et l'existence de processus clairement définis en matière de transfert de technologies constituent des critères importants pour les entreprises envisageant de déménager leurs activités en Suisse. A cet égard, le maintien d'un système fondé sur un partenariat équitable entre les milieux universitaires et économiques, ainsi que l'optimisation continue des processus seront des aspects essentiels pour renforcer davantage la position de leader de la Suisse à l'échelle internationale.

ZUSAMMENFASSUNG

Der jährlich publizierte "swiTTreport" ist die umfassendste Analyse der Aktivitäten der öffentlichen Forschungsinstitutionen (PRO) in der Schweiz in den Bereichen Zusammenarbeit mit der Wirtschaft und wirtschaftliche Umsetzung von Forschungsergebnissen. Diese Aktivitäten werden häufig auch unter dem Begriff „Technologietransfer“ zusammengefasst. Der Bericht zeigt, dass die schweizerischen PRO sehr aktiv und erfolgreich mit der Wirtschaft interagieren. Die in der Analyse erhobenen Daten beziehen sich vorwiegend auf die Fachbereiche Life Sciences, Naturwissenschaften und Ingenieurwissenschaften.

Der Bericht umfasst die Aktivitäten von sechs kantonalen Universitäten und der beiden ETH's (zusammengefasst unter "Universitäten"), von fünf Fachhochschulen („UAS“) und von zwei Forschungsinstitutionen des ETH-Bereichs („RI“). Allerdings waren von einigen Institutionen nur Teildaten aus einzelnen Bereichen bzw. generell sehr fragmentarische Angaben verfügbar, so dass die effektiven Aktivitäten substanziell höher sind, als in diesem Bericht zusammengefasst. Daten einiger Institutionen waren so unvollständig, dass sie gar nicht berücksichtigt werden konnten. Dies führt dazu, dass die Daten mit jenen von früheren Jahren teilweise nur beschränkt vergleichbar sind.

Die teilnehmenden Institutionen rapportierten die Resultate an swiTT auf freiwilliger Basis und die Daten wurden wie berichtet verwendet. Aus Vertraulichkeitsgründen enthält der Bericht vorwiegend aggregierte Zahlen. Einige Kennzahlen werden jedoch zum ersten Mal auf individueller Basis publiziert, allerdings nur für jene Institutionen, die einer solchen Publikation zugestimmt haben. Die Daten der unterschiedlichen Arten von Institutionen (Universitäten, UAS, RI) werden im Bericht separat zusammengefasst.

Insgesamt rapportierten die teilnehmenden Institutionen die folgenden Kennzahlen über ihre Technologietransferaktivitäten im Jahr 2010:

- 3035 neue Forschungsprojekte mit Wirtschaftspartnern gestartet
- 470 Erfindungsmeldungen registriert
- 224 Prioritäts-Patentanmeldungen eingereicht
- 196 Lizenz- und Optionsverträge bzw. IP-Verkäufe abgeschlossen
- 63 Start-up Firmen wurden gegründet, 45 davon auf Basis einer Nutzungsvereinbarung für geistiges Eigentum mit der entsprechenden Institution und 21 basierend auf Know-how

Da die Daten verschiedener Institutionen unvollständig sind, kann bei einer konservativen Extrapolation davon ausgegangen werden, dass an den teilnehmenden Institutionen 2010 über 4000 neue Projekte mit Wirtschaftspartnern gestartet wurden. Grosse Firmen (>250 Mitarbeiter) sind die häufigsten Kooperationspartner der Universitäten. Die UAS arbeiten am häufigsten mit KMU zusammen und die RI mit anderen öffentlichen Institutionen.

Die Universitäten sind für meisten Aktivitäten im Bereich der wirtschaftlichen Umsetzung von Forschungsergebnissen verantwortlich (83%). Bei den Partnern in diesem Bereich handelt es sich mehrheitlich um KMU, inkl. Start-ups (59%). In 24% der Fälle waren es grössere Firmen und in 17% Institutionen aus dem öffentlichen Bereich.

Diverse internationale Untersuchungen bestätigen die kooperative Kultur zwischen Industrie und Hochschulen in der Schweiz und die ausgezeichneten Transferleistungen der öffentlichen Forschungsinstitutionen. Der einfache Zugang zu akademischer Forschung und gut etablierte Transferprozesse sind auch ein wichtiges Kriterium für den Standortentscheid von Firmen. Die weitere Stärkung des partnerschaftlichen Verhältnisses zwischen Hochschulen und Industrie und der entsprechenden Prozesse sind wichtig, um die führende Rolle der Schweiz in diesem Bereich auch künftig beibehalten zu können.

1. INSTITUTIONS PARTICIPATING AND DATA COLLECTION

Eleven universities and the two Swiss Federal Institutes of Technology (collectively 'Universities'), seven Universities of Applied Sciences (UAS), and three research institutes (RI) in the ETH domain were contacted in spring of 2011 and asked to provide data on their technology transfer (TT) activities for the year 2010. The expression "technology transfer" used in this report covers the activities of these institutions with regard to research collaborations with partners from the economy and the commercialization of research results for the benefit of the economy and society overall.

The questionnaire was returned by eight Universities, individual departments of five UAS, and by two RI. However, the handling of research collaborations with economic partners and other technology transfer activities varies a lot among different institutions, and not all of them were able to provide comprehensive data in this field. **Thus, the data provided in this report are not complete and only summarize the figures reported, while the actual activities at the interface of academia and economy are considerably higher.** Table 1 on the next page shows the institutions that participated in the survey and comments on the comprehensiveness of the data provided.

Comments on data received by the different types of institutions:

Universities: At several Universities, contracts for collaborative research projects with economic partners need only to be signed by university management above a certain amount. Therefore, not all small projects were reported by such institutions. At some Universities, technology transfer offices (TTO) only handle a small part of the collaborative research projects with economic partners; and at some Universities, centralized TTO were created only recently. Activities in research and technology transfer at university hospitals are usually closely linked to the respective University, hence the services of these transfer offices are also available to researchers at the hospitals. Data from the hospitals are included in the report, but not all are complete. With several hospitals, especially clinical research activities are not included.

DUKTA – MOVING SOLUTIONS IN WOOD

• • • • Berner Fachhochschule
Departement Wirtschaft und Verwaltung,
Gesundheit, Soziale Arbeit

Z

hdk

Zürcher Hochschule der Künste

dukta



Challenge

The innovative process for cutting and perforating wood, known as dukta (www.dukta.com), allows stiff wood panels to become flexible using a simple production process. The material can be formed into two-dimensional or three-dimensional shapes. As a result of the perforations on the surface, the shaped material has excellent acoustic properties. This allows for new approaches to designing more effective ceilings and wall coverings.

dukta was developed by two designers from Zurich: Serge Lunin and Christian Kuhn. As part of a project for the Swiss Commission for Technology and Innovation (CTI), the material is further developed at the Zurich University of the Arts and the Bern University of Applied Sciences. Prototypes of marketable products are being produced in cooperation with the industrial partner, Schreinerei Schneider.

Solution

The project members have examined and tested the production process in the laboratory using CNC technology, and adjusted it for industrial production. They have developed appropriate substructures and assembly techniques, as well as tried out various ways of coating the wood material before and after processing it. The team has also investigated the material's behaviour with regard to emissions, and established suitable materials with low levels of volatile substances. Working together with architects and specialists in acoustics, they have developed various ceiling systems using functioning prototypes. Furthermore, they have built a partition wall system based on solid wood and developed prototypes for use in the area of furniture.



UAS: The management of technology transfer activities at the UAS varies widely. Some departments or schools have professionals working in centralized TTO (e.g. BFH and ZHAW) and are able to provide comprehensive data. At other departments or schools, no centralized support functions exist and data are fragmentary or are completely lacking.

RI: The research institutions that participated in the survey have centralized support functions providing technology transfer services for the researchers although the scope of services provided differ.

swiTReport represents the most comprehensive study in Switzerland on technology transfer activities of academic and other public research institutions. The report mostly provides aggregate data for the three types of institutions covered in this survey. For those institutions that agreed to disclose individual data some key figures are listed on page 23.

Table 1: Institutions contacted for the survey and comments on their data provided.

Institution	Technology Transfer Office (TTO)	Comments on data provided
Universities	(Total 11)	
ETH Zürich	ETH transfer	Complete data, research agreements <50kCHF only partly
EPF Lausanne	TTO	Complete data, research agreements <50kCHF only partly
Universität Basel / Universitätsspital Basel	TTO	Complete data for university, incomplete data for hospital
Universität Bern / Inselspital und Universität Zürich/USZ	Unitectra	Complete data only for the Medical, Vetsuisse and Nat.Science Faculties, no data for research agreements of other faculties
University of Fribourg	TTO	No data available
Université de Genève / Hôpitaux Universitaires de Genève	Unitec	Complete data for commercialization activities, research contracts only partly handled by TTO
Université de Lausanne / Centre Hospitalier Universitaire Vaudois Lausanne	PACTT	Complete data for commercialization activities, research contracts only partly handled by TTO
Université de Neuchâtel	TTO	Fragmentary data, research contracts only partly handled by TTO
University of St. Gallen	TTO	No data available
Università della Svizzera italiana	TicinoTransfer	No data available
Universität Zürich / Universitätsspital	Unitectra	Complete data only for the Medical, Vetsuisse and Nat.Sciences Faculties, no data for research agreements of other faculties
Universities of Applied Sciences	(Total 7)	
Berner Fachhochschule	TTO	Data only cover the departments 'Technik und Informatik' and 'Architektur, Holz und Bau'
Fachhochschule Nordwestschweiz (FHNW)	TTO	Data available from the department 'Life Sciences', no data available for the department 'Technik'
Fachhochschule Ostschweiz	TTO	No data available
Zürcher Fachhochschule	ZHAW TTO	Data only available from 'Zürcher Hochschule für Angewandte Wissenschaften' (ZHAW)
Hochschule Luzern	ITZ - Innovations Transfer Zentralschweiz	Data only available from the department 'Technik und Architektur'
Haute Ecole Spécialisée de Suisse occidentale (HES-SO)	TTO	Data only available from HES-SO Valais
Scuola Universitaria Professionale della Svizzera Italiana (SUPSI)	Ticino Transfer	No data available
Research Institutes	(Total 3)	
Paul Scherrer Institut	PSI TT - Office	Complete data on research projects, partial data on IP
Empa TT-Office	Empa Materials Science and Research	Complete data
Eidgenössische Anstalt für Wasserversorgung, Abwasserreinigung und Gewässerschutz, Eawag	Eawag, Wissenstransfer	No data available

2. INSTITUTIONAL RESOURCES FOR TECHNOLOGY TRANSFER

2.1 Services Provided

All TTO at the Universities are handling contracts for research collaborations. However, at several Universities, the finalization of research agreements by the central office is only voluntary. All TTO deal with the management and commercialization of intellectual property (IP), which includes the evaluation of the economic value of research results, the protection and management of IP, and the licensing or sale of IP to industrial partners. Six of eight TTO at Universities also provided support for the coaching of start-up projects and at two Universities such support is available through an incubator associated with the institution. At a few Universities TT programs still are very small and focus on few services.

The participating UAS and RI all offer support in research collaborations. Five UAS are dealing with IP management and commercialization. However, this does not apply to all individual departments or schools of the UAS. Two RI support the management and commercialization of IP. Coaching of start-up projects is offered by four UAS and one RI.

REMOVAL OF PESTICIDE WASTES ON FARMS VERTICAL GREEN BIOBED – CASE STUDY



Problem – Challenge

More and more farmers, wine producers, greenhouse users and golf course owners are facing environmental requirements to treat pesticides effluents (generated by the preparation of phytosanitary treatments and the washing of soil pulverizers), and avoid their release in natural and environmentally sensitive surface water.

It is often not possible or practical to rinse the spraying tank in the field in a complete way. Thus, pesticide remainings in the tank end up washed out in the courtyard, then flow in drainage systems and pollute natural water streams.

Different systems exist to treat those effluents, but either they involve more chemicals (flocculation) or need considerable maintenance (horizontal biobeds). Current biobeds are gaining popularity, but show significant weaknesses: they get easily waterlogged and require large surfaces.

Solution

The Soil and substrate Laboratory of Hepia, an academic institution part of HES-SO in Geneva found a solution to the common weaknesses of biobeds, by developing the vertical green biobed or "VG Biobed™". The VG Biobed™ looks like a regular wall covered entirely by plants and as such is able to degrade larger quantities of effluents than horizontal biobeds. They can typically degrade 6m³/m²/year compared to 0.6m³/m²/year for classical biobeds. VG Biobeds don't get waterlogged, they need little maintenance and bring an aesthetic touch to the landscape, which makes them particularly appropriate for public parks and golf courses.

A Swiss and a European patent were filed, protecting the intrinsic advantages of the technology. A spin-off from Hepia, EcaVert, was launched which is commercializing the technology in Switzerland under license: www.ecavert.ch.



2.2 Staffing

Staffing refers to the number of full-time equivalents (FTE) employed for TT activities at an institution. These are people such as Licensing Officers, Intellectual Property Managers, Technology Managers or Research Contract Officers, whose main occupation is in the area of technology transfer. Their activities cover the drafting and negotiating of research and cooperation agreements, intellectual property management, licensing and other commercialization activities, and the coaching of start-up projects. TT activities must account for at least 20% in this person's job description.

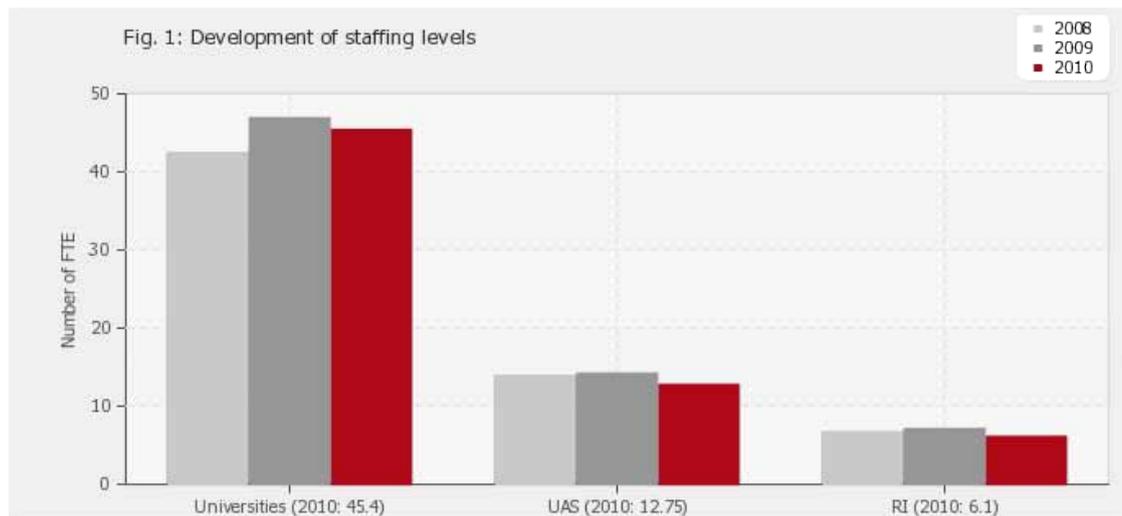


Fig. 1: Development of staffing levels.

The total number of FTE in technology transfer at the participating institutions was 64.25 compared to 68.2 in the previous year. The largest TTO had 12 FTE. The average size of the offices that responded is 4.3 FTE. Swiss TTO thus remain small in comparison to TTO in other countries if the size is normalized to the number of researchers. On the other hand, the Swiss TT professionals are on average better educated and possess more working experience in industry.

TTO usually collaborate with external patent attorneys in the drafting and filing of patent applications. Several TTO also outsource legal issues to external attorneys. At some institutions, start-up projects are handled by dedicated organizations such as a business incubator. Thus, the actual number of people supporting the transfer activities is larger than the number of FTE reported for the TTO.

3. RESEARCH COLLABORATIONS WITH PARTNERS FROM THE ECONOMY

3.1 Research Agreements Handled by the TTO

In 2010, the TTO handled contracts for a total number of 3035 research projects with economic partners. This number is higher than the number reported for the previous year (+6.3%). However, in view of the incomplete data provided by the institutions the comparison of such figures remains difficult.

For the Universities the number of new co-operative research projects increased to 2285 (+7.7%). The trend for more projects observed in previous years thus continued. This is true for all institutions that reported data for 2009 and 2010. The RI reported 416 (+5%) projects the participating UAS 319. A high percentage of UAS institutions have no central data available about their TT activities or at least are not willing to share the data. Therefore, the figure cannot be compared with previous years. The lack of data results in a significant underestimation of the real situation. The true number of collaborative research projects is a lot higher than reported here.

Research collaborations between academia and industry are a key aspect of TT, offering a multitude of potential benefits to both parties. They not only allow industry to access the know-how and infrastructure of academia, companies also gain access to young academic talents through such collaborations. At the same time, the academic partner can often take advantage of the know-how of the industrial partners. In addition, the funding of joint projects by industry and partners from the economy accounts for a significant part of the research budgets of public research institutions. In that perspective, research collaborations are the dominant and most attractive method of TT.

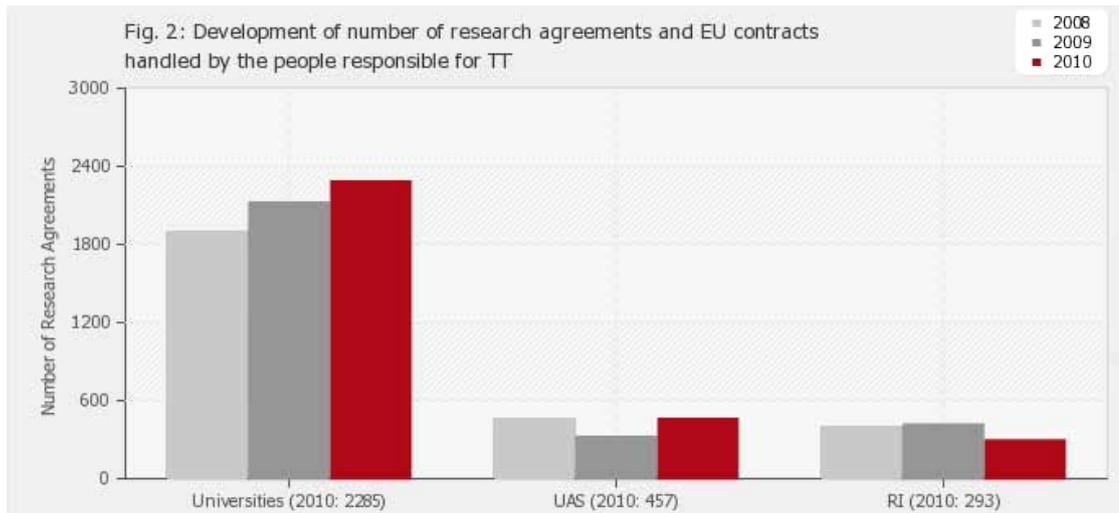


Fig. 2: Development of number of research agreements and EU contracts handled by the people responsible for TT.

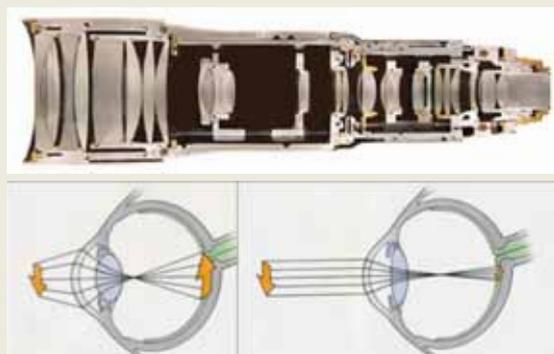
For the collaborative research projects handled by the TTO, survey respondents reported total cash contributions from collaboration partners in 2010 of 364 mio CHF. The average cash payment per project is 120,000 CHF. The contribution per project at Universities was about twice as high as for the projects at the UAS or the RI.

In addition to research collaborations, TTO handle other types of agreements which foster the cooperation between academia and economic partners, such as consulting agreements, material transfer agreements (MTA), and non-disclosure agreements (NDA). In 2010, the institutions reported altogether 1565 such other types of TT agreements.

OPTOTUNE FOCUS TUNABLE LENSES

Most of today's optical systems are still based on similar materials as used hundreds of years ago. For instance, zoom and autofocus objectives for cameras and microscopes consist of hard glass or plastic lenses, which need to be mechanically translated against each other. Comparing traditional man-made products with the optical system in the human eye it becomes apparent that the biological, deformable lens is superior to the artificial solution with respect to size, complexity and efficiency.

Instead of moving lenses back and forth, the human eye focuses by reshaping its lens



Electrically and manually focus tunable lenses of Optotune



Optotune booth at Laser World of Photonics



About Optotune: Optotune®, Inc, develops and manufactures adaptive optical components based on elastic polymers. Optotune's focus-tunable lenses and laser speckle reducers offer new solutions for several industries including mobile phone cameras, machine vision, laser processing, professional lighting and laser projection. www.optotune.com

3.2 Type of Collaboration Partners

With regard to the type of collaboration partner, the small- and medium-sized enterprises (SME), i.e. companies with fewer than 250 employees, account for 19% of total projects reported. A higher number (34%) of projects were performed with large companies, and 38% with public institutions. If one considers only collaborative projects with the private sector SME account for more than one third of all projects (36%).

These ratios vary considerably among the different type of institutions surveyed as shown by Fig.3. At UAS the most important collaboration partner are public institutions (48%) and SME (31%). At the Universities large companies are the most frequent partner (40%) and the RI most frequently collaborate with other public institutions (40%)

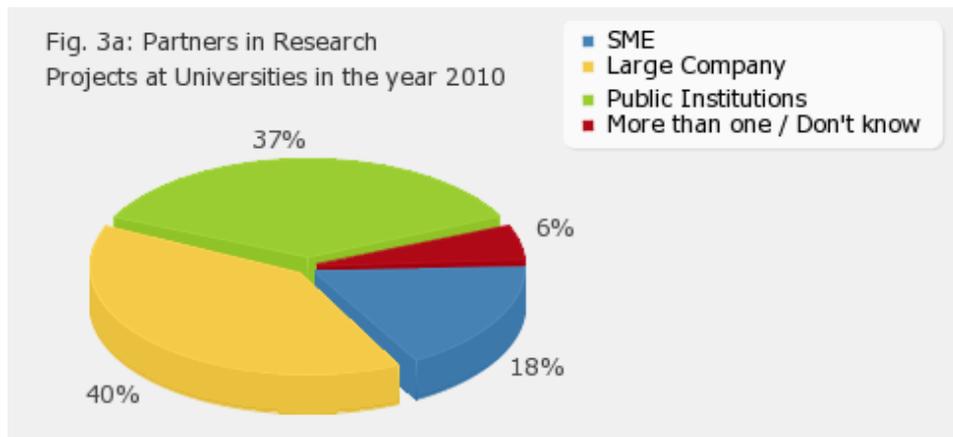


Fig. 3a: Partners in Research Projects at Universities

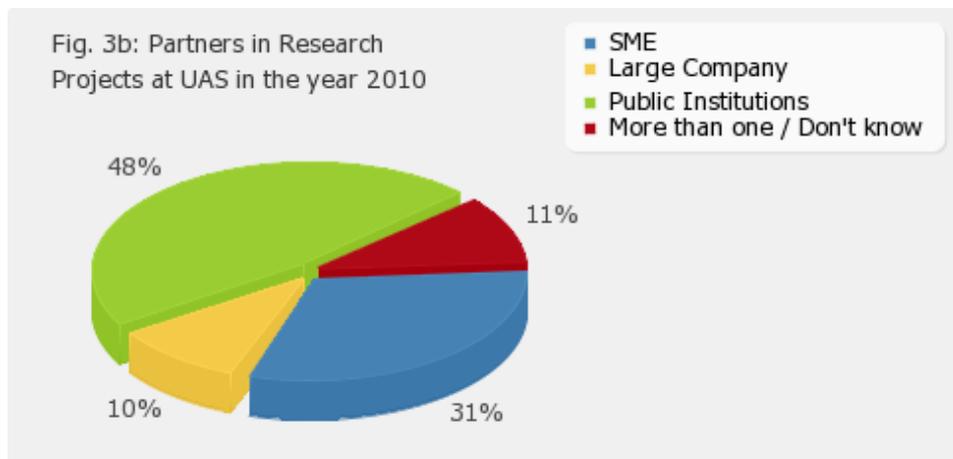


Fig. 3b: Partners in Research Projects at UAS

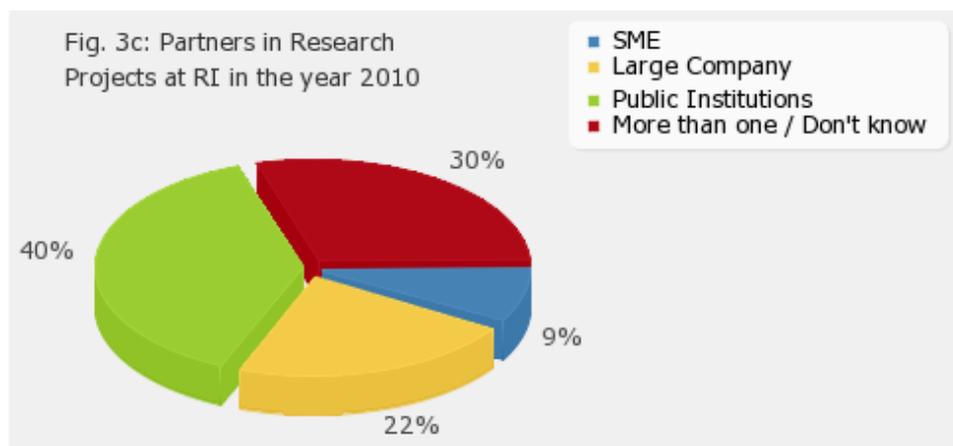


Fig. 3c: Partners in Research Projects at RI

4. COMMERCIALIZATION ACTIVITIES

Research results of Universities, UAS and RI often form the basis for innovative products which are developed and later commercialised by companies based on the work performed at public research institutions. The public institutions strive to make available research results with an economic potential to the private sector. Most frequently this is done through licensing of technologies to companies. Relevant research results need to be identified, screened and where applicable protected by patents or other suitable measures. Without a good protection of the intellectual property industrial or financial investors in many industrial sectors will not consider investing.

This whole process involves the following main steps: identification and evaluation of research results through invention disclosures, filing of patent applications, negotiating license agreements with existing companies or newly created start-up companies. At many institutions, the creation of such start-up companies is supported by various additional services. In Sections 4.1 - 4.4., the main activities of the institutions participating in this report are described.

NEW PRODUCT – CASE STUDY



CASE

Problem – Challenge

Many professionals lack frequent site surveys in various domains such as land management, forestry, agriculture, construction and mining. Standard aerial and satellite imagery is expensive, takes time to be realised and suffer from cloud coverage.

Established at the end of 2009, SENSEFLY LLC is a Swiss company with its main focus on design, development and commercialisation of small autonomous unmanned aircraft for remote sensing, field surveying and mapping. SENSEFLY is a spinoff from the Ecole Polytechnique Fédérale de Lausanne (EPFL).

Solution

SENSEFLY's first product is an award-winning "miniature flying camera" weighing only half a kilogram that fits in a practical suitcase. This system empowers professionals on the field to create 2D and 3D maps within minutes when and where they need it. The all-included solution provided by SENSEFLY includes all necessary hardware and software components to quickly plan and realise flights as well as process the recorded high-resolution images into geo-referenced maps that professionals can directly use to monitor, locate and size areas of interest for their daily tasks.

SENSEFLY provides easy-to-use, turnkey solutions to professionals looking for up-to-date geo-referenced data. At the core of these systems is an intelligent miniature autopilot that has been initially designed at the Laboratory of Intelligent Systems, headed by Prof. Floreano, which is widely recognised for its innovations in the field of miniature, bio-inspired and collective aerial robotics. The autopilot relies on patented control strategies allowing for smart obstacle avoidance and oblique image acquisition.



4.1 Invention Disclosures

A total number of 470 invention disclosures were reported for 2010 which is slightly more than in the previous year. The vast majority of invention disclosures were reported by Universities (90%). The three RI accounted for 6% of the invention disclosures, the UAS for 4%. Many UAS do not have a formal process for the protection of the research results. In addition, UAS often transfer the rights to research results created in the scope of collaborations to the industrial partner.

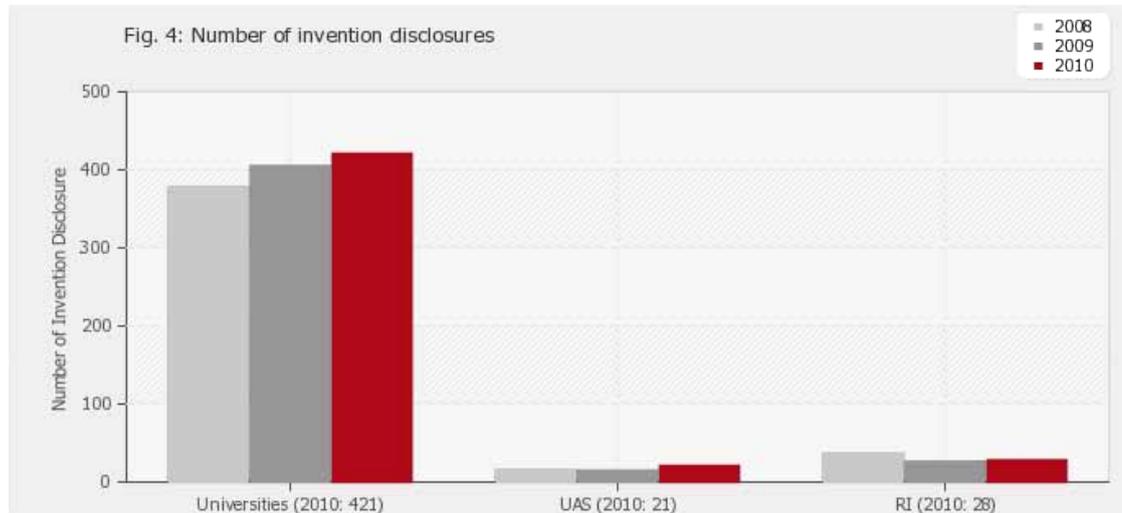


Fig. 4: Number of invention disclosures.

4.2 Patenting Activities

4.2.1 Priority Patent Applications

In 2010 the institutions reported 224 new priority patent applications. The majority of these applications were again filed by Universities (84%), followed by the RI (9%) and the UAS (7%). About two thirds of all patent applications were filed by the three TTO's; ETH Transfer, the TTO of EPFL and by Unitectra.

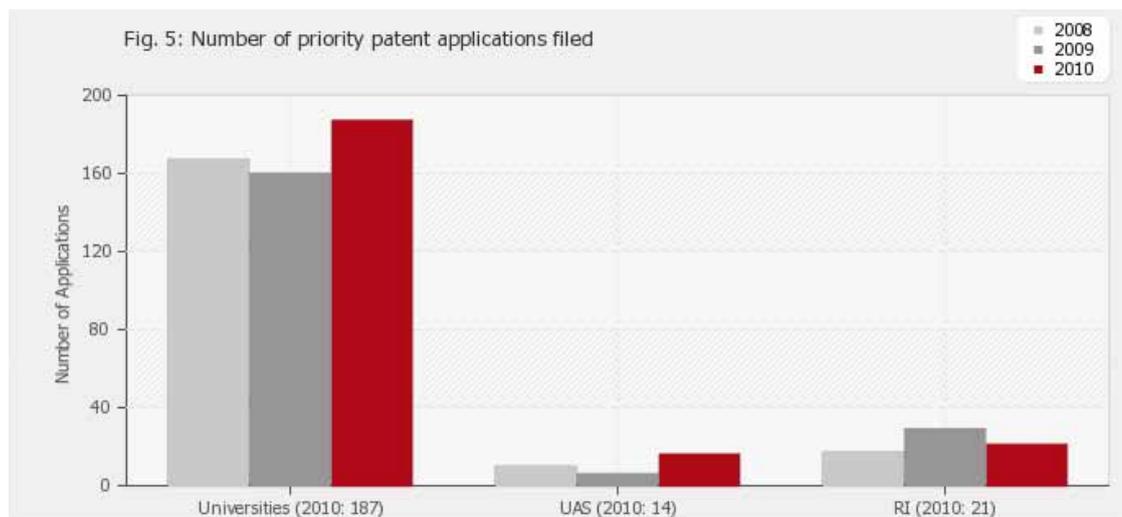


Fig. 5: Number of priority patent applications filed.

The protection of intellectual property in the form of patents is of great importance in many industrial sectors. This is particularly true for industries with high product development costs and long product life-cycles, e.g. biotech and pharma. The TTO at public research institutions must decide at an early stage about filing patent applications because patenting of an invention is no longer possible after the results have been published in scientific journals or through other channels.

Moreover, many companies will not consider evaluating a new technology if it is not protected by a patent. Thus, patenting activities of public research institutions can be a prerequisite for entering into a partnership with an industrial partner.

4.2.2 Patent Portfolio - Active Patent Cases End of 2010

At the end of 2010, the institutions participating in the survey reported more than 1573 active patent cases which were either licensed to a company or for which they were searching for a licensee. Marketing of such technology opportunities is done by the research institutions through various channels. The existing contacts of researchers are often used to approach companies. To support the research institutions in this promotion and to provide a quick and easy overview of current technology opportunities for industry, the association swiTT established the national portal swiTTlist (www.swittlist.ch). Through their TTO, the Swiss public research institutions list technologies on this portal which have an economic potential and which are available for licensing and development by industry. With the help of an automatic alert system, company representatives are informed immediately each time a new technology is available in their field of interest.

«NOISE-QUENCHING» LIGHTWEIGHT CURTAINS

Problem – Challenge

Noise is annoying. It interrupts communication, reduces productivity and tires people out – in extreme cases it can even make them ill. Sound absorbing surfaces are therefore needed in rooms where people work, talk to each other or are trying to relax.

However so called acoustically «hard» materials such as glass and concrete, which are commonly used in interior design, scarcely absorb sound at all. Heavy curtains made of material such as velvet are often used to absorb sound. On the other hand, lightweight and transparent curtains are acoustically almost useless.

At least they were until now.



Solution

Researchers at Empa, in cooperation with textile designer Annette Douglas and silk weavers Weisbrod-Zürcher AG, have developed in a project financed by the commission of Innovation and Technology (CTI) lightweight, translucent curtain materials, which are excellent at absorbing sound.

Researchers first developed a mathematical model to illustrate both the microscopic structure of the fabric as well as its macroscopic composition. On the basis of numerous acoustic measurements made on various samples, specifically woven by Weisbrod-Zürcher, they were able to gradually optimise the acoustic properties of the fabric. Annette Douglas then succeeded in translating the new findings into weaving techniques.

The readings that were achieved with the new curtains in the reverberation room are excellent. The weighted sound absorption coefficient is between 0.5 and 0.6, the new textiles «quench» five times more sound than conventional translucent curtains. The new curtains have just gone onto the market.



4.3 Licensing

4.3.1 Licenses and Sales of Intellectual Property (IP)

The number of reported IP agreements, usually licenses, was slightly higher than in the previous year. Overall 196 deals were reported, 81 % of them by Universities, 12 % by RI and 7 % by UAS. In a few cases the agreements involved a sale of the IP rather than a license.

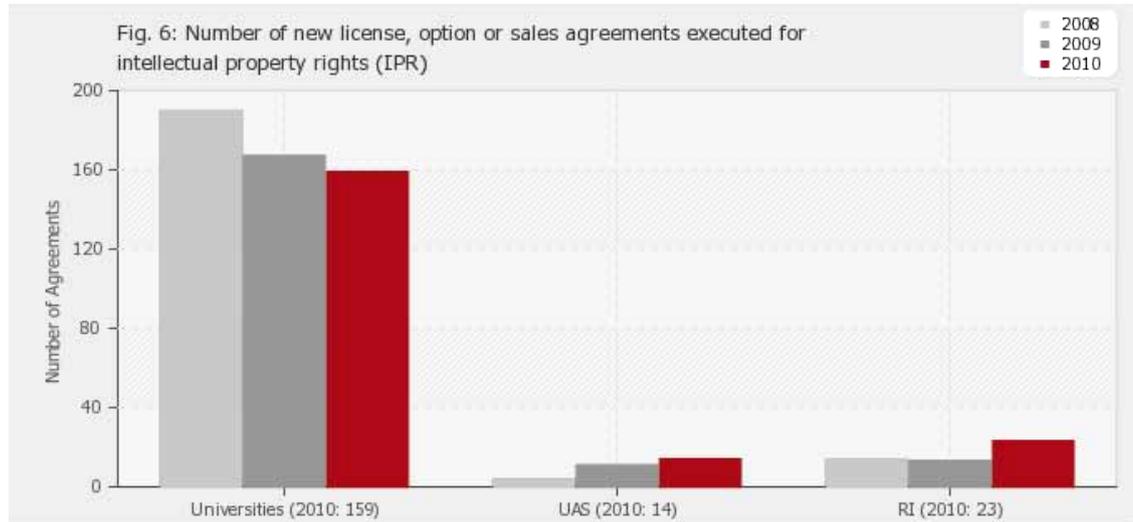


Fig. 6: Number of new license, option or sales agreements executed for intellectual property rights (IPR).

ARTIFICIAL TURF WITH UPSTANDING QUALITIES

Problem – Challenge

The first generation of artificial turf was manufactured using polyamide fibers with excellent recovery properties and which always stood upright. But it was exactly these resistant fibers which frequently led to grass burns and abrasions whenever someone took a tumble. That's why second-generation fibers consisted of polyethylene whose properties were much gentler on the skin. In practical use, however, these fibers exhibited a serious defect: the ability to return upright after repeatedly being trampled upon, was very poor. Over time, the load on the fibers led to a downright flat pitch. This was not only visually unattractive, but the "bent over" blades of the artificial grass also affected how well the turf could be played on. As a result, an attempt was made to support the blades with sand or granulated material, but this needed a lot of maintenance.



Solution

The new fiber exhibits high resilience as well as optimal sliding friction behavior. It contains a hard polyamide core surrounded by a low-friction sheath of polyethylene. Various cross-sections of the fiber have been modeled. The initial idea that the fiber should contain only one thick core failed. This fiber did not pass the Lisport test, which checks for long-term mechanical wear. With trial and error the project team of Empa and ETH Zürich together with the industry partners Tisca Tiara and the filament producer Schramm GmbH finally succeeded in creating the optimal cross-section within a project financed by the Commission for Innovation and Technology (CTI). Instead of one core, the fiber boasts five thin ones. The fiber's resilient qualities are guaranteed for years, as the Lisport test was able to prove.

CASE



4.3.2 Type of Licensing Partners

As in previous years the majority of the licenses granted in 2010 went to SME (59%). This is mainly due to two reasons. On one hand, SME are often more interested in and more flexible to in-licensing and developing technologies from academia. Large companies have their own R&D programs and will only in-license technologies which will complement their existing portfolio. On the other hand, public research institutions regularly license technologies to their start-up companies. Thus, start-up companies play an important role in developing university technologies. Depending on the industry segment and on the particular product these companies will either market the final products themselves or will sublicense the technologies to larger companies that have the necessary know-how and resources to bring the product successfully on to the market.

4.3.3 License Portfolio and License Income

The number of active licenses under management at the end of 2010 was reported as 1237 cases, slightly lower than the previous year. Thereof, 92% of active licenses were handled by the Universities, 7% by the RI.

Of these active licenses 288 cases resulted in license income to the institutions and the researchers involved. In 136 cases such license income came from product sales. This figure has increased continuously in the past years in line with the growing number of products sold on the market that are based on research results of public research institutions. In the other cases income resulted from other type of license fees, e.g. license issue fees or milestone payments for products still in the development process.

These figures reflect the typical situation of licenses granted to industry by public research institutions. Many of the licensed technologies are at an early stage and require extensive development by the licensee. It often takes several years until a product reaches the market. Moreover, due to the early stage, the development risk is often high, and a significant number of projects are stopped before a marketable product is ready.

CAS-ONE – GPS FOR LIVER SURGERY

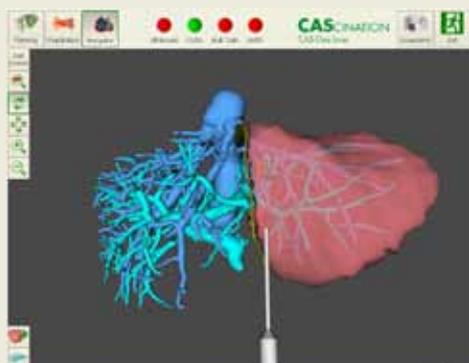


Problem – Challenge

Removing tumors from the liver while preserving a sufficient amount of healthy tissue poses still a major challenge in surgery. The virtual surgery planning based on pre-operative image data helps to evaluate the possible treatment strategies. The accurate transfer of a planned and optimized resection to the patient being operated remains very difficult for the surgeon. A GPS system guiding surgical tools on a virtual map of the patient would enable precise reproduction of surgical plans and ensure safer and gentler surgery. The challenge in realizing such a system comes from the deformable nature of the liver which requires constant updates of the map being used in the GPS system.

Solution

CAS-One is a navigation system for soft organs such as the liver. It provides interactive 3D visualization of tumors, vessels, and liver segments. The real-time guidance of surgical tools in the anatomical context allows for precise cutting or ablation. In order to be adopted in a cost-effective manner, CAS-One adds navigation functionality to existing instruments and requires minimal adaptations to operating room infrastructure and workflow. The system was developed by two researchers from the ARTORG Center for Biomedical Engineering Research of the University of Bern, Prof. Dr. Stefan Weber and Dr. Matthias Peterhans, in collaboration with Prof. Dr. Daniel Candinas at Inselspital. CAS-One has achieved CE Medical Device Labeling and is sold by the company CAScination AG, Bern.



Further, the figures are also typical for a still rather young license portfolio because many of the Swiss TTO have only been in operation for a relatively short period of time.

Data on license income are incomplete and were reported only by about half of the institutions participating in this survey. The total license income of these institutions amounted to 8.53 mio CHF slightly higher than in the previous year.

Mainly when licensing to start-up companies, some institutions may accept equity in such companies as a partial compensation for the licensing of technology. Such equity transactions usually replace down-payments or early milestone payments in order to avoid any cash drain from the start-up through license fee payments at the early stage of development. For the institutions, this results in a deferral of license revenues from such licenses until the shares in such start-up companies are sold by the institutions. In 2010, the institutions reported equity transactions for 14 of the 63 new start-up companies created that involved a license (see Section 4.4). In the past years more institutions started to accept equity as part of their license deals.

4.4 Start-up Companies

The number of newly created start-up companies from public research institutions remains at a high level. In 2010 the institutions reported a total of 63 new startup companies, whereby 44 of these companies relied on a license or a contractual transfer of intellectual property from a public research institution. The remaining 19 companies were created on the basis of know-how developed at the research institutions, but without a formal license.

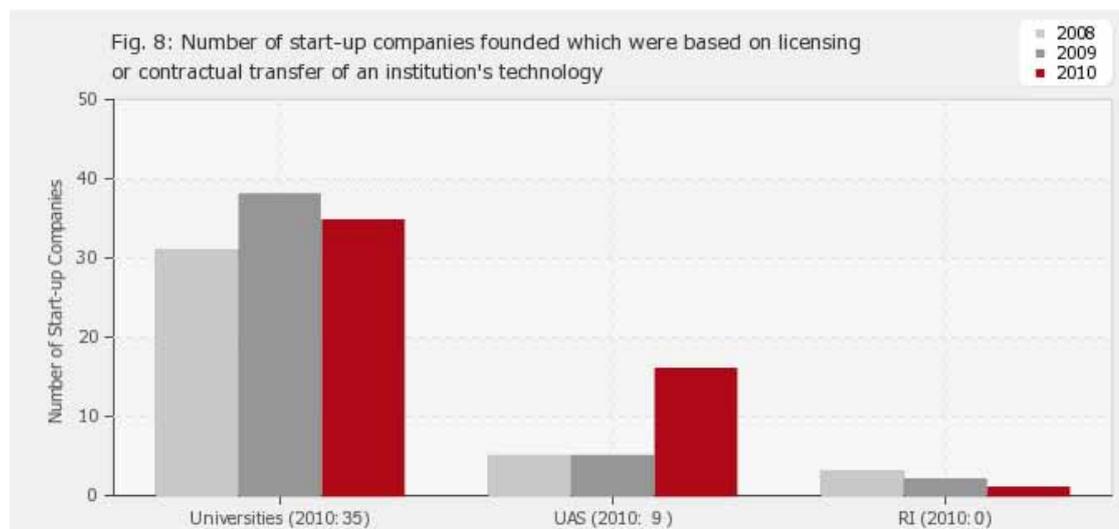


Fig. 8: Number of start-up companies founded which were based on licensing or contractual transfer of an institution's technology.

5. GLOSSARY

swiTT	Swiss Technology Transfer Association
Universities	Cantonal Universities and Swiss Federal Institutes of Technology
UAS	Universities of Applied Sciences
RI	Swiss Federal Research Institutions in the ETH domain
TT	Technology Transfer
TTO	Technology Transfer Office(s)
FTE	Full Time Equivalent (for the number of employees)
IP	Intellectual Property
SME	Small- and Medium-sized Enterprises (<250 employees)
Startup	Newly established company founded or co-founded by researchers from the respective institution and which either relies on a formal license of IP or on know-how developed at the institution

GRAVITYPLUSTM SYSTEM FOR AUTOMATED MASS PRODUCTION OF ORGANOTYPIC 3D MICROTISSUES



Universität Zürich



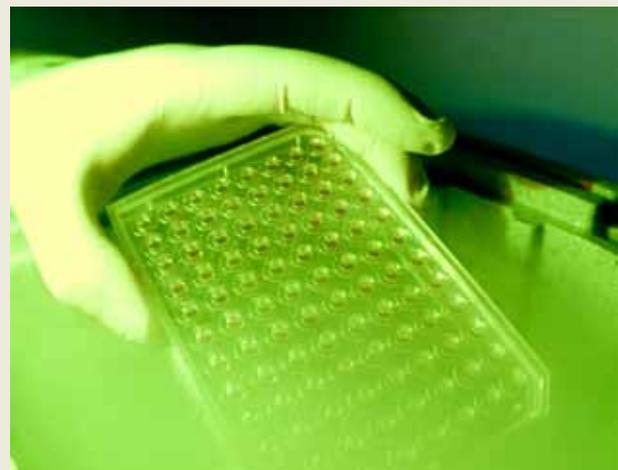
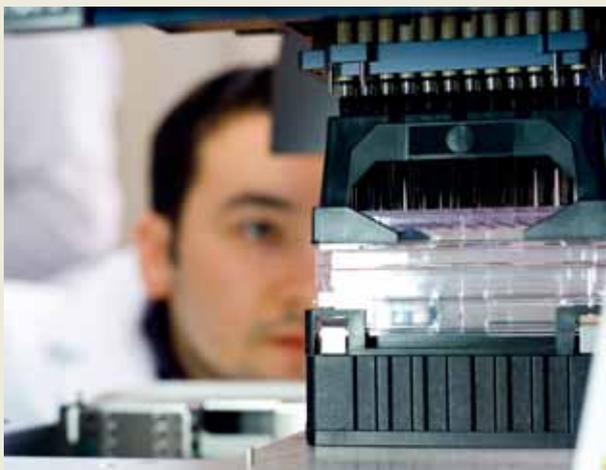
Problem – Challenge

Resource-efficient drug discovery requires reliable and precise information about the effects of drug compounds on animal and human tissue. Today's routinely used monolayered cell cultures deliver data of limited physiological significance with regard to the effects in the organism. Their lack of a 3-dimensional tissue-like structure and function impede a better predictability on drug effectiveness and toxicity.

Replacing current cell models by more organotypic 3D microtissues can significantly improve the biological relevance and increase the predictability of cell-based assays. And – 3D microtissues can help already at an early stage of the discovery process thus reducing the late-stage failure rate. Better model systems which reflect cell and tissue physiology more closely will further help to increase the efficiency of the drug development process. Obstacles that have impeded the routine use of advanced cell culture models in the past comprise manual and often complex low-throughput fabrication, high variability and high prices compared to standard cultures.

Solution

InSphero has developed a microtissue production technology, the GravityPLUSTM system, which is the first platform for scaffold-free and automated high-throughput production of 3D tumor and primary microtissues. The patent-pending principle of the GravityPLUSTM technology originates from the hanging-drop method, which allows for gentle gravity-driven microtissue formation at the liquid-air interface of small medium droplets. By avoiding contact to any foreign material it allows the cells to reform a tissue in a natural manner. The microfluidic design and surface engineering used for the plate assures consistent and rapid filling, stable drop formation, reliable media exchange, and supplementation of required supplements and/or cells. The GravityPLUSTM technology enables InSphero for robust and consistent high-volume production of 3D microtissues.. The technology was originally developed by Drs. Jens Kelm and Wolfgang Moritz at the University of Zurich and the University Hospital Zurich.



APPENDIX 1 – DETAILED DATA 2007-2010

Note: The number of institutions that participated in the survey varies between years.

All respondents	2007	2008	2009	2010
Full-time equivalents (FTE)	77	63	68	64
Research contracts (incl. EU contracts)	2789	2745	2855	3035
Invention disclosures	442	431	446	470
Priority patent applications	197	194	195	224
Active patent cases end of the year	1248	924	1512	1573
License agreements	236	271	191	196
Active license agreements end of the year	1059	1079	1143	1237
kCHF of net licensing revenues	9781	9479	8197	8533
License agreements with revenues in respective year	268	271	289	288
New start-ups on basis of formal license	40	39	45	44

Universities	2007	2008	2009	2010
Full-time equivalents (FTE)	45	42	47	45
Research contracts (incl. EU contracts)	1623	1895	2120	2285
Invention disclosures	393	378	405	421
Priority patent applications	154	167	160	187
Active patent cases end of the year	1084	779	1355	1356
License agreements	199	190	167	159
Active license agreements end of the year	996	1013	1058	1135
kCHF of net licensing revenues	8676	8338	7686	7829
License agreements with revenues in respective year	220	252	268	258
New start-ups on basis of formal license	30	31	38	34

RI	2007	2008	2009	2010
Full-time equivalents (FTE)	6	7	7	6
Research contracts (incl. EU contracts)	180	395	416	293
Invention disclosures	29	37	26	28
Priority patent applications	20	17	29	21
Active patent cases end of the year	97	97	110	141
License agreements	14	14	13	23
Active license agreements end of the year	39	61	81	90
kCHF of net licensing revenues	975	961	337	190
License agreements with revenues in respective year	27	16	20	17
New start-ups on basis of formal license	0	3	2	0

UAS	2007	2008	2009	2010
Full-time equivalents (FTE)	26	14	14	13
Research contracts (incl. EU contracts)	1038	455	319	457
Invention disclosures	20	16	15	21
Priority patent applications	23	10	6	16
Active patent cases end of the year	67	48	47	56
License agreements	23	4	11	14
Active license agreements end of the year	24	5	4	12
kCHF of net licensing revenues	240	180	174	514
License agreements with revenues in respective year	21	3	1	13
New start-ups on basis of formal license	10	5	5	9

APPENDIX 2 – KEY PARAMETERS FOR INDIVIDUAL INSTITUTIONS

This table lists individual data of those institutions that agreed to publish them.

Institution	Name TTO	Start TTO	3.2 TTO FTE	4.1 Total # of research contracts	5.1 # of invention disclosures	5.2 # of priority applications	7.1 # of IP agreements
Universities							
EPFL	SRI (TTO of EPFL)	1993	7.1	341	82	47	45
Uni Basel	TT-Office	1998	3.5	32	36	18	14
Uni Geneva	Unitec	1998	7.4	114	48	15	13
Uni Lausanne	PACTT	2000	6.8	145	27	7	3
Uni Bern	Unitectra*	1999	7.5	529	31	10	11
Uni Zurich	Unitectra*	1996		543	69	36	31
RI							
Empa	TT Office	2005	2.6	95	15	8	18
PSI	TT Office	1999	3.5	198	13	13	5
UAS							
BFH	TT Office	2005	10.75	225	8	6	0
Hochschule Luzern	ITZ	2003	0.3	2	1	0	0

* Unitectra is the joint TTO of the Universities of Bern and Zurich

APPENDIX 3 – THE QUESTIONNAIRE

swiTT Technology Transfer Survey 2010 (online survey)

Preliminary Notes:

- All questions refer to the calendar year 2010. Please make your statements accordingly.
- If no answer is available for certain questions, please indicate with n.a. Questions for which your office or your institution does not collect data should be left open (n.a.) and should not be answered by giving an estimate.

1. Confidentiality			
Do you agree to the publication of the individual data collected in the questions marked *[pub] under your institution's name? All other data will only be published in the aggregated format by type of institution? <i>All other data will only be published in the aggregated format by type of institution.</i>			<input type="checkbox"/> Yes <input type="checkbox"/> No
2. Background Information			
2.1 Name of the academic institution/s			
2.2 Is your institution associated with an university hospital? <i>(If yes, please note that all figures given below should include the numbers of the hospital, too.)</i>			<input type="checkbox"/> Yes <input type="checkbox"/> No
2.3 Does your institution have a dedicated office / responsible person for TT activities (TTO)?			<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, which year did the TT program start?		[pub]	
2.4 Name of responsible for TT program			
Name of responsible for survey data			
2.5 TTO address and contact information			
Office Name		Telephone	
Street		e-mail	
City		Postal code	
3. Activities and FTEs			
3.1 What are the activities of your TTO?			
(A) Research contracts (drafting, negotiating, controlling)			<input type="checkbox"/> Yes <input type="checkbox"/> No
(B) Evaluation, protection and management of IP			<input type="checkbox"/> Yes <input type="checkbox"/> No
(C) Commercialisation of IP (licensing, marketing)			<input type="checkbox"/> Yes <input type="checkbox"/> No
(D) Coaching of start-up projects			<input type="checkbox"/> Yes <input type="checkbox"/> No
(F) Financial administration of research projects			<input type="checkbox"/> Yes <input type="checkbox"/> No
3.2 How many full time equivalents FTE were employed in your TTO on December 31st 2010? <i>(Do NOT include researchers working as project managers in transfer projects in this number)</i>		FTE [pub]	
3.3 Of these FTE, how many were employed to work on			
(A) Technology transfer activities <i>(Staff with main occupations (> 20%) in the area of technology transfer, such as 'Licensing Officers', 'Intellectual Property Managers', 'Technology Managers' or 'Research Contract Officers'. Do NOT include project managers carrying out transfer projects)</i>		FTE	
(B) Administration and general management			
Comments to 3.1 - 3.3 <i>(e.g. if additional people outside your TTO but inside your institution are also working in technology transfer activities according to 3.1, special organisation with specific faculties, centralized/decentralized organisations)</i>		FTE	
4. Research and Development			
4.1 Total number of new research contracts handled by your TTO <i>(Collaboration agreements, service agreements, clinical trial agreements, CTI complementary and EU agreements, NO MTA, NO NDA or other TT contracts (see 4.3) and NO SNSF contracts)</i>		[pub]	
Of these research contracts, how many were executed with small and medium enterprises (SME), how many with large companies and how many with public partners? <i>(Definition: SME are companies with 250 or less employees.)</i>		A) SME: B) Large Company C) Public Institutions: <i>(Sum shall equal 4.1!)</i>	
4.2 Amount of cash payments due to your institution from research contracts that were handled by your TTO according to 4.1 <i>(Please give the amount of cash due to your institution, NO material asset e.g. for machinery and NOT the total amount of Research Project, e.g. if an EU project adds up to 3 Mio. EUR but your institution gets only 200'000 thereof, the latter shall be given. Do not split the amount, if the contract is covering several years but report the full amount in the year the contract is signed.)</i>		CHF	
4.3 Number of other technology transfer contracts handled by your TTO <i>(Non Disclosure Agreements (NDA), Material Transfer Agreements (MTA), consulting contracts, inter-institutional contracts, sponsoring, donations, but NO licenses, options, sales)</i>			

Comments to 4.1 – 4.3 (e.g. restrictions/regulations at your institution, knowledge of ALL contracts or only contracts above a certain amount)	
5. Patent-Related Activity	
5.1 How many invention disclosures were received by your TTO?	[pub]
5.2 How many priority applications were filed by your TTO? (Priority application being the very first application for a new technology in any patent office of the world.)	[pub]
(A) Of these, how many are based on research significantly funded by SNSF.	
5.3 What was the overall number of active patent cases at the end of 2010 managed by your TTO? (Active patents cases are pending or granted patents on a technically unique invention (patent family). Applications in various countries on ONE technically unique invention count as ONE patent case.)	
6. Patenting Costs and Legal Fees	
6.1 Amount spent by your TTO/institution on patenting costs and external legal fees? (Including all external costs for patent filing, prosecution, maintenance, litigation expenses or costs for drafting or support in negotiation of contracts.)	CHF
6.2 Amount of patenting costs and legal fees invoiced to commercialization partners? (Does NOT include patenting costs or legal fees paid DIRECTLY to the patent attorney or other service providers by licensees or external partners.)	CHF
7. License, Option and Sales Agreements	
7.1 How many licenses/options/sales of protected or unprotected IP did your TTO execute? (Count only the agreements for different technologies, i.e. 30 licenses for the same software library count as ONE. If a license agreement is combined with a research agreement (e.g. advanced sale of the results of a research project), this contract shall count only as research contract and NOT be included in this question unless the invention/software that is licensed/sold, exists already at the execution date of the research contract.)	[pub]
Of these licenses/options/sales, how many were licensed to SME, how many to large companies or public institutions? (Definition: SME are companies with 250 or fewer employees)	(A) SME: (B) Large Company: (C) Public Institutions: (Sum shall equal 7.1!)
(D) Of these licenses/options/sales how many are based on research significantly funded by SNSF?	
7.2 How many licenses/options/sales included equity? (Equity meaning the ownership of interest in a company such as shares, options, warrants, etc. in consideration for granting a license or sale of IP.)	
7.3 How many licenses/options were active as of December 31, 2010?	
Comments to 7.1 – 7.3 (e.g. large variations to previous years, special situations, i.e. with free software licenses OpenBSD, etc)	
8. License Income	
8.1 What was the total number of licenses/options/sales yielding revenue?	
8.2 How many licenses/options/sales yielded running royalties? (Running royalties are based on product sales and are only due after the launch of a product in the market)	
8.3 What was the total amount of license/option/sales revenue received at your institution? (WITHOUT patent cost and fees invoiced in 6.2.)	CHF
9. Start-up Companies	
9.1 Total number of start-up companies formed at your institution	
(A) Of these start-up companies, how many are dependent on licensing or transfer of your institutions technology?	
(B) Of these start-up companies, how many are dependent on unprotected know-how or technology of your institution (without license agreement)?	
(C) Of these start-up companies, how many are based on research significantly funded by SNSF?	
9.2 In how many of the new start-up companies does your institution hold equity?	
10. Post-Licensing Activities	
10.1 Did one or more of your institution's licensed technologies become available for consumer or commercial use in 2010?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, how many?	
10.2 Information about the launched products (Please give a short title of each product success story and the e-mail of the contact person for additional information.)	[Title, Contact Person]
Comments	
(If you want to bring any additional comments or suggestions to the attention of the team of the swiTTreport, please post them here)	

Thank you for your input!

OVERVIEW



Contact

swiTT Office
3000 Bern
office@switt.ch
www.switt.ch



swiTT - Swiss Technology Transfer Association

swiTT is the association of professionals in Switzerland dealing with the interaction between public research and industry.

Mission

Cooperation - Development - Services - Dialogue
Foster innovation through co-operation and technology transfer between Swiss public research institutions and the private sector.

Services

swiTTlist (www.swiTTlist.ch)

The unique national platform for technology opportunities from Swiss public research institutions provides companies with a quick overview of current technologies and the necessary contact information. Subscription to automatic alerts is free of charge.

swiTTreport

The annual survey gives an overview of the technology transfer activities of the major universities and other public research institutions. It also highlights success stories from different sectors. The report can be ordered through swiTT Office.

swiTTacademy

swiTT regularly organizes educational events on a variety of topics for its members. Some of the events are also open for non-members.

swiTTtalk

The member's forum allows to easily draw on the know-how and expertise of other members on specific topics of interest.

www.switt.ch

CONTACT

swiTT – Swiss Technology Transfer Association
3000 Bern
switt@switt.ch
www.switt.ch