Interview: Stefan Kohler – President, Swiss Technology Transfer Association (swiTT)

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Ensuring a fair allocation of rights and returns from collaboratively developed technologies is a continual challenge for university Tech Transfer Offices – swiTT president Stefan Kohler discusses the current challenges and shares his perspective on the role of university developed IP in the Swiss life science ecosystem.

What are some of the hot topics in Swiss technology transfer circles at present?

Our main concerns pertain to how we can balance the private sector's needs for rights to IP with the needs and objectives of the involved academic parties and public institutions. Since as the objectives and priorities of different stakeholders frequently diverge and our professions evolve in line with novel regulations and emergence of new best practices, the appropriate balance on various issues is a constantly moving target. swiTT is a forum where tech transfer professionals like myself can gather to discuss what the right way forward is.

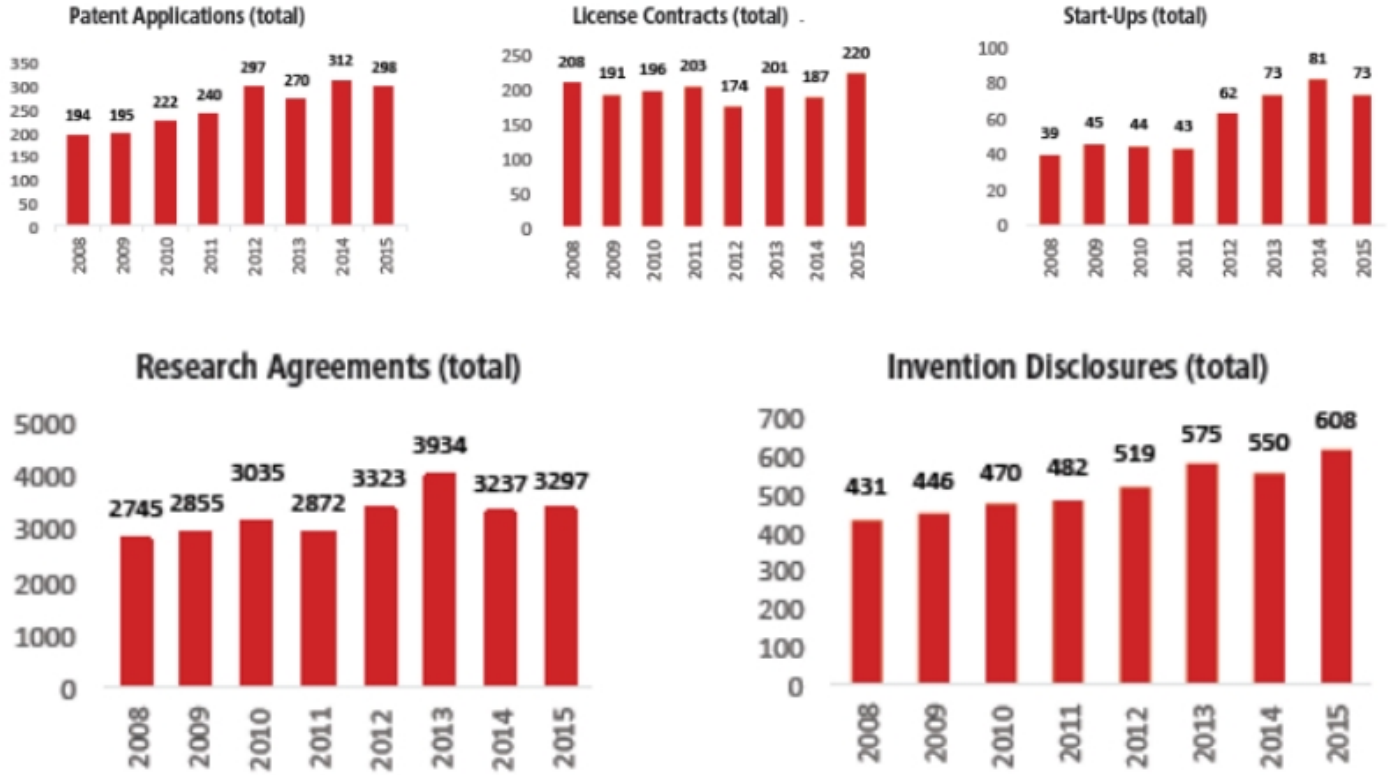
The big change taking place in the Swiss innovation ecosystem at present is the ongoing reorganization of Switzerland's main innovation funding agency, the Commission for Technology and Innovation (CTI). Changes in governance of the CTI and the conditions and rules related to CTI funding will have a significant implication for different parties' incentives to participate in CTI projects. Latest news indicate that things are moving into the right direction to render this important funding scheme more attractive for universities.

Could you expand on how incentives to participate in research might change?

For example, contract research forms a significant proportion of academic private sector collaboration, and the CTI has provided financial supports for this type of project in the past – changes to these funding mechanisms, and rules regarding what overheads labs can charge for their R&D services for instance could have an impact on their incentives to engage in such collaborations.

We are also being vigilant regarding any expectations or norms which might be imposed regarding IP ownership and exploitation rights as swiTT is very much in favor of having free negotiation of the terms of individual contracts; each situation is different and we need freedom in negotiations to ensure that agreements and contracts reflect the particular details of the situation.

The rise of expectations in terms of good governance as well as extensive collaborative research projects, such as those ran under Horizon 2020 programs, has proven a challenge for tech transfer offices in this regard. It can be very difficult and time consuming to negotiate rights around technologies with multiple sources and creators, and sometimes different funding streams, particularly when determining what the contribution and the rights of each party will be.



[Data of the last eight years showed a solid outcome of the TT activities in Switzerland]

As an organization, what is the purpose of swiTT?

Switzerland is home to a great number of excellent research groups, many of which are keen to access specific know-how and research tools available in industry for their research, while health care companies want to tap into academic expertise to better characterize their products or expand their pipelines. Technology transfer professionals are there to facilitate this cross-fertilization in a balanced fashion and in accordance with applicable governance rules.

[Featured_in]

swiTT is an association of technology transfer professionals who are active in the transfer of technology from the academic and publically funded research sectors to the private sector. Some institutions and networks joined swiTT as supporting members. The association was founded in 2003, and now includes over 130 members from across Switzerland’s innovation ecosystem.

The organizations purpose is defined by four central missions or tasks. First, the organization exists to facilitate and strengthen the cooperation and the transfer of technology between Swiss public research institutions and the private sector. Second, we aim to support the professional development of our members and other tech transfer professionals through workshops and seminars. Third, we provide services of common interest to our members, the most notable being the swiTT list, an online database of the technologies available for licensing at Swiss academic institutions. Fourth, we maintain an active dialogue between the various stakeholders involved in technology transfer, including research institutions, the private sector, funding agencies and policy makers, towards the goal of fostering optimal processes and framework conditions.

What are the core principles that swiTT’s members share in terms of how to run tech transfer fairly?

The principles of technology transfer at Swiss universities are explicitly explained on our website (http://www.switt.ch/technology_transfer/national_principles/?&id=95396&setlang=en). The key underlying principles are the constitutional rights to freedom of research and freedom to publish results, and these are sensitive topics. Another guiding principal is the collaboration in a partnership spirit. From this point onwards we all seek to secure a fair distribution or balance of the rights to IP and results of research and any potential associated returns between the parties involved in developing a technology. It is important to realize that in many instances universities need to retain the possibility to engage in future research collaborations on given topic with other partners be they academic or commercial.

With regards to licensing of exploitation rights, there are of course significant differences in approach how to find well- balanced risk and benefit sharing schemes. together with the freedom

to negotiate as each particular institution sees fit this creates a free market for IP licensing and academic contract research services. As different institutions utilize different approaches and we share our experiences with one another, all swiTT members can benefit from a diverse body of experience and associated knowledge.

From your perspective, how big of an impact does the Swiss academic sector have on the private sector life science ecosystem?

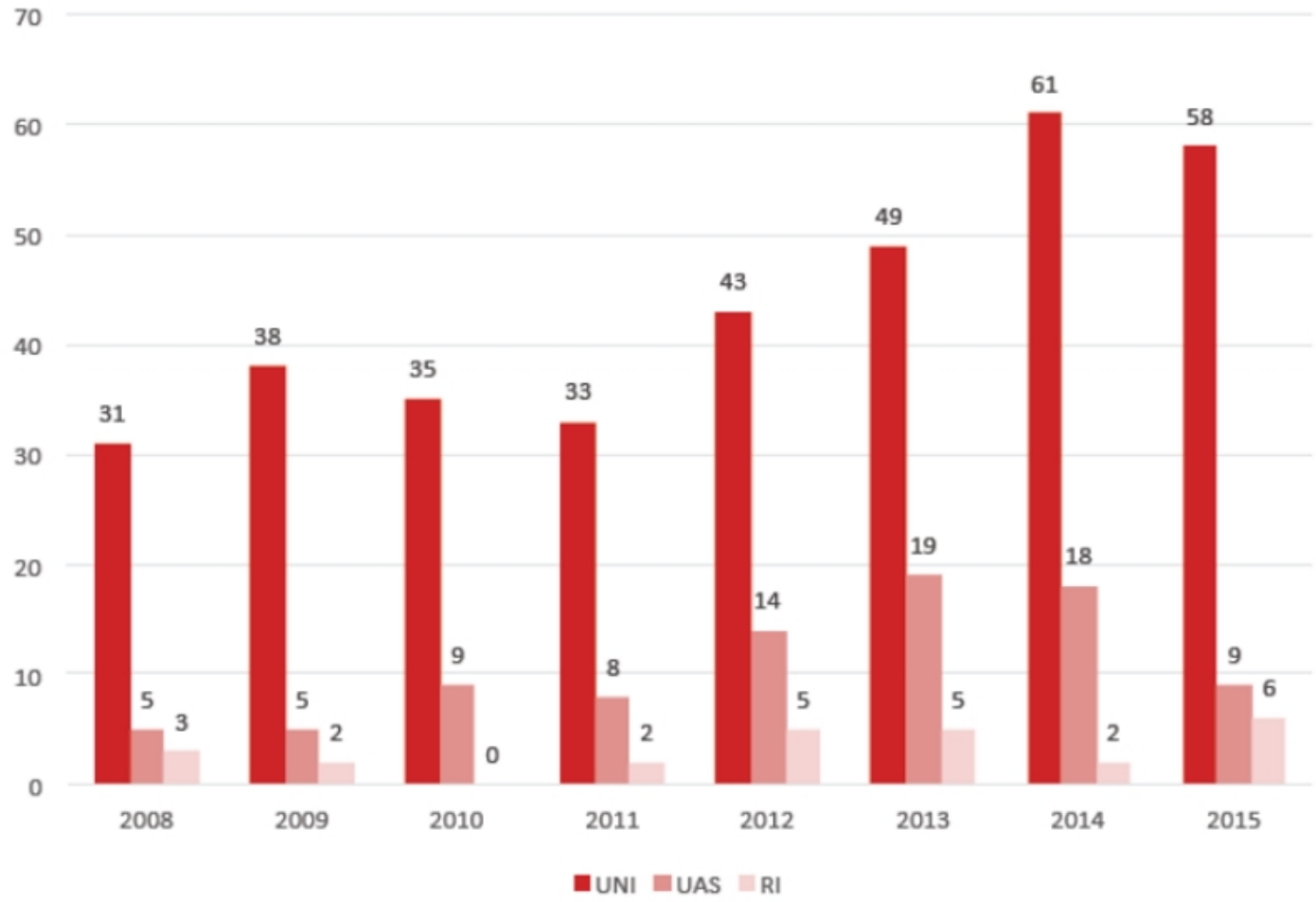
Qualitatively, I would say that Swiss academic institutions frequently collaborate with life science companies of all sizes. Our interaction with bigger pharmaceutical companies tends to be via contract research services, as they do not frequently participate in risky basic research. Instead, such technologies are often spun-out into startups, or licensed to existing start-ups with an interest in that specific technology area.

Unfortunately, we don’t have any quantitative data in this regard; there is an American study that found that about one in eight new molecular entities approved by the FDA were developed in the academic sector, however there is no recent equivalent focusing on the Swiss or European market. Anecdotally however there is the example of recombinant interferon that was developed by Charles Weissmann who was a professor at the University of Zürich. A more recent example is the humanized anti-CD20 monoclonal antibody obinutuzumab that originated from GlycArt Biotechnology AG, a spin-out of the ETH Zürich, that was developed by Roche as a treatment for chronic lymphocytic leukemia.

As for some Swiss examples in late development I could mention rivipansel that was discovered at the University of Basel and is now tested in clinical phase III for sickle cell disease by GlycoMimetics and Pfizer. The VEGF-A antagonistic DARPin abicipar and the beta-amyloid antibody aducanumab were invented at the University of Zurich and are also in clinical phase III. The spin-off Molecular Partners AG partnered with Allergan, Inc. to develop abisipar in wet AMD. Neuroimmune AG, also a spin-off of the University of Zurich is developing aducanumab in collaboration with Biogen, Inc. as new treatment for Alzheimer’s disease.

These are typical examples of how academic spin-offs help to bring innovative therapies from academic research to patients through the partnership with established pharma and biotech companies. But pharma and biotech projects are just the tip of the iceberg – academia-sourced projects in other life science spaces such as medtech, diagnostics or digital health are too numerous to list. Currently there are many high quality start-ups emerging in Switzerland. This is illustrated by the fact that these start-ups managed to raise a record sum of investments in 2015,

and this year looks even more promising.



[Number of start-up companies founded which were based on licensing or contractual transfer of an institution's technology, from Universities (UNI), Universities of Applied Science (UAS), and Swiss Federal Research Institutions (RI) respectively.]

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What would you highlight as some of the specific challenges of managing tech transfer and IP in the life science field?

Getting technologies into the private sector is much more difficult as the risk profile and cost of development is so high. In the ICT sector for instance, timelines are much faster, investors have more confidence in their ability to commercialize projects, and the funding required is often much lower. In the life sciences early stage projects are so risky that its necessary to set up a spinoff and then that company must secure financing for a very long development path, and getting the necessary investments after first few hundred thousand needed to set up the spinoff can be extremely difficult.

Another challenge we are facing is to anchor our start-ups in Switzerland. Finding ways to facilitate the access to series B or C financing rounds with Swiss-based investors and increasing the pool of seasoned entrepreneurs available to drive the numerous opportunities represent some opportunities to retain our start-ups within the country.

Do you have a final message for the global life science industry?

Don’t be shy! There are many exciting opportunities for collaboration and technology licensing within Swiss universities, and there are never enough partners and savvy experienced entrepreneurs to drive them forward. All those opportunities can be easily explored via our national technology platform swiTTlist available on the swiTT website (www.switt.ch).

And as an innovation ecosystem, Switzerland is certainly a leader but we face strong competition from other first rate hubs elsewhere in Europe, and of course major clusters in the US, but also from the highly dynamic centers in Asia. This is a benefit for everyone, as through competition we will all be made stronger. Yet Switzerland has many strengths of which we are proud. Switzerland is a small yet diverse country, and you can drive from one leading university to the next within an hour; Geneva, Lausanne, Neuchatel, Fribourg, Bern, Basel, and Zurich. With strong universities across the country, most of which pursue top notch research in life science, there is no shortage of opportunities and ideas to feed into life science innovation.

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