Eidgenössisches Institut für Geistiges Eigentum
Institut Fédéral de la Propriété Intellectuelle
Istituto Federale della Proprietà Intellettuale
Swiss Federal Institute of Intellectual Property

SME-IP · 1st Report

Support Services in the Field of Intellectual Property Rights (IPR) for SMEs in Switzerland – A Review

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Editor

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Foreword

How does a company optimize the protection and use of its intellectual property? The answer to this question is particularly difficult for small and medium-sized enterprises (SMEs), as long as they are not sufficiently familiar with the intellectual property protection system. In order to remedy this situation, to foster knowledge, and to motivate SMEs to deal with intellectual property in a confident manner, the Swiss Federal Institute of Intellectual Property started the project SME-IP in March 2007.

This publication presents the first study carried out within the framework of this project. The study aims to create as comprehensive a picture as possible of the support and services available for Swiss SMEs in the field of intellectual property. Selected public measures were subjected to more in-depth analysis through case studies, and so-called *elements of good practice* were developed for Switzerland.

We commissioned the Austrian Institute for SME Research (KMU FORSCHUNG AUSTRIA) to carry out the study. This research institute did a similar analysis that benchmarked IP related services in selected European and overseas countries for the European Commission between 2006 and 2007. Not only do the results of the current study make it possible to complement the European Commission study with information about the situation in Switzerland, but they also reveal the areas in which existing support measures for SMEs can be optimized or further developed.

Other studies are being carried out within the framework of our SME-IP project. They will likewise be published in this series.

I would like to express my sincere gratitude to the authors of the study, Mr. Alfred Radauer and Mr. Jürgen Streicher, of the Austrian Institute for SME Research. I am also grateful to all those individuals, SMEs, organizations, institutions and institutes of research, who either made themselves available for interviews, or allowed their support services to be analyzed in a benchmarking process. They significantly contributed to the success of this study.

Roland Grossenbacher
Director General of the Swiss Federal Institute of Intellectual Property

Berne, November 2008

Vorwort

Wie schützt und nutzt ein Unternehmen seine geistigen Leistungen optimal? Die Antwort auf diese Frage fällt besonders kleinen und mittleren Unternehmen (KMU) schwer, solange sie mit dem immaterialgüterrechtlichen Schutzsystem nicht ausreichend vertraut sind. Um Hilfe zu bieten, Wissen zu fördern und KMU zu einem bewussten Umgang mit ihrem Geistigen Eigentum zu motivieren, haben wir im März 2007 im Eidgenössischen Institut für Geistiges Eigentum das Projekt KMU-IP gestartet.

Die vorliegende Publikation stellt die erste Studie dar, die im Rahmen dieses Projektes durchgeführt worden ist. Das Ziel der Studie ist es, ein möglichst umfassendes Bild der Unterstützungsangebote und der Dienstleistungen für Schweizer KMU im Bereich des Geistigen Eigentums zu zeichnen. Ausgewählte staatliche Massnahmen wurden in Form von Fallstudien einer vertieften Untersuchung unterzogen und sogenannte *elements of good practice* für die Schweiz erarbeitet.

Mit der Durchführung der Studie haben wir die KMU FORSCHUNG AUSTRIA beauftragt, welche zwischen 2006 und 2007 im Auftrag der Europäischen Kommission eine vergleichbare Arbeit über IP-bezogene Dienstleistungen in ausgewählten Ländern Europas und in Übersee verfasst hatte. Die Ergebnisse der vorliegenden Untersuchung ermöglichen es nicht nur, die Studie der Europäischen Kommission um Informationen über die Situation in der Schweiz zu ergänzen. Sie zeigen auch auf, in welchen Bereichen bestehende Unterstützungsmassnahmen für KMU optimiert oder weiterentwickelt werden können.

Derzeit laufen noch weitere Studien im Rahmen unseres Projektes KMU-IP. Diese werden nach ihrer Fertigstellung ebenfalls in der vorliegenden Publikationsreihe veröffentlicht.

Den Verfassern der Studie, Herrn Mag. Alfred Radauer und Herrn Mag. Jürgen Streicher von der KMU FORSCHUNG AUSTRIA, spreche ich meinen herzlichen Dank aus. Mein Dank gilt aber auch all denjenigen Personen, KMU, Organisationen, Institutionen und Forschungseinrichtungen, die im Rahmen von Interviews oder mit ihrer Bereitschaft, ihre Unterstützungsmassnahmen einem Benchmarking-Prozess unterziehen zu lassen, massgeblich zur Ausarbeitung dieser Studie beigetragen haben. Ohne ihre Mithilfe hätte die Studie nicht in der vorliegenden Form und Tiefe erstellt werden können.

Roland Grossenbacher
Direktor des Eidgenössischen Instituts für Geistiges Eigentum

Bern, im November 2008

Avant-propos

Comment une entreprise peut-elle protéger et utiliser de manière optimale ses biens immatériels ? Cette question pose bien souvent du fil à retordre aux petites et moyennes entreprises (PME) tant qu'elles ne se sont pas suffisamment familiarisées avec les systèmes de protection des droits de propriété intellectuelle. C'est pour contribuer à la diffusion du savoir dans ce domaine, mais aussi pour apporter un soutien aux PME et aiguiser leur conscience de la gestion de leurs biens immatériels que l'Institut Fédéral de la Propriété Intellectuelle a lancé le projet PME-PI au mois de mars 2007.

La présente publication constitue la première étude réalisée dans le cadre de ce projet. Elle vise à fournir une vue d'ensemble, aussi complète que possible, des mesures de soutien et des services auxquels les PME suisses peuvent avoir recours en matière de propriété intellectuelle. Sous la forme d'études de cas, elle soumet à un examen approfondi une sélection de mesures étatiques et formule ce qu'on appelle des *éléments de bonnes pratiques* pour la Suisse.

Nous avons confié cette étude à l'institut de recherche autrichien (KMU FORSCHUNG AUSTRIA), qui a réalisé une analyse comparable des services de soutien existant dans le domaine de la propriété intellectuelle dans différents pays européens et extra-européens sur mandat de la Commission européenne entre 2006 et 2007. Les résultats de la présente enquête viennent donc non seulement compléter l'étude de la Commission européenne avec des informations sur la situation en Suisse, mais mettent également en lumière dans quels domaines il serait possible d'optimiser et de développer les actuelles mesures de soutien aux PME.

D'autres études sont en cours d'élaboration dans le cadre de notre projet PME-PI. Elles seront publiées dans la présente collection dès leur achèvement.

J'adresse mes sincères remerciements à M. Alfred Radauer et à M. Jürgen Streicher de l'institut de recherche autrichien (KMU FORSCHUNG AUSTRIA). Je remercie également toutes les personnes, PME, organisations, institutions et instituts de recherche qui, en acceptant de participer à des entretiens ou de soumettre leurs mesures de soutien à cette analyse comparative, ont grandement contribué à la présente étude. Sans leur coopération, il n'aurait pas été possible de la réaliser sous cette forme et elle n'aurait pas offert un tableau aussi précis de la situation en Suisse.

Roland Grossenbacher
Directeur de l'Institut Fédéral de la Propriété Intellectuelle

Berne, novembre 2008

Prefazione

Come deve comportarsi un'azienda per proteggere la sua proprietà intellettuale? Rispondere a questa domanda è difficile soprattutto per le piccole e medie imprese (PMI) che non conoscono sufficientemente il relativo sistema di protezione. Per fornire un aiuto, promuovere la diffusione del sapere e motivare le PMI a gestire meglio la loro proprietà intellettuale, nel marzo 2007 l'Istituto Federale della Proprietà Intellettuale ha dato il via al progetto PMI-PI.

Questa pubblicazione presenta il primo studio condotto nell'ambito del progetto. Lo studio vuole dare un quadro possibilmente preciso delle offerte di aiuto e dei servizi a disposizione delle PMI svizzere per quanto concerne la proprietà intellettuale. Dopo aver scelto e valutato con attenzione alcune misure statali si sono elaborati una serie di *elements of good practice* per la Svizzera.

Lo studio è stato affidato a KMU FORSCHUNG AUSTRIA, che tra il 2006 e il 2007 ha elaborato, su mandato della Commissione europea, un documento analogo sulle offerte relative alla PI in alcuni paesi europei. Oltre a intergare lo studio della Commissione europea con i dati svizzeri, la presente indagine mostra quali sono i settori in cui le misure di appoggio per le PMI sono potenziabili e sviluppabili.

Nel quadro del progetto PMI-PI sono in atto altri studi, che una volta conclusi saranno pubblicati in questa collana.

Colgo l'occasione per ringraziare cordialmente Alfred Radauer e Jürgen Streicher di KMU FORSCHUNG AUSTRIA, che hanno condotto lo studio. Voglio ringraziare anche tutte le persone, le PMI, le organizzazioni, le istituzioni e gli istituti di ricerca che partecipando alle interviste o accettando di sottoporre le loro misure di appoggio a un processo di valutazione hanno concorso in modo determinante alla preparazione di questo studio. Senza il loro contributo l'indagine non avrebbe avuto né la forma né lo spessore del presente documento.

Roland Grossenbacher
Direttore dell'Istituto Federale della Proprietà Intellettuale

Berna, novembre 2008

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1 Executive summary

Background

1. In August 2007, the Swiss Federal Institute of Intellectual Property (IPI) in Berne contracted the Austrian Institute for SME Research (KMU FORSCHUNG AUSTRIA, KMFA), Vienna, to conduct a study on Swiss services which extend support in the field of Intellectual Property Rights (IPR) to SMEs. The study – which is a module of the larger "SME-IP" project of the IPI – aimed at realizing four key goals. First, to identify all relevant publicly funded IPR support services for SMEs. Second, to provide an overview over the private market of service providers to SMEs. Third, to benchmark the most relevant public support services in terms of their efficiency and effectiveness – this includes the drafting of detailed case studies on these offerings. Fourth, to derive recommendations on how to improve the overall IPR support system provided to Swiss SMEs. The analysis has to be seen in the context that KMFA conducted a similar investigation for the European Commission, DG Enterprise and Industry, between 2006 and 2007. The KMFA's investigation covered the EU-27 countries, the U.S.A, Canada and Japan, but not Switzerland.[1] One of the goals of the underlying study was thus to "close the gap" of the Commission study with respect to Switzerland, but at the same time also to provide more in-depth and Swiss-specific information on the respective support system.

Methodological approach

2. The goals described above and the constraint to produce results which would allow for direct comparison to the Commission study entailed that the applied methodology was largely the same as that used for the Commission study. The methodological approach involved a three-stage approach: During the identification phase, all relevant Swiss IPR support services for SMEs were identified and, together with key data around the measures, entered into a database. This task was performed on the basis of desk research and (occasional) interviews with service providers. In a second step, services of sufficient scope were subjected to a benchmarking exercise, where several aspects of service design (i.e., how well the service was set up and planned), implementation (i.e., the governance structure and administration of the service) and performance (i.e., the output and impact of the service) were examined in detail. For obtaining the relevant data, interviews were conducted with all respective service providers, using a semi-standardised questionnaire. In a third step, a survey applying a mostly standardised questionnaire was carried out by telephone with the SME users of the benchmarked services; this survey provided the backbone for the documentation of the case studies. In the course of the user survey, 182 users were successfully questioned on their experiences with the services they utilized. All three research stages were complemented i) by a series of 31 open interviews with IPR experts and stakeholders of the Swiss innovation system tackling questions on the necessity, effectiveness and efficiency of IPR support services for SMEs in Switzerland, as well as ii) by a document/literature analysis.

[1] *Radauer et al.,* 2007: Benchmarking National and Regional Support Services for SMEs in the Field of Intellectual and Industrial Property. PRO INNO Europe Paper No. 4. Luxembourg: European Communities.

3. Whereas the methodological approaches of the Swiss analysis and the Commission study are similar, they differ in a number of subtle details. The most relevant one worth considering concerns the scope of the IPR service system that had to be scrutinised: While for the Commission study the study team had to seek "good practice" services (which were then to be described in the course of the case studies), the Swiss analysis attempted to provide a picture as complete as possible of the Swiss IPR support service system for SMEs. In its mission to identify "good practices" in the European set-up, the KMFA consequently only examined the most promising offerings (those that could possibly be considered as exemplars for other services). Accordingly, services that performed less favourably were not included in the subsequent research steps/phases. As a result, the number of identified services for the Swiss analysis is higher than one would have obtained if Switzerland had been part of the Commission study; similarly, case study services presented in the Swiss analysis are not necessarily all "best practice" services.

Landscape of IPR services provided to SMEs in Switzerland

4. The KMFA identified a total of **20 publicly funded IPR support services** in Switzerland. **13 of these offerings are operated at regional (cantonal) level** through chambers of commerce, technology parks/incubators or local business development agencies ("kantonale Wirtschaftsförderung"). These services are small in scope and often comprise (only) signposting/referral activities to private IPR service providers – especially for primary questions related to IPR, clients are mostly referred to, for example, patent attorneys or the IPI. One service, in the Canton of Vaud, provides financial assistance for patent filings, making it the only offering in Switzerland actually funding IPR registration activities. The service sizes at the regional level are rather small. There were also problems in obtaining data clearly separating IPR services form other business support activities as well as anticipated difficulties in obtaining a sufficiently high number of SME users for the case study analysis (50 successful user interviews per service was the goal). These problems resulted in the discontinuing of benchmarking at the regional level.

5. On the **Federal level**, **seven public support services have been singled out** (see table below): i) The "*Assisted Patent Search"* service of the IPI, which subsidises a half-day of training of SMEs on how to use patent information databases; ii) the *"IPR Roadmap"* service, which is part of the Start-Up initiative of the Commission of Technology and Innovation (CTI) and constitutes up to two days of subsidised coaching by external experts on the subject of IP management, iii) *training offerings/lectures* on the subject of IPR in the course of the CTI programme *"venturelab"* as well as iv) *trainings offered by IPI personnel* to SMEs (either directly by the IPI, or – which is much more frequent – as invited speakers/lecturers for programmes/ seminar series operated by other institutions) and v) the *extended telephone switch board of the IPI* which provides a special organisational set-up to deal with IPR en quiries of third parties (among them also SMEs). The State Secretariat for Economic Affairs (SECO) operates a webpage especially for SMEs *(www.kmu.admin.ch)*, which has vi) also a section on IPR. Due to its rather small scope this service was, however, not benchmarked further. Technology transfer units in the academic sector are a special case: Even though they aim at maximising benefits from IP created at and for their institution, they frequently support SMEs in an implicit way. They fulfil this role by fostering the creation of company spin-offs from the universities (which involves dealing with IPR issues) or out-licensing activities of university-owned IPR to SMEs. In this context, the technology transfer organisation of the ETH Zurich (Swiss Federal Institute of Technology Zurich), *ETH transfer,* was, as an example of a TTO supporting SMEs, also considered for a case study.

IPR Support Services for SMEs offered at national level in Switzerland

No.	Implementing institution	Service title	SMEs only
1	Swiss Federal Institute of Intellectual Property (IPI)	Baseline information services (extended telephone switchboard, information folders, website)	no
2	Swiss Federal Institute of Intellectual Property (IPI)	Assisted Patent Search	no
3	Swiss Federal Institute of Intellectual Property (IPI) (often in cooperation/as subcontractor of other service providers)	Lecture activities on IPR for SMEs, held by IPI personnel	no
4	Swiss Innovation Promotion Agency CTI, together with external partners	The IPR Roadmap and Assessment of the CTI Start-up programme	yes
5	Swiss Innovation Promotion Agency CTI, together with external partners	venturelab – IPR workshops/lectures within the venturelab programme	yes
6	Selected Technology Transfer Agencies of universities: (e.g., ETH transfer (technology transfer organisation of the Swiss Federal Institute of Technology Zurich) or UNITECTRA)	IP consulting given to spin-off companies from universities, and licensing activities involving SMEs	no
7	State Secretariat for Economic Affairs (SECO)	Webpage http://www.kmu.admin.ch with information sections on IPR	yes

Source: Identification Process

6. Overall, the findings on the available public IPR support services in Switzerland yield a rather ambiguous picture: Particularly prominent is the **lack of dedicated IPR support programmes for SMEs** (with the exception of the IPI offering of the Assisted Patent Search), which can be otherwise found in Europe and make up most of the case study services in the Commission study. If IPR support is extended to SMEs in Switzerland, it is usually in an embedded way, the offering is part of a larger, non-IPR related support programme. This set-up does not, however, cover many aspects addressed in IPR support services across Europe. Cases in point include financial subsidies towards patenting costs or a range of pro-active awareness raising activities (e.g., through roadshows).

7. The Swiss approach to fostering innovation (or businesses in general) operates under the rationale of keeping state intervention at the absolute minimum. As such, the lack of dedicated support programmes also has to be seen in this light. Against this backdrop, CTI is (as an example) only allowed to support SMEs in high-tech areas with high growth potential. The propensity to implement SME support programmes varies over Switzerland: In the French- and Italian-speaking regions of Switzerland, policy makers seem to be more favourable towards establishing business support measures than in the German-speaking parts (as evidenced by the implementation of a financial support scheme towards patenting in the French-speaking canton of Vaud). Notwithstanding this, the approach taken in Switzerland calls for **documented and specific cases of market failure which necessitate support programmes in the field of IPR**.

8. Among the **private market of IPR support service providers**, the group of **patent (and trademark) attorneys** stands out. In fact, patent attorneys are – as evidenced through the SME user survey conducted – the most important type of IPR service providers to SMEs. In most instances, they are also typically among the first contact points for SMEs when they run into IPR-related problems. Their primary aim is to assist their clients in filing and registering patents as well as representing their customers vis-à-vis the patent offices. Besides patent attorneys, there is an emerging group of professionals in Switzerland who are characterised as **"IP consultants"** in the context of this study. These professionals, while not being patent attorneys, try to counsel SMEs on topics related to IP management. They differ from patent attorneys in that they claim to have a more business-oriented and broader way of looking at IP appropriation methods, which are not limited to patents. By contrast, patent attorneys traditionally specialise in the technical procedure of the patenting process. This distinction is blurry, however, as many patent attorneys increasingly engage in the same type of "IP management" activities as IP consultants do, while some IP consultants employ trained patent attorneys for filing and registering patents. Other types of activities conducted by "IP consultants" can include the search for licensing partners, IP due diligence (which aims at assessing the value of a company´s IP) or information retrieval (search services in IPR-related databases). Finally, it is also worth mentioning in the private service provision market that there a number of business associations which are especially active in the field of counterfeiting and piracy.

Performance of the IPR support service system

9. One of the factors that explains successful performance of support services is the **institutional set-up**: Historic roots, legal frameworks, prevailing mindsets as well as staff qualification significantly affect the way services are delivered. In Switzerland, the IPI and the CTI stand out as distinctive bodies offering publicly funded IPR support to SMEs. The evidence compiled in the study, however, suggests that the **IPI** (as the tasks of a national patent office, from which it evolved) seems to **lack visibility both with SMEs** (as evidenced by mostly fruitless efforts to reach SMEs with seminars on IPR) and also **within the innovation support system.** For example, the IPI is not mentioned in charts on the Swiss innovation system (e.g., in the OECD report on the Swiss innovation system). This is the result of the historic role of the predecessor organisation of the IPI as national patent office and thus a public administrative body. National patent offices across Europe for the most part have similar problems: The offices are seldom perceived by the target group of SMEs as service organisations. As a consequence, services of the patent offices remain relatively unknown to the target group. The CTI, by contrast, is seemingly well known by SMEs and operates two well branded support programmes which explicitly target small firms. Its reputation in the innovation system can be con-

sidered to be very strong – in terms of IPR supporting activities, CTI embeds those as service elements in its service portfolio. This particular organisational set-up is similar in several aspects to that observed across Europe, where IPR services are predominantly offered by national patent offices, while other activities to foster innovation are provided by technology/development agencies (within which IPR services are nominal, if available at all). Collaboration links between these two types of institutions are rather limited, giving rise to an instance of systems failure. IPR and general innovation-related services are being provided by two separate worlds, though IPR support should be part of general innovation support. Furthermore, patent offices suffer from this situation more as their role as service providers is rather new. In Switzerland, cooperation between the national agency CTI and the IPI takes place, but predominantly at lower hierarchies and seemingly more on an ad-hoc basis. While not fully realized, cooperation patterns are thus still more developed than in many European countries.

10. Regarding the **preparatory activities** as well as the **governance of the services**, the benchmarked Swiss IPR support services fare, on average, better than what was typically observed in the Commission study. For the most part, they underwent well-structured planning processes which frequently involved stakeholders and external experts who counselled the service providers on how to best set up the measures/services. Probably as a result, the goals of the services were quite clear-cut, which is often not observed with support programmes in the field of innovation and technology (as many frequently attempt to pursue too many goals at one time). Similarly, the governance of the services is also better than what is usually seen across Europe, with the conducting (at minimum) of regular monitoring exercises. Most of these exercises are geared towards collecting feedback forms on user satisfaction. Such monitoring exercises occurred for practically all offerings. The fact that some services have not yet been subjected to formal evaluation exercises has to be seen in the light of the fact that IPR services (or for some of the services: the IPR service elements within the support programme in question) are **rather recent**: Most current services were enacted after the year 2001, none date back longer than to 1998. By comparison, 30 % of the benchmarked services in the Commission study were enacted before 1998 and only 55 % 2001 or later.

11. In terms of the **user outreach**, it can be observed that most enterprises supported are micro-enterprises with less than 10 employees. This finding is heavily influenced by the fact that three of the support services, ETH Transfer and the two CTI offerings, have an explicit focus on start-ups with high growth potential and usually with a strong R&D background. Consequently, most of these firms operate in high-tech industries, such as the ICT (Information and Communications Technology) sector or in the biotech and pharmaceutical sectors. However, the IPI's Assisted Patent Search service differs in that it tends to be used by more established and larger SMEs. Moreover, about a quarter of these SMEs is active in low and medium technology (LMT) sectors, such as gardening or construction. The latter group of companies indicates that a certain demand for IPR (even patent-related) services is visible in Swiss LMT sectors as well.

12. The effectiveness of the services has been measured mainly in terms of **user satisfaction** and **behavioural changes (learning effects)** experienced by the SMEs through utilising the service. This approach was taken because the use and non-use of certain IP appropriation methods (including IPR instruments such as patents) strongly depends on the business models and market environment of the supported SMEs. User satisfaction with aspects such as delivery time, quality and relevance of provided information and material is generally reported to be high. The behavioural effects created from utilising the services are similar to the ones seen in the case study services displaying elements of good practice in the Commission study: Most SMEs benefited through better knowledge management know-how (which increased for 52 % of the users), augmented general awareness on IPR issues (increased for 49 % of the user base) and improved patent knowledge in the business environment (which increased for 42 % of the supported SMEs). In terms of the patterns of using different IP protection mechanisms, it is interesting to note that all tools which were enquired into – formal IPR such as patents, as well as informal protection mechanisms such as trade secrets – showed higher usage levels in the support services. For example, the usage of patents increased by 28 % (and that of trademarks by 25 %) in the companies, but so did the usage of trade secrets (the share of companies that made use more of this instrument amounted to 26 %). Relatively few changes in attitude were, by contrast, reported with respect to licensing activities and the usage of registered designs. All of these aspects were seemingly unaffected by service activities. Nonetheless, and in line with the findings of the case studies of the Commission study, the services were able to trigger behavioural changes across many different IPR aspects. This suggests that the services were able to tackle the subject of IP management (in the sense of making a qualified choice between different modes/tools to protect Intellectual Property) to a fair extent.

13. The main explanatory factors for the observed behavioural changes can be seen in the fact that most services take a very **customer-tailored approach** towards the supported SMEs, for example by offering face-to-face coaching: That way the coach/trainer/service operating staff has the possibility to be confronted with the particular situation of an SME and provide advice on a very individual level. This, however, creates a premium on having qualified staff operating the service: 88 % of all surveyed SME users gauge the competence aspect to be “highly” relevant for offering support services in the field of IPR or IP management, a further 7 % gauges this aspect as moderately relevant. Thus, the competence of staff is the most important **key quality factor** for an IPR support service (at least with respect to the types of services which have been scrutinised). Ranking second as key quality factor is the **ease of access and identification**, referring basically to the visibility of the service (for 69 % of the SME users of high relevance, and for 22 % of medium relevance). According to interviewed experts and service providers, visibility should be improved in many of the support services analysed (especially those of the IPI). **Timely delivery** constitutes the third most important aspect (which is unsurprising as timing is generally crucial in the IPR system (e.g., for the registration processes, where those get a particular IPR granted who file/invent it first)). The fourth most important quality factor **is the provision of information on different IP strategies (e.g., why and why not to patent).** This item deserves special attention, as it expresses a need on the side of the SMEs to be informed more on IP management issues. While 61 % deemed this aspect as highly relevant (and another 25 % as moderately relevant), only 45 % thought that information on technical procedures (i.e., “how to patent”) would be a factor of high relevance for the service they used. Spatial distance and, interestingly, referral activities were the aspects which received, by comparison, the lowest significance ratings. Overall, the

analysis of key quality factors yielded results that were in line with those obtained from the Commission study.

Conclusions and recommendations

Based on the findings presented above, the following recommendations have been derived:

1. ***Develop and solidify a clear role of the IPI within the Swiss innovation system*:** With the reform in 1996, the IPI has created the foundation to be the primary competence centre on Intellectual Property in Switzerland. The corresponding organisational changes (also allowing for service provision to SMEs) coupled with the opportunity to cover non-patent related IP and IPR management issues combined with the fact that the IPI reports directly to the government (thus allowing for direct input of IP issues into overall general policy) have created a unique opportunity. This opportunity could allow one institution to be responsible for the topic of IP and IPR as a whole (i.e., not limited to patents) with this institution addressing this topic in a broad manner within the Swiss innovation system. However, there may be still some steps ahead: First, there is a clear need for IPI to be recognised as an important institution of the innovation system for its specific tasks and expertise (besides acting as an authority granting IPR titles, foremost fostering the qualified (!) usage of IPR by researchers, companies etc.). Second, the IPI traditionally specialises in patents and trademark. In this respect, the institute is advised to extend its scope to other IPR and IP approaches. These issues can be addressed by i) extending the scope of IPI activities to explicitly cover also other ways to deal with IP (informal protection mechanisms, licensing) and ii) respective awareness raising with other institutions of the innovation system on the significance/important aspects of the IPR system.

2. ***Examine in detail whether there are instances of market failure with regard to SMEs and IPR usage in Switzerland which make the implementation of new support schemes (or the extension of existing ones) in this field necessary:*** As described above, available IPR support in Switzerland tends to be limited to certain topics and certain industries, resulting from the Swiss stance to keep state intervention a minimum and to offer support only in those areas (which are predominantly high-tech) where it seems absolutely necessary. The user group analysis of the IPI has revealed, however, that even clear-cut patent related services (which clearly require a technological background and a significant inventive step) are in demand with many firms coming from low and medium-tech environments. The IPI should, in conjunction with other institutions, thus consider further investigation of unmet demand by SMEs with respect to IPR services. This should be done in order to determine whether they merit being tackled by potential new support services. As sources of inspiration, the IPI should examine existing dedicated IPR support programmes such as the INSTI/SIGNO patent action in Germany, IP Prédiagnosis programme in France or the innovation protection programme (IPP) in Austria (to name just a few).

3. ***Foster the dissemination of IPR and IP management know-how at the academic level*:** There is a general consensus among the interviewed experts that know-how on IPR and IP management issues in Switzerland is not as wide-spread as desirable. This is true not only with existing SMEs but also with students at technical universities or business schools who are future employees and business owners. This target group deserves particular attention. Though Switzerland has a few significant university offerings in terms of IP management at the post-graduate level (which sets Switzerland above the European average), it seems necessary to foster educational activities (in terms of innovation/IP management courses) also at the graduate and undergraduate level of business schools, technical universities and at universities of applied sciences.

4. ***Increase specific IPR awareness with stakeholders active in supporting businesses:*** The general increase of IPR awareness could be further boosted, if "train the trainer" initiatives for business consultants and other institutions providing general business support to SMEs are launched. That way, some basic support as well as awareness raising measures, such as the identification of probable IPR issues and subsequent referral to IP professionals for in-depth consulting, could also be offered by a group of business supporting professionals/organisations which do not deal with IPR on a day-to-day basis.

5. ***Foster cooperation activities between the IPI and other institutions:*** Ideally, IPR and IP management should be part of the overall innovation management in a business. This is also why IPR and innovation support should be provided in a concerted and coherent way. The fact that IPR support in Switzerland is provided in large part by the IPI, and general innovation support is the responsibility of other institutions (notably, the CTI, but also regional actors) creates a situation with the danger that IPR and innovation are treated as separate topics. Moreover, the lack of visbility of the IPI identified by both interviewed experts and SMEs may result in certain IPR topics being completely out of sight of the target group of the SMEs. Collaboration between the IPI and main institutions providing support in the field of innovation management is thus a necessity in order to provide essential IPR and innovation support as an integrated package to SMEs. Until now, collaboration between the IPI and the other institutions seems to only happen at lower hierarchies and/or on an ad hoc basis (mostly drawing on lectures to be held by IPI personnel on IPR basics); signposting/referral activities between the institutions (especially towards the IPI and its search services) hardly take place. Examining and implementing measures to enhance or institutionalise collaboration between the main actors in IPR and innovation support is therefore recommended – examples at the international level such as the Dutch IOI programme could provide a reference for such activities.

6. ***Maintain close ties with the private sector in order to allow for a well-concerted division of tasks between private and public IPR support services:*** One of the findings of the underlying study was that the private sector predominantly welcomed the IPI and other institutions to be active as IPR service providers. Such activities could provide a "win-win" situation for all parties involved. For patent attorneys, for example, the availability of entry-level IPR support programmes yields a new entry point for their own offerings, e.g. through signposting activities by the IPI or the CTI (or through the fact that patent attorneys may themselves outsource basic IPR awareness raising to the IPI). From the point of view of the public offerings, it is essential that their offerings provide an added value. They need to create effects that cannot be realized absent state intervention (well functioning private offerings should not be displaced, however). To this end, the IPI and other organisations, have established reliable governance structures involving representatives of the private sector (i.e., the involvement of patent attorneys in advisory boards and steering committees) that have proven valuable in designing and adjusting the publicly funded service portfolio. These governance structures can be certainly considered as good practice in an international context and should thus be maintained.

7. ***Develop an IP/innovation strategy which would involve all important institutions in innovation support in Switzerland*:** One of the most unique aspects of innovation support in Switzerland is probably the largely visible absence of central government units (ministries) to coordinate, as "principals", the different supporting activities of relevant agencies and external organisations. The advantage of this approach is certainly the high flexibility the different agencies enjoy at the national and/or regional level in designing their activities. Additionally, the Swiss system allows for direct lines of communication for certain decision-making processes and a greater presence of independence. However, the set-up makes the coordination of multi-agency subjects (as is often the case for IPR) difficult: One is faced with diverging motives and incentives of the acting persons in charge within the institutions. It is thus questionable whether many of the above presented recommendations (e.g., on inter-institutional cooperation) can be successfully tackled, solely based on bilateral agreements. In this context, a national IP/innovation strategy is recommended. Such a national IP/innovation strategy is suggested to outline the responsibilities of all institutions that contribute to the Swiss innovation system. In particular, the role of these institutions regarding innovation support and IPR and their fields of action should be defined.

2 Introduction

This document constitutes the final report to the study "Support Services in the Field of Intellectual Property Rights (IPR) for SMEs in Switzerland – A Review". The aim of the study was to identify all major public support services in the field of IPR for Swiss small and medium-sized enterprises (SMEs), to give an overview over the existing types of IPR services stemming from the private sector, to assess and benchmark the performance of the existing public measures (also in an international context) and, eventually, to derive policy recommendations for improving the system of IPR support services offered in Switzerland to SMEs.

The study "Support Services in the Field of Intellectual Property Rights (IPR) for SMEs in Switzerland – A Review" was commissioned in September, 2007, by the Swiss Federal Institute of Intellectual Property (IPI), as part of its "SME-IP" initiative. This initiative consists of four consecutive study modules and one implementation module: (i) a survey of Swiss SMEs and their usage of means to protect/exploit intellectual property (ii) a benchmarking study on public (and in parts on private) support services for SMEs in the field of IPR, (iii) an econometric analysis of SME-IPR usage, based partly on the survey of module 1, (iv) the execution of case studies showing how Swiss SMEs can effectively use the IPR system and (v) the implementation of new and/or adapted support services, which take into account the results of the before mentioned modules. The underlying study constitutes the second module of the above mentioned SME-IP initiative.

The rationale for this undertaking can be seen in a number of factors:

- First, there has been a considerable rise of the use of IPR world-wide, with demand for some IPR instruments (i.e., patents) tripling in Europe over the past ten years (Trilateral Statistical Report, 2004 and 2005, cited in Gowers, 2006). This development reflects the emergence of the so called "pro-patent" era, where ownerships of rights to innovations are said to constitute a major competitive advantage as they help protect innovative activities (which are, in turn, seen as a major contributing factor to economic growth and welfare (e.g., European Commission, 2003).

- Secondly, the importance of SMEs for the Swiss economy has to be noted: According to the Swiss Federal Council (SECO, 2007), 298.000 out of 299.000 registered companies in Switzerland satisfied in 2005 the SME definition of the European Commission by employing less than 250 persons.[2] While only a small fraction of this SME population in Switzerland is considered by Swiss study authors as "dynamic" (in the sense that these firms are operating in industries with a potential to become growth drivers, most notably in "high-tech" industries or as "providers of modern services") (Arvanitis & Hollenstein, 2004, in: SECO, 2007), the Swiss Federal Council nonetheless underlines – in line with findings for other European countries and embodied into respective national technology policies – the importance of SMEs for the national innovation performance (most notably, a clear reference is being made to innovative micro-enterprises and start-ups) (SECO, 2007).

[2] As will be discussed later, there is no genuine official Swiss definition of the term SME. However, most Swiss studies analysing SMEs revert to the EU definition, making it a "de facto" standard.

- Third, evidence suggests that SMEs use the IPR system to a disproportionately small extent compared to larger enterprises (see, for example, Blackburn, 2003, WIPO, 2003) and refer to informal protection strategies instead. Similar findings are also available for Switzerland (Thumm, 2006) Reasons frequently mentioned are those of prohibitive costs for obtaining IPR protection, enforceability issues or lack of awareness on the side of the SMEs on how to effectively use IPR.

As a result, many national governments in Europe (among which also the Swiss administrative bodies) have implemented support services for SMEs in the field of IPR which aim to help small and medium-sized firms to overcome difficulties in dealing with IPR and to improve IPR usage. The main purpose of the study is to answer the question of whether the implemented services operate effectively and efficiently, and whether they properly address the relevant issues.

The IPI contracted the Austrian Institute for SME Research (KMU FORSCHUNG AUSTRIA, KMFA) for the corresponding investigation, as the study team executed a similar benchmarking analysis for the EU-27 countries, the U.S.A, Japan and Australia and a number of other smaller non-EU countries on behalf of the European Commission, DG Enterprise and Industry (see Radauer, Streicher & Ohler, 2007). By applying a similar methodology it was sought not only to achieve the stated study goals, but also to be able to put the Swiss support services in a direct comparison with those services described in the Commission study.

The report is structured as follows:

- Section 2 describes the study methodology.

- Section 3 elaborates on the institutional set-up for IPR service provision in Switzerland. The main public IPR service offering bodies are presented at regional as well as at national level. In addition, an overview over actor groups in the private market for IPR service provision is given.

- Section 4 describes the various public support services in place, again either at the national as well as at the regional/cantonal level. This section is intended to give an overview of the present situation. In addition, some (larger) services are described in more detail in the case studies part of this report (annex I).

- Section 5 presents the findings of the benchmarking exercise conducted on those services which were of sufficient scope to be subjected to such an analysis. The benchmarking section looks in detail at the way these services are designed, implemented and the performance they achieve. At the end of this section, a table is given which compares the Swiss system of support services and its performance to the average situation at the EU level.

- Section 6 holds the conclusions to this study and the policy recommendations.

- The annexes to this report include six detailed case studies on public IPR support services in Switzerland (annex I), a tabular overview covering interviewed persons (annex II) and a list of regional bodies extending support to SMEs (annex III).

Acknowledgments

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3 Study methodology

3.1 Overall study design

The overall study design reflects in most parts the design of the study "Benchmarking National and Regional Support Services for SMEs in the Field of Intellectual and Industrial Property" (Radauer et al., 2007), commissioned by the European Commission, DG Enterprise (from hereon also referred to as the Commission study). This approach was taken in order to ensure maximum comparability between the results of the Commission study and the Swiss analysis. Notwithstanding this, certain adaptations have been implemented in order to better account for Swiss characteristics of IPR[3] support services within the national innovation system and to provide a broader coverage on a specific national level (the Commission study looked at generic services and did not have specific country analyses as units of observation).

Against this backdrop, the study uses a range of qualitative and quantitative methods:

- Desk research and document analysis
- Expert interviews
- A case study analysis of selected support services, incorporating a standardised user survey among SME users of the implemented initiatives

These methods were applied, similar to the Commission study, in three consecutive stages:

1. The identification and context analysis process of IPR support services
2. The benchmarking analysis of selected IPR support services
3. The case study analysis of selected IPR support services

In the following, each of these stages is described in greater detail. Besides outlining the main characteristics of the approach, differences to the Commission study and important consequences resulting hereof are also discussed.

3.2 The identification and context analysis process

The identification process constituted the first stage of the analysis. Its aim was twofold: First, to identify and categorise IPR support services for SMEs in Switzerland. And second, to describe and assess key characteristics of the Swiss innovation support system and the role IPR play in it.

The study started with a document/literature analysis in order to gain insight into the Swiss innovation policy system and the way IPR issues are handled within this system. Furthermore, a series of **open qualitative interviews** was executed in order to obtain the opinion of key players in the field of innovation/IPR support on the necessity and performance of existing IPR support services for SMEs (a list of interview partners is provided in annex II).

[3] For the definition of the term Intellectual Property Rights (IPR) used for the underlying study, see the service eligibility criteria in the next section (section 2.2).

Information on the identified IPR services for SMEs were catalogued according to a semi-standardised identification form. This identification form relates to information on service features such as names and contact addresses of the service providers, types of concerned IPR or whether the services expilicitly address SMEs.The data was then entered into a database.

Services[4] which would be eligible for inclusion in this database would have to satisfy the following conditions:

1. They would have to have SMEs[5] as a target group, either explicitly (by mentioning or having SMEs as the sole user group) or implicitly (i.e., if the user group would consist in larger parts of SMEs).[6]

2. They would have to be offered on a national or regional (cantonal or city) level.

3. Services could be either publicly or privately funded – this is an important difference to the Commission study which only looked into publicly funded offerings. However, due to the heterogeneity of private IPR service designs and also due to the different intervention logic (private service providers aim to produce profits, whereas public services address market failures and usually have no profitability targets) private offerings were only discussed in the course of an overview. This was done in order to understand the principal building blocks of the private market and thus to better gauge possible displacement/enhancement effects when implementing public offerings.

4. Eligible services would have to address, explicitly stated, issues surrounding Intellectual Property Rights (IPR).[7] As with the Commission study, the scope of the IPR instruments in the focus of support services was enlarged to also include services which tackle IP protection instruments other than patents and even informal IP protection/appropriation methods, such as trade secrets (for a full discussion of different ways to protect/appropriate IP, the reader shall be referred to

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[4] In this context, the term support service refers to offerings that *"assist enterprises or entrepreneurs to successfully develop their business activity and to respond effectively to challenges of their business, social and physical environment"* (European Commission, 2001).

[5] Although there is no official Swiss definition of the term SME, most of surveyed Swiss literature utilises the definition of the European Commission. This pecularity and also the desire to keep the study as comparable to the Commission set-up as possible was the reason why the SME definition of the European Commission was applied for the underlying analysis. The definition of the European Commission states that SMEs are firms with less than 250 employees and which have either an annual turnover of less than or equal to € 50 Mio or a balance sheet total of less than or equal to € 43 Mio (European Commission, 2005).

[6] As the unit of analysis for service users are SMEs, services which do not have direct SME representatives as customers (e.g., educational offerings at universities of applied sciences for students who would, after graduation, seek for a job with an SME) are not regarded as "IPR SME support services" in the context of this study (see also section 5.4.3).

[7] For the term Intellectual Property Rights (IPR) and for the underlying study the definition of WIPO is used: *"Intellectual property, very broadly, means the legal rights which result from intellectual activity in the industrial, scientific, literary and artistic fields. Intellectual property is traditionally divided into two branches, "industrial property" and "copyright". The branch "industrial property" covers inventions and industrial designs and includes in addition trademarks, service marks, commercial names and designations. The area mentioned as protection against unfair competition may also be considered as belonging to that branch. Areas belonging to the branch "copyright" are related rights (performances and performing artists, phonograms and broadcasts) and literary, artistic and scientific works."* (WIPO, 2004, p. 3f.)

the ubiquitous literature in this context (e.g. Gowers 2006, Blackburn 2003, LIIP 2003)).

In the course of the identification and context analysis, 31 open interviews with Swiss patent attorneys, services providers and stakeholders, other types of IP professionals as well as SMEs were conducted, mainly in a face-to-face manner.

3.3 The benchmarking process

Identified services of reasonable scope were subjected to a **benchmarking process**. Again, this constitutes a major difference to the Commission study which included only services in the benchmarking phase which had to fulfil a number of – mostly qualitatively assessed – criteria.[8] The present study did not completely apply the selection criteria of the Commission study in order to allow for a full assessment of the IPR-SME support system. One important selection criterion was nonetheless the size of the measure, as extremely small[9] offerings cannot be meaningfully benchmarked. In total, seven services were identified and benchmarked; the names of the services are given in table 2 (page 21).

The actual indicators used to assess the performance of the benchmarked services were the same as in the Commission study. The benchmarking form utilised to measure the strengths and weaknesses of the services was, consequently and for all practical purposes, identical to the benchmarking form at the European level.

The **benchmarking criteria** employed were derived on the assumption that in order to analyse a heterogeneous set of support services and determining whether one support service is doing better than another, it is necessary to ensure two things: On the one hand, that the measures used allow for comparisons among all types of services analysed, and on the other hand that the measures also take into account service and context specific modes of action which contribute to the success of the service and are not immediately identifiable as such by an outside person. It is clear that no single performance indicator can fulfil these functions simultaneously.

Notwithstanding this, there are a number of requirements which have been repeatedly identified in research and literature and which a policy intervention (be it a policy itself, or a support service or programme derived from it) must meet in order to be considered successful (Friedewald et al., 2004): The policy intervention has to be *necessary* (there has to be a market failure which needs to be addressed) and *achievable* (which relates foremost to work done in the design phase of the intervention). It also has to be *manageable* (this relates to the ability to quickly respond to changes in the framework conditions of a service), *measurable* (one ought to know whether a service is currently

[8] The Commission study laid out seven selection criteria for services in order to be included in the benchmarking phase: 1) clear and soundness of the objectives stated for the services 2) clearness of the service design and service offerings 3) a focus on registrable IPR instruments 4) level of innovation employed with respect to ways of pursuing service goals 5) take-up by SMEs and/or other available performance measures 6) country context (in order to account e.g. for different stages of economic development) and 7) policy context (referring to the way the service interacts with other innovation support measures).

[9] A case in point could be a regional consulting service which claims, among many other subjects, to extend support also in IPR matters. In many such instances it is not possible to determine who of the (usually very small number of customers) actually received IPR support and to what extent IPR consulting was being provided, as such differentiated data is often not collected.

performing well or not; hence, the necessity of a monitoring system), *connectable* (the measure must be able to reach out to key stakeholders and target groups and interact with them) and, eventually, it has to provide an *added value*. The latter aspect demands that a policy action/support service should achieve something which would otherwise not have happened at all (pure additionality) or would have happened to a lesser extent (e.g., later in the future). A further requirement can be seen in the fact that experiences gathered should allow for *long-term learning.*

The so-called *policy cycle model* is, especially in Europe, a generally accepted way of tackling the requirements outlined above; it is believed that policy interventions of all sorts which follow the cyclic model perform better than interventions which pursue other ways of achieving their goals. The model suggests that a policy intervention ideally distinguishes three phases, each accompanied by evaluations which assess how well the service is performing in that particular phase (Radauer & Zinöcker, 2006):

- In the *design phase*, amongst others, the need for the intervention and how this intervention should be designed is assessed, the goals are stated, the instruments with which to tackle the problem are considered, and the possible outcome is gauged.
- In the *implementation phase*, attention is paid to the daily operation of the service, as can be seen in the amount of overheads involved, the lines of responsibility, the complexity of internal communication flows, the operation of available monitoring systems or the way and extent to which marketing activities are carried out.
- The *results phase* focuses on the performance of the service, e.g. in terms of achieved goals with respect to the target group. Lessons learned form the ex-post evaluation tackling this issue are then used for developing a new policy intervention or for modifying the existing one (or shutting the policy intervention down, if the goals have been achieved to the extent that there is no need any more for policy intervention). As a consequence, the cycle is restarted from the beginning.

The systematic approach of the policy cycle model (with its close adherence to evaluations) – together with the identified framework conditions – determines the structure of the system of benchmarking indicators which was developed for the purpose of the underlying analysis. The indicators developed are to reflect the different elements of the policy cycle. In the context of IPR support services, distinctive groups of indicators have to separately address the three policy phases outlined above. At the same time, the indicators have to take account of the specifics of IPR. The latter aspect was a special challenge regarding the design of performance indicators. The Commission study revealed that IP protection and management is highly specific to the market environment of the company. As a consequence, indicators have to be chosen carefully (e.g., just measuring the evolution of the number of filed patents with support from the service might not be sufficient or even misleading to measure the success of a service) and the values these indicators take interpreted cautiously.

Table 1 lists the most important benchmarking indicators used in the scope of the benchmarking exercise. For turning these indicators operational, and in order to account of the heterogeneity of the services analysed, a rather qualitative approach was taken, using a mix of open-ended as well as closed questions for the design of the benchmarking form. This guideline was applied to an interview with the respective service provider, and to the subsequent assessment of the information gathered.

Table 1 Overview of important benchmarking indicators used for assessing the performance of the IPR support system

Benchmarking dimensions and benchmarking criteria		
Development and design		
1. expert input	2. preparation time	3. soundness of the goal system
4. stakeholder input	5. existence of a predecessor service	6. budgets allocated
7. ex-ante assessments	8. existence of target figures	9. human resources employed (quality and quantity)
Implementation		
1. choice of service offering organisation	2. relationship with national, regional and EU policies	3. level of integration with other (IPR and non-IPR) services of the service offering institution
4. cooperation patterns between different department units and/or external organisations (division of work(contractual agreements)	5. existence of in-house and external referral activities	6. efficiency of administration
7. interim evaluations	8. monitoring	9. other types of quality assurance mechanisms during implementation phase
10. marketing activities	11. geographical location of service provision – spatial distance to customers	
Performance and results		
1. input: expenditures for service activities (e.g. volume of provided subsidies)	2. output: take-up by SMEs (e.g., number of SME beneficiaries)	3. output: level of knowledge about the service in the target group (e.g., hit rates for web pages)
4. output: outcome measures (e.g., number of patents filed with support from the service)	5. added value/additionality	6. changed attitudes towards the usage of different IP protection instruments
7. reputation of the service within the target group	8. increased awareness of SMEs regarding IPR	9. general user satisfaction

Source: Austrian Institute for SME Research/Technopolis

It has to be kept in mind that the benchmarking data is thus primarily based on desk research and foremost on provider perceptions. It can be argued that especially the latter might only give a biased (and to an extent also superficial) view on the success of a service. This problem is inherent in benchmarking studies such as the one conducted, where there is a trade-off between getting a comprehensive overview and at the same time providing as much detailed information as possible.

However, the possibility to conduct user surveys (see section 2.4) in the course of the subsequent case study analysis with a significant amount of SMEs, and to interview more than one person per service with regard to stakeholders and IPR experts provided a unique opportunity to empirically substantiate the findings from the benchmarking phase regarding good practice elements. Furthermore, the user survey also allowed the identification of elements of good (and also bad) practice which were not reported as such by the service providers.

3.4 The case study analysis

Six of the seven services benchmarked were subjected to the case study analysis as the final phase of the investigation. At the heart of the case study analysis rested a (mostly standardised) user survey with SME users of the measures, complemented in party by additional expert/stakeholder interviews.

The questionnaire employed was, again to ensure maximum comparability with the Commission study, in almost all points identical to the one used for the corresponding European-wide analysis.[10] Some refinements were implemented in order to better analyse traits of the user groups or to obtain some additional information on licensing activities. Corresponding questions on, for example, the industry the SMEs are operating in or the year of company foundation are thus only present in the Swiss dataset, but not in the EU-wide dataset.

Overall, the questionnaire was designed in such a way that the questions asked would fit all types of IPR support services under scrutiny (i.e., the questionnaire used was, with minor exceptions, identical for all services). As can be expected for such an approach, there are clear limits to obtaining service-specific information. On the other hand, this approach allows for cross-service as well as cross-country comparisons.

Following the requirements of the European Commission regarding its benchmarking study, the present study aimed for at least 50 successful interviews for each examined service. As can be seen from table 2, the achieved figures fell in several instances short of the target. This is due to either the small size of the services in question and/or limited availability of address material. In cases where the number of available SME contact addresses was very low, two to four additional (open) interviews with service stakeholders were carried out. This approach ensured the availability of extra information for assessing the performance of the service and for securing a reasonable information base for the write-up of the case study. In consequence, the write-up of case studies with a small number of available interviews (<20) had a more qualitative character than in cases with a higher number of respondents.

[10] The only larger exception was the questionnaire for the extended telephone switchboard of the IPI, which had to be scaled down and slightly modified, resulting from the small scope of IPR support extended (see also respective case study No. 6 in annex I).

Table 2 IPR Support Services in Switzerland benchmarked, response rates for the user survey

No.	Service Title	Contact Addresses [n]	Contacted [n]	Responses [n]	Response Rate [%]
1	The IPR Roadmap and Assessment of the CTI Start-up programme (CTI)	56	56	35	62.5%
2	venturelab – IPR workshops/lectures within the venturelab programme (CTI)	100	100	48	48.0%
3	Assisted Patent Search (IPI)	171	171	61	35.7%
4	Lecture activities on IPR for SMEs, held by IPI personnel (IPI)	32 *)	32 *)	9 *)	28.1%
5	ETH transfer – IP services for ETH Zurich spin-offs (ETH Zurich) **)	176	176	24	13.6%
6	Extended telephone switchboard (IPI) ***)	13	13	5	38.5%
	TOTAL	**548**	**548**	**182**	**33.2%**

*) In the beginning, a total of 120 adresses were delivered for various seminars with IPI lecturer participation. However, in the course of the research it turned out that the contacts were in large parts representatives of larger corporations or, alternatively, people who thought about founding a company but were very early in the process of actually doing so. Accordingly, only 32 addresses were within reasonable limits of the intended target group for the survey.

**) benchmarked as an example for a technology transfer organisation (TTO) working on behalf of a university

***) benchmarked as part of the IPI baseline services

Source: Austrian Institute for SME Research

The survey(s) was/were carried out by telephone in the timeframe of April 2008 to June 2008. SME users were contacted up to three times by KMFA research personnel who interviewed the users utilising either an English, German or French version of the questionnaire. Altogether, from a total of 548 attempted contacts, 182 interviews were successfully completed. The corresponding response rate amounts to 33.2 %.

3.5 Implications for the comparability to the Commission study

The differences between the methodology applied in the Commission study and the Swiss analysis, as described in sections 2.2 to 2.4, entail a few subtle consequences which need to be underlined when comparing the two studies:

- While the Commission study aimed at identifying good practices or at least elements of good practice, the present study sought to provide an exhaustive analysis of the situation in Switzerland. Correspondingly, the number of identified Swiss services is typically larger than that of other European countries because the Swiss analysis included all services whereas the Commission study only sampled the most significant ones.

- Accordingly, some services which were examined in this study may not have been considered a “good practice service” or a “service describing good practice elements” according to the criteria of the Commission study. However, it is safe to say that about three Swiss services would have been among the final 15 case studies of the Commission study had Switzerland been included in that investigation. In this sense, Switzerland would have found itself among the better performing countries in Europe. It has to be kept in mind, though, that the IPR support service systems for SMEs are faced with considerable challenges across Europe – even in those countries which have, by comparison, good offerings in place.

- Eventually, other small differences exist either because of adaptations of the methodological instruments to Swiss specifics or due to refinements undertaken. This applies for example to the above stated inclusion of questions in the case study user survey on the year of business foundation or the industry the SME respondent is operating in – such variables were not enquired into in the Commission study. However, these specific adaptations do not hamper overall comparability between the two studies.

4 Institutional set-up in IPR support provision

4.1 Introduction

The identification process has revealed a number of institutions – both private and public – which offer IPR support services relevant for SMEs, though the degree to which SMEs are targeted with services addressing IPR varies considerably. The following public institutions offer respective IPR support:

- The Swiss Federal Institute of Intellectual Property (IPI)
- The Swiss Innovation Promotion Agency CTI
- The Chambers of Commerce and Industry in Switzerland (CCIS)
- The network(s) of technology centres, incubators and business parks[11]
- The technology transfer services of universities (partly)

The private sector offers also support to SMEs in IPR matters on a commercial basis; in this context, the following group of players can be distinguished:

- The system of patent attorneys
- Private companies offering advice in IP management matters (characterised as "IP consultants" for the purpose of this study)
- Business associations (partly industry specific (e.g., Federation of the Swiss Watch Industry)), but also centred around IPR topics (e.g., PROMARKA, an association with the aim to promote and enhance trademark usage)

The following section 3.2 will outline the characteristics of public institutions and the IPR services and service elements offered; an overview over privat sector actors in IP service provision is given in section 3.3. Detailed descriptions of publicly funded SME-specific IPR support services are provided in the subsequent chapter (section 4), following the presentation of the relevant cast of actors.

4.2 Public service providers

The Swiss Federal Institute of Intellectual Property (IPI)

Headquartered in Berne, the Swiss Federal Institute of Intellectual Property (IPI) defines itself as the national competence centre and main entry point for information regarding IPR and the protection of technology and know-how in Switzerland. It is the federal agency for intellectual property matters, thus taking over the duties of a national patent and trademark office. After a reform in 1996, the IPI has some very specific features that set it aside from other national patent offices in Europe.

[11] It is not easy to establish whether a particular technology centre is a private one and which one is a public offering. Many such centres receive public funds, but are privately managed. For the sake of simplicity, and because of their similar functioning, technology centres/incubators will be treated as a whole under the section of public offerings.

The IPI acts as a government office which receives applications for patents, trademarks and designs and grants them to the applicant. This function constitutes the main task of any patent office, though one peculiarity is given through the Swiss patent law in the fact that the IPI does not examine a patent application with regard to its novelty or inventive step. Furthermore, the Institute is (i) responsible for drafting legislation in the field of IPR, (ii) acts as a consultant to the Federal Council and other federal bodies concerning IPR matters, and (iii) represents Switzerland in IPR matters at the international level (WIPO, OECD, TRIPS etc.). Especially the former two points set the IPI aside from other patent offices, as the IPI is directly subordinated to the Swiss federal government.

The IPI is operated as a legal entity, registered with the Switzerland's Commercial Register, and acts autonomously. Its funding is provided through income generated by registration fees and fees claimed for the usage of IPI services – its budget is thus independent from the Swiss federal budget. Another important characteristic is the fact that the IPI distinguishes between sovereign tasks arising from its status as a public office/department (i.e., the handling of patent and other IPR registrations, but also e.g. support actions for SMEs) and the so called “freier Dienstleistungsbereich” (commercial services section). The IPI has the right to operate services at market prices, and thus be in competition with private service providers – the requirement is that no cross-subsidising is to take place, i.e. that the revenue generated from operating commercial services completely covers the costs. Provisions to this end are implemented in the accounting system; nonetheless, the IPI has to make sure that no unwanted “crowding out” effects take place with regard to private service.

The service offerings of the IPI – both subsidised and at market prices – have evolved since 1996 and focus now primarily on (patent and trademark) information provision (according to interviewed experts, the services were set up much broader in earlier times (see also Ledergerber & Kurt, 2003; Kurt, 1999; Kurt, 2000)). The IPI supports IPR awareness raising initiatives through the publication of booklets and documents, public seminars, lectures and workshops. The premium product “IP-search”, for example, focuses on IP professionals and comprises tailor-made database searches on patents and trademarks, accompanied by additional support services, such as training courses for researchers and practitioners. Awareness raising events are offered on a regular basis; they actively target secondary schools and universities in order to promote the usage of IPR, often in the context of overall innovation objectives. Similar initiatives are, moderately priced, offered in co-operation with local business development agencies, chambers of commerce or other external partners. Special offerings are available for SMEs, universities and also the general public. Nearly all these services require the IPI staff to give presentations which are to match the needs of the audience. A special noteworthy programme of the IPI is the service “Assisted Patent Search” (see case study No. 3), an offering particularly fitting the needs of SMEs. By drawing on this service SMEs may conduct, with the help of an IPI employee, up to half a day of research in free patent databases at the premises of the IPI.

The Swiss Innovation Promotion Agency CTI

The Swiss Innovation Promotion Agency CTI is the national innovation promotion agency and an important instrument of federal technology and innovation policy in Switzerland. Implemented by the Federal Department of Economic Affairs (SECO) and funded by the Federal Office for Professional Education and Technology (OPET), CTI aims to promote innovation and its commercialisation as well as the transfer of knowledge and technology. Under these objectives, the agency offers a wide range of

innovation related services, addressing also IPR, provided by trained in-house specialists and external experts. Financial assistance is available for selected R&D projects. Although no specific disciplines or technology fields are targeted, the main focus lies on life sciences and biotechnology, nanotechnologies, engineering, microsystems technology and enabling sciences.

The CTI has two outstanding lines of activities: One handles support of R&D involving university research and/or technology transfer from science to industry (i.e. cooperative research projects involving dedicated R&D institutions, support of technology transfer), the other focuses on business support in innovation matters.

In particular, these two lines of activities are described as follows:

- R&D Support and technology transfer: With **CTI Project Support R&D**, the agency encourages science-to-market activities and promotes R&D projects that are carried out jointly by private-sector industry and academia. Industrial project partners can benefit from extended support, but financial assistance is only available for the R&D undertaking universities. If granted, around 50 % of the entire project costs are funded. Industry partners are requested to cover their own project expenses. This activity line has no IPR element that would be relevant to SMEs.

- Direct business innovation support: Furthermore, CTI operates a nation-wide entrepreneurial educational and training programme, a dedicated start-up scheme and a platform for matching start-ups with venture capitalists and business angels: **CTI Start-up** is a scheme where entrepreneurs are invited to apply for subsidised coaching/business consulting, provided by experienced entrepreneurial personalities. Successful projects are awarded the **CTI Start-up Label**. Under the umbrella term **CTI Entrepreneurship** the service **"venturelab"** is offered, a support programme for potential business founders, university graduates and start-ups to support their entrepreneurial efforts. This programme comprises step-by-step trainings and a series of seminars. Finally, CTI runs a platform (**CTI Invest**) with the goal to facilitate access to finance for start-ups, whereby business angels as well as both national and international venture capital firms are targeted from the financial sector. Established as a private independent association, CTI Invest is operated as a private-public-partnership (PPP) together with private stake holders. All of these services have in-built IPR service elements; in the case of venturelab and CTI Start-up they are of such scope that they merit being discussed as case studies of IPR service offerings in Switzerland (see section 4.1 and case studies No. 1 and 2 in annex I).

As the services mentioned under the second bullet point address on the business side start-ups, they clearly have an SME focus. It has to be noted, though, that CTI only has the legal mandate to promote technology start-ups: Low- and medium-tech SMEs (both existing and start-ups) and existing high-tech SMEs, as well as large enterprises, are not supported by CTI activities.

Regional chambers of commerce and industry in Switzerland (CCIS)

18 local chambers of commerce and industry are present in Switzerland. As service organisations for the business community, the main tasks are representing regional economic interests, promoting the business location and serving its members by offering a variety of supporting activities. In general, the majority of these services aim to

foster the competitiveness of local enterprises, to attract new businesses and to offer assistance with export ventures.

Looking closer, some chambers provide also innovation support and technology transfer measures, often carried out in co-operation with an external partner, e.g. a local university or technology park. An example would be the technology transfer service FITT, offered by the Aargau chamber of commerce and the University of Applied Sciences Northwestern Switzerland (FHNW). Local businesses can get technical assistance at FHNW, where experienced university personnel offer short-term counselling, answer related questions and provide referral services; other TTF services of chambers of commerce work in a similar manner. In this context, only a few (four) services were identified which explicitly address IPR related issues (see section 4.2) mostly through referral activities or by providing first baseline information.

The State Secretariat for Economic Affairs (SECO)

The State Secretariat for Economic Affairs (SECO) is, according to its website, *"the Federal governments* [competence] *centre for all core issues relating to economic policy. Its aim is to ensure sustainable economic growth by putting in place the necessary regulatory and economic policy conditions."*[12] SECO is subordinated to the Federal Department of Economic Affairs (FDEA). The SECOs main tasks can be summarised as follows: mediation and facilitation with regard to issues surrounding industrial relations (labour market policy), contribution to ensuring access to all markets for Swiss goods, services and investment (i.e., implementing and shaping foreign trade policy), and coordination of Switzerland's relations to the European Union (through SECO's participation in the Integration Office, a joint effort involving also departments other than the FDEA). Parts of its activities cover also SME policy, most notably through operating the SME webportal "http://www.kmu.admin.ch" (see section 4.1). The website provides also useful links on IPR issues.

Regional business development agencies

At a regional level, local business development agencies ("kantonale Wirtschaftsförderung"), owned by their respective canton, are available in each of the 26 cantons to assist with business related subjects. In general, business development agencies aim to attract investors and enterprises to their respective areas, for example by offering services such as information about the business location (e.g. labour market, quality of life, and current tax levels) and assistance with questions towards founding a company (e.g. real estate searches, financial assistance, and social security issues).

The mediation of contacts to public authorities or referral activities to relevant institutions can be considered as one of the core services offered. In case of more complex issues, i.e. questions related to innovation or technology, agencies tend to co-operate with or refer to, for example, local technology centres or incubators. Depending on the project, the offerings of national agencies (e.g., CTI) are promoted as well. Services tackling the subject of IPR explicitly have been identified in the regional business development agencies in the cantons of Grisons, Thurgau, Vaud and Valais. These services mostly consist of basic information provision and/or re-assignement to competent partners (with the exception of the canton of Vaud, which offers a financial subsidy for patent applications) (see section 4.2).

[12] www.seco.admin.ch

Technology centres/parks, incubators and business parks

During the identification phase, more than 50 technology centres, incubators and other similar innovation and business related initiatives were identified across Switzerland (see annex III). The majority of these facilities aim to assist local SMEs or start ups with innovation and technology transfer related support. In addition, office space and infrastructure is provided; some help with financial assistance and/or with finding investors. Services available and organisational modes differ a lot, even if the same term[13] is used.[14] Five technology centres/parks were identified which explicitly extend support in IPR matters, again mostly basic information and referral services (see section 4.2).

Technology Transfer Offices (TTOs) at universities

During the last decades, the ETH ("Eidgenössische Technische Hochschule", Swiss Federal Institute of Technology) Zurich and the EPFL (Ecole Polytechnique Fédérale de Lausanne) Lausanne, the four ETH research institutions of the ETH domain and the cantonal universities have established their own formal technology transfer offices (TTOs). Although most of these facilities offer similar services and experience, the institutional set-up differs widely with respect to size, strategy and legal status of the TTOs. (Vock, 2003)

Co-operation agreements allow other institutions, such as universities of applied sciences or institutes of a Federal office, to use the services offered by a TTO. Such services are structured around the negotiation of research agreements, legal aspects, material (rights) transfer agreements and other related contracts (Vock, 2003; Chardonnens, 2006). TTOs also provide education and trainings, as for example workshops or seminars on IPR, a subject which is at the core of most TTO activities.

Examples of TTOs and their service offerings are UNITECTRA and ETH transfer (of the Swiss Federal Institute of Technology (ETH) Zurich). Universities of applied siences (UAS) in Switzerland have also set-up similar initiatives during the last years, but generally on a lower scale. Regarding technology transfer, the UAS focus on practice-oriented know-how solutions for local companies or individuals but do also co-operate with universities and ETH's.

The majority of the Swiss university TTOs only deal with the IPR management for their home institution; however, as maximising the benefit for the home institution by generating licensing income frequently coincides with fostering the creation of university spin-offs (which often entails licensing technologies out to SMEs), one can easily spot the significance of such services for SME policy.[15]

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[13] Examples are: "science parks", "research parks", "technology centres", "innovation centres", "incubators", "start-up initiatives" or "business parks' (Luger & Goldstein, 1989, Sternberg, 1988; cited in: Thiernstein & Wilhelm, 2001).

[14] Thierstein & Wilhelm, 2001, who analysed incubators, technology, and innovation centres in Switzerland, argue that it seems that such *"labels are used at random or to deliberately create an image of modernism or hightech although quite many of these centres are not much more than common business parks."*

[15] As a matter of fact, in countries like Japan the establishment of technology transfer offices (there called TLOs, technology licenses offices) lies at the heart of explicitly stated strategies to promote qualified usage of IPR by SMEs (see Radauer et al. 2007; pp. 99–104).

4.3 Overview on identified private/commercial IPR service providers in Switzerland

Private service providers in the field of IPR which SMEs can use can be, according to the results of the identification process, grouped into the following categories:

1. (Freelance) patent and trademark attorneys
2. IP consultants (includes for the purpose of this study also institutions offering vocational training on IPR matters)
3. Private business associations with IPR-related activities

It has to be noted though that the service offerings in the private sector seem to be quite heterogeneous and may cover – at the firm level – service elements typical for any of the three groups; consequently, the cutting lines between the stated categories do not entail mutual exclusive groups of service providers.

In the following, the three stated categories are described in more detail.

4.3.1 Patent (and trademark) attorneys

Patent and trademark attorneys are probably the most important type of service providers among all private (as well as public!) IPR service providers for SMEs (see also section 5.3.1). Table 3 lists the number of patent attorneys[16] and trademark attorneys with offices in Switzerland, broken down by cantons in which the offices are located (Source: IPI; http://www.ipi.ch). In total, there are 142 patent and 477 trademark attorneys listed (as of August 4, 2008). These figures reflect the fact that the number of legal disputes on trademark issues (in particular on counterfeiting) by far outweighs the number of patent infringement cases. As can be expected, most patent and trademark attorneys are located in the bigger urban areas.

[16] Patent attorneys listed include only those that have also a license as European patent attorneys, issued by the EPO (European Patent Organisation).

Table 3 Total number of patent and trademark attorneys/lawyers, listed by the IPI *)

Canton	Patent attorneys**)	Trademark attorneys
Aargau	3	26
Appenzell Inner Rhodes	0	0
Appenzell Outer Rhodes	1	2
Basel City	11	26
Basel Land	4	9
Berne	3	48
Fribourg	0	3
Geneva	18	50
Glarus	0	0
Grisons	2	7
Jura	0	0
Lucerne	2	15
Neuchâtel	8	12
Nidwald	4	5
Obwald	0	0
Schaffhausen	3	3
Schwyz	1	6
Solothurn	2	9
St. Gall	14	29
Thurgau	3	9
Ticino	6	17
Uri	1	0
Valais	0	5
Vaud	8	23
Zug	4	19
Zurich	44	154
Total	142	477

* Patent attorneys could in theory also be trademark lawyers, i.e. both groups may not be mutually exclusive.

** Patent attorneys practising in Switzerland and licensed by the European Patent Organisationas European as European patent attorneys

Source: Swiss Federal Institute of Intellectual Property (IPI)

A speciality can be seen in the fact that until recently there was no specific educational requirement for becoming a patent attorney in Switzerland (i.e., no specific exam had to be taken, and no specific education had been offered to this end). As a result, anyone was entitled to call him or herself a patent attorney if some basic requirements were met. Irrespective of this situation, and in order to represent Swiss clients in front of the European Patent Office, many existing Swiss patent attorneys also took the exam to become a European patent attorney.

A recent proposal for a patent attorney law in November 2007 (see EJPD, 2007) will, once enacted, change the legal situation of patent attorneys in Switzerland, however. Following its implementation, professionals who want to call themselves "patent attorney" have to undergo rigorous education, have to pass a special exam, and have to prove that they have work experience in patenting matters. Furthermore, they will need to register in their capacity as patent attorneys. Similar to most other countries, it is planned that the use of the title “patent attorney” is contingent on the completion of a university degree in engineering fields or in the natural sciences.[17] Patent attorneys who bear that title before the bill comes into effect are still allowed to work in such capacity if they fulfil some conditions: They have to show that they either have pursued a full-time activity as a patent attorney in Switzerland for more than six years, or that they have pursued a fulltime activity as a patent attorney in Switzerland for more than three years and are listed with the European Patent Office as a professional representative. The patent attorneys who want to benefit from this provision have to file a respective application within two years after the entry into force of the bill; they also need to pay a fee.

The activities of patent attorneys are traditionally focussed on the drafting of patent applications. Furthermore, they represent clients vis-à-vis the IPI.[18] Another traditional field of activity is general consulting in patenting matters. According to interviewed experts, activities of patent attorneys have evolved over time: While some patent attorneys limit themselves to drafting patent applications for/on behalf of their clients, others have broadened their service portfolio and try to provide consulting related to IP management in a more general sense (i.e. they also cover qualified usage of trade secrets or defensive publishing, aid with the drafting of licensing agreements etc.). Most patent attorney firms are very small (sole proprietor businesses), though there are also a number of larger patent attorneys (or rather IPR law firms) – the services of the latter are, however, likely to be more expensive.

The Association of Swiss patent and trademark attorneys (VSP), the association of Swiss patent attorneys for the industrial sector (VIPS) and the association of Swiss European patent attorneys (VESPA) represent the interests of Swiss patent and trademark attorneys. By August 4, 2008, 71 Swiss patent and trademark attorneys were registered with VSP (it has to be noted that membership in any one of these associations is not mandatory).

4.3.2 IP consultants: private companies offering IPR support services

The term “IP consultants” has been created for the underlying study to denote a group of individuals and enterprises in Switzerland who/which are not patent attorneys but whose main activities focus nonetheless on IPR matters. These persons and institutions try to follow alternative approaches when dealing with IPR and place activities at the heart of their business model which are not within the traditional scope of the patent attorney business.

[17] By contrast, trademark attorneys are “regular” lawyers specialised in trademark law – they thus neither do have to undergo a special exam, nor do they need to have a technical/natural science background (though they need to have a legal background, of course).

[18] Under the current legal framework, the possibilities of patent attorneys to represent clients vis-à-vis the courts are limited. This particular activity is currently handled in Switzerland by regular attorneys.

A non-exhaustive list would include activities (and any combinations hereof) such as:

1. IP management consulting: Firms/individuals active in this field try to advise SMEs on which IP protection/exploitation method to use in its particular business context. They look at the interaction between the different protection/exploitation instruments from a business administration/management perspective; the (technical) procedure of filing a patent is left to patent attorneys. Examples of such firms are BDC in Basel or the BGW Management Consulting Group in St. Gall.

2. IPR information retrieval: Some firms specialise in database searches for patent, trademark and design information, as the information in these databases has reached a large scope and became overly complex; some experts think this may lead even to the creation of a new profession (patent researcher). Firms/individuals active in this field may comprise business consultants with a technical background, but increasingly also IT companies which try to facilitate searches in such databases by creating their own (meta-) search applications.

3. IP due diligence: Some companies try to establish themselves as specialists for computing the value of individual patents, patent portfolios, trademarks or complete IP portfolios.

4. Matchmaking for licenses/operation of technology markets: Again, another set of companies may specialise in bringing, in the most general sense, IPR "to the market". On behalf of their customers, they, for example, look for potential licensees (or, vice versa, technology owners (IPR holders)) and take over a matchmaking function.

5. Lecturing & organisation of IP related seminars: Some companies/private educational institutions (e.g., the ZfU – Zentrum für Unternehmensführung) either organise seminars and workshops on IPR issues themselves, or they actively give lectures in the scope of such events; in the latter case, activities basically serve the promotion of the business and provide entry points for customers.

The emergence of IP consultants is, according to experts, a rather new and not undisputed development. It is not possible to draw a distinct line between classical patent attorneys and these IP consultants. IP consultants often need the expertise of trained patent attorneys. In order to overcome this restriction, IP consulting firms may hire patent attorneys as inhouse experts. On the other hand, many patent attorneys offer general IP consulting, too.

The fact that these IP professionals offer a large variety of different services made it impossible to present reliable statistics on the number of active companies in this field (though the number can be, based on our observations, expected to be currently lower than that of patent and trademark attorneys).

The only exception are companies active in the field of IPR information retrieval – at the website of the IPI, they have the opportunity to register themselves for this area of activity. Table 4 shows these firms listed as of August 4, 2008. It can be easily spotted that this area of activity is subject to the operation of patent attorney/law firms as well as non-patent attorneys.

Table 4 Selection of national companies which offer search services for patent information

Company	Website
ABP PATENT NETWORK Swiss GmbH	www.abp-patentnet.ch
Angelina VAFIADIS dipl. pharm., Scientific Information Service	www.vafiadis.info
E. Blum & Co. AG	www.eblum.ch **)
Centredoc	www.centredoc.ch
Eivycom GmbH	www.power-info.com
Frei Patentanwaltsbüro	www.frei-patent.com **)
HTW Chur	www.fh-htwchur.ch
Industrieberatung Maier AG	www.euromaier.ch
InfoLit Infobroker GmbH	www.infolit.ch
Isler & Pedrazzini AG	www.islerpedrazzini.ch
ISS AG	www.iss-ag.ch
Patents & Technology Surveys SA	www.patentattorneys.ch **)
R. A. Egli & Co, Patentanwälte	www.egli.com
Rentsch & Partner, Rechtsanwälte und Patentanwälte	www.rentschpartner.ch **)
Simec AG	www.simec.ch

**) patent attorney firm

Source: Swiss Federal Institute of Intellectual Property (IPI), as of August 4, 2008; the IPI does not guarantee completeness of the list, as the list contains only those patent search companies which actively register in such a capacity with the IPI.

4.3.3 Private business associations with IPR-related activities

A number of private business associations show evidence for activities in the field of IPR. Most of these services focus on counterfeiting and piracy and are not SME-specific. In fact, although SMEs may take advantage of the services offered, the rather large role multinational companies play is evident:

1. **ICC Switzerland** is the Swiss committee of the International Chamber of Commerce (ICC), an international organisation that promotes and supports global trade and globalisation. In response to the increased counterfeiting and piracy around the world, the ICC established the “Counterfeiting Intelligence Bureau” as part of the ICC Commercial Crime Service. Moreover, the organisation launched the initiative BASCAP (Business Action to Stop Counterfeiting and Piracy) in 2004, which aims to raise awareness on the issue of product counterfeiting and copyright piracy and to assist businesses with counter measures. The aim of ICC Switzerland is to ensure that the global activities of the ICC network, including BASCAP, find their way into Swiss national and cantonal agendas.

2. ICC Switzerland and the Swiss Federal Institute of Intellectual Property (IPI) jointly launched a dedicated Swiss anti-counterfeiting and piracy initiative (“**STOP PIRACY**”) in 2005. Its aim is to effectively combat piracy and counterfeiting through (i) increasing public awareness on this issue and (ii) improving collaboration among

the relevant institutional actors of the private and public sector. STOP PIRACY is organised in the form of a non-profit association. SMEs are not solely targeted but can benefit form the initiative by asking for advice and/or joining the network. The initiative is an example of a combined public-private initiative.

3. **"Promarca"** is the Swiss brand-name product association. The association represents the interests of Swiss producers, importers and commercial agencies dealing with brand-name products in the food/near-food sector. Promarca has currently around 90 members which employ almost 18,000 people and generate combined total revenues of CHF 9 Bio (€ 5.6 Mio). As a competence centre for branded goods, Promarca offers advice to its members in questions related to IPR, most notably in the field of counterfeiting and piracy, and engages in discussions and campaigns, also with a view on how to make consumers more aware of these issues. Promarca is member of the "STOP PIRACY" initiative.

4. **Industry associations** also play a vital role in providing support to their members on IPR. Most notably, these organisations tackle the problem area of counterfeiting. The **Federation of the Swiss Watch Industry (FH)** is a case in point: FH is the umbrella organisation for the Swiss watch industry. Around 500 members representing 90 % of all Swiss watch manufacturers (finished products, watch movements, components, etc.) are currently part of FH. The primary mission of the FH is to serve as a communications link between its members, to promote their joint interests and to contribute actively to the development of the Swiss watch industry. Among its support services offered, the FH advises companies on the lawful markings for watches and movements according to the Federal Council's Ordinance, which, for example, governs the use of the word "Swiss" for watches. Moreover, the FH is very active in IPR and anti-counterfeiting matters. In case of counterfeiting and piracy[19], the FH conducts for example technical analyses of fake watches to determine the producers and takes action against online platforms offering fake watches. In addition, the FH organises global actions and awareness raising campaigns and creates awareness with authorities and the public on the negative economic and social effects of the counterfeiting phenomenon. The Federation of the Swiss Watch Industry also supports the "STOP PIRACY" initiative, as do also other industry associations (e.g. **Chocosuisse**, **IFPI** (International Federation Of Producers Of Phonograms And Videograms) or **Interpharma**).

5. The **CCF (Centre de Compétences Financiéres)** is the financial competence centre in the state of Valais. Privately owned, CCF aims to support the local business development and provides financial, consulting and management services to companies located in Valais. Companies and individuals who seek IPR protection can apply for coaching and financial assistance.

[19] Statement on counterfeiting and piracy of the Federation of the Swiss Watch Industry outlined at http://www.stop-piracy.ch.

5 Publicly funded IPR support services in Switzerland for SMEs

5.1 Public IPR support services offered at national level

The result of the identification process yielded a list of 20 IPR support services (7 at national, 13 at regional level) which have distinguishable IPR parts and address SMEs implicitly or explicitly. Apparent is the lack of dedicated IPR support programmes – most services are part of a larger service offering which is not targeted at the issue of IPR (this would denote so-called "embedded IPR services", as described in Radauer et al., 2007). Table 5 below shows services which are offered at national level:

Table 5 IPR support services for SMEs offered at national level in Switzerland

No.	Implementing institution	Service title	SMEs only
1	Swiss Federal Institute of Intellectual Property (IPI)	Baseline information services (extended switchboard, information folders, website)	no
2	Swiss Federal Institute of Intellectual Property (IPI)	Assisted Patent Search	no
3	Swiss Federal Institute of Intellectual Property (IPI) (often in cooperation/as subcontractor of other service providers)	Lecture activities on IPR for SMEs, held by IPI personnel	no
4	Swiss Innovation Promotion Agency CTI, together with external partners	The IPR Roadmap and Assessment of the CTI Start-up programme	yes
5	Swiss Innovation Promotion Agency CTI, together with external partners	venturelab – IPR workshops/lectures within the venturelab programme	yes
6	Selected Technology Transfer Agencies of universities: (e.g., ETH transfer (technology transfer organisation of the Swiss Federal Institute of Technology Zurich) or UNITECTRA)	IP consulting given to spin-off companies from universities, and licensing activities involving SMEs	no
7	State Secretariat for Economic Affairs (SECO)	Webpage http://www.kmu.admin.ch with information sections on IPR	yes

Source: Identification Process

In the following, the services and their operative elements are described in more detail:

1. The **baseline information services (extended telephone switchboard, information folders, website)** offered by the IPI subsume a number of information services which SMEs who seek basic information on IPR may refer to. These include the publication of a guide for inventors (explaining relevant IPR issues and informal IP protection methods such as trade secrets; downloadable at the website of the IPI), printed booklets (in pocket-format) describing the basic functioning of patents and trademarks and a dedicated telephone helpline (extended telephone switchboard) for first enquiries. Users of these services are, according to the IPI, mainly SMEs and private inventors.

2. The IPI service "**Assisted Patent Search**" is a product specifically meeting the needs of SMEs. Interested SMEs which want to use this service are to visit the IPI and take advantage of the opportunity, against payment of CHF 300.-, to have a search in patent literature conducted for them. The search is performed by an employee of the IPI together with the customer – in the course of this service, the IPI employee teaches the SME how to use the search possibilities effectively, while the SME has the opportunity to apply the knowledge acquired directly. This search lasts half a day. The accompanied searches are not to be confused with the "IP Search" service offered also by the IPI – the latter is targeted mainly at IP professionals and is not subsidised (i.e., IP Search is offered at market prices with the additional aim that expenses are fully covered through generated revenue).

3. The IPI is also active in offering **IPR-related workshops** (service: "**Lecture activities on IPR for SMEs, held by IPI personnel**"). Only rarely does the institute organise workshops alone. They are normally organised in cooperation with other institutions such as universtities or industry associations. Topics covered include in most instances patent and trademark basics and the usage of these IPR instruments by businesses. By request, other topics can be treated, too (e.g., IP management). However, there is no dedicated workshop line or product offered explicitly to SMEs – i.e., depending on the workshop, SMEs may form part of the audience or not.

4. **The IPR Roadmap and Assessment of the CTI Start-up programme:** CTI's Start-up initiative is targeted at high-tech start-ups with high growth potential. Start-up companies may apply for participation in this programme, which basically comprises coaching and consulting through a dedicated personal coach (the "case owner", usually an external business consultant) on various topics of business administration. Subsidised costs allow for up to 200h of consulting (cost free for the SME) which, at the end and following a series of assessments (which check for certain milestone achievements), leads to a "CTI certified start-up" label that successful participants can utilise. IPR plays an integral role in this programme, mainly observable in three points: (i) the creation of an "IPR Roadmap" at the beginning of the process which sets and discusses milestones in the area of IP management, (ii) the optional usage of an IP coach which offers IP management advice in a face-to-face manner, depending on the decision of the "case owner" and the supported SME and (iii) the creation of an IPR assessment report at the end of the coaching process in order to obtain the CTI Start-up label. These IPR elements are not marketed as dedicated services or programmes; rather, they are embedded in the overall support CTI Start-up support scheme.

5. **venturelab – IPR workshops/lectures within the venturelab programme:** CTI´s venturelab is an umbrella term for a series of different lectures/courses aimed at start-ups or university students/employees who would like to found a new business. The programme is operated jointly with a number of partners (such as universities, chambers of commerce etc.). Venturelab offers, among others, the lecture series ("modules") venture.ideas (an evening event for students who look for information on how to become an entrepreneur), venture.plan (a 5-day seminar for selected persons who want to develop a business plan and seek contact with potential investors), venture.training (another 5-day seminar, tackling different aspects of business administration within start-ups), venture.challenge (a one semester course offered at universities, where students get the opportunity to work once a week in a start-up company and help develop the business) and venture.leaders (a programme, where, amongst others, the most promising high-tech start-ups get the opportunity for on-site visits to venture capital firms in the U.S.A. in order to attract funds for business development; this programme is being co-sponsered by Ernst & Young). IPR plays an important element of many of these lecture series, most notably in the modules venture.challenge, venture.plan and venture.training – each of these modules has on average a half day of teaching on IP and IPR issues reserved

6. **Selected technology transfer agencies of universities:** A special topic of interest is the issue of **technology transfer agencies** of universities. They can be regarded as IPR service providers for SMEs, if they either offer (i) IPR services to spin-off companies from the university or (ii) if they license technologies developed at the university out to existing SMEs. In the former case, SME support is implicitly given through the fact that university spin-offs are most likely SMEs; in the latter case, existing SMEs benefit from technology transfer. It is important, though, to note that the main objective of such agencies lies on maximising the benefits for universities, not for SMEs – which clearly gives technology transfer agencies a different spin from an SME policy perspective. Of the sampled technology transfer institutions, officials of the UNITECTRA service and the transfer agency "*ETH Transfer"* of ETH Zürich corroborated the extension of IPR support to spin-offs (mainly through providing initial advice, conducting limited prior art searches and signposting the spin-off to patent attorneys and/or the IPI); in all cases, out-licensing to SMEs seems to play less of a role, according to the interviewed service operators.

7. **Webpage http://www.kmu.admin.ch with information sections on IPR:** A main entry point for start-ups and entrepreneurs is **http://www.kmu.admin.ch**, a web-based platform initiated by the State Secretariat for Economic Affairs (SECO) which discusses business relevant topics and provides information for setting-up a business. An interesting feature of the website is, amongst others, that the whole process of company registration can be done completely online via the Internet. With regards to IPR, the website offers basic information about IPR, gives a first overview on how to protect intellectual assets (e.g. an online checklist "patent research and filing") and links to service organisations or individuals, such as the IPI or patent attorneys, for further information.

5.2 Identified public support services offered at regional level

Public support services offered at the national level can be considered to be the most visible publicly funded IPR support services for SMEs in Switzerland. However, there are also a number of IPR support services being offered at the regional level. Notable in this context are three features of such services:

(i) The scope of these services is rather small. Mostly, basic information and subsequent signposting to IP professionals are provided;

(ii) The IPR support services are often an inherent part of more extensive services. Accordingly, the IPR services generally cannot be separated out from those larger services.

(iii) The cantonal set-up of the Swiss policy system likely spurred the development of a rather heterogeneous set of IPR support services at the regional level. Some cantons seem to have dedicated IPR support services for SMEs, while others do not seem to have such offerings. This observation may reflect different attitudes among the various cantons towards the extent to which state aid is felt to be necessary. Alternatively, there may nonetheless be IPR-related service activities in cantons not listed in this study. These offerings are, however, not documented; it can be assumed that such IPR support given is rather small in scope.

The main regional bodies providing support for IPR matters are local business development agencies, chambers of commerce and technology centres. Table 6 below lists IPR support services from which SMEs may benefit and which have been identified at a regional level. It has to be noted that the table only lists services and service providers if specific evidence was found that their IPR support is extended to SMEs, e.g. by explicit information on web sites, in documents or in interviews.

Table 6 Identified IPR support services for SMEs at a regional level in Switzerland, by type of service providers

No.	Canton	Implementing institution	Service title (content)	SME only
Services provided by Chambers of Commerce (CoC)				
1	Solothurn	CoC Solothurn	Technology consulting (with first time initial advice on IPR)	No
2	Basel City/ - Basel Landschaft)	CoC Basel *)	IPR lectures (2-day course)	No
3	Vaud	CoC Vaud	Basic IPR information on website	No
Services provided by technology parks/incubators				
4	Geneva	FONGIT	IPR Coaching through external experts	Yes **)
5	Valais	THEARK technology hub	IPR coaching in various “arks”	Yes **)
6	Zurich (city of Winterthur)	Technopark Winterthur	Half-day patent seminar	Yes **)
7	Lucerne	Technopark Luzern	Free initial consulting on IPR	Yes **)
8	St. Gall	Business incubator TEBO	Free initial consulting for intellectual property rights protection	Yes **)
Services provided by local business development agencies (“kantonale Wirtschaftsförderung”) & other providers				
9	Vaud	Canton Vaud	Financial assistance towards patenting applications	No
10	Lucerne	Innovationstransfer Zentralschweiz (ITZ)	Free initial consulting for intellectual property rights protection	No
11	Grisons	SME Centre at the Swiss Institute for Entrepreneurship (SIFE)	Free initial consulting for intellectual property rights protection	No
12	Thurgau	Thurgau department of economics and labour	Free initial consulting for intellectual property rights protection (together with patent attorneys)	No
13	Fribourg (CCSO)	FriUp	Cooperation	Yes

*) Offered by the law faculty of the University of Basel in co-operation with the Swiss Federal Institute of Intellectual Property (IPI).

**) implied by the very nature of technology parks/incubators (support of start-ups)

Source: Identification Process

In the following, short descriptions of the services are given, broken down by regions:

1. ***Solothurn* – Technology consulting (with first time initial advice on IPR), provided by the regional chamber of commerce:** Tasks provided by this chamber include consulting on innovation matters, executing feasibility assessments of technical and economic aspects of a business idea or organising know-how transfer between businesses and universities. In addition, the chamber assists with all tech-

nology-related questions and offers first-time legal advice, also in the field of intellectual property law.

2. ***Basel* – IPR Lectures (2-day course), offered by the law faculty of the University of Basel** and with support from the Swiss Federal Institute of Intellectual Property (IPI), the **Basel chamber of commerce** organises a two-day lecture[20] series which provides an overview of intellectual property law and IPR, but also other means to protect and exploit IP. Main topics discussed are, on the one hand, formal means of protection and its impact on businesses, e.g. patent and trademark protection. On the other hand, areas such as freedom to operate, protection of business models, software, databases and internet domains are explored in greater detail. A two-day lecture is priced at around CHF 400.-.

3. ***Vaud* –** IPR information support is provided by the Vaud Chamber of Commerce for SMEs; furthermore, and seemingly unique to Switzerland, the canton itself also offers financial support for the registration of patents:

    a. **Basic IPR information on the website of the Vaud Chamber of Commerce:** The chamber provides basic information documents on IPR, available for download from its website. Access to these documents is given only to registered members.

    b. **Financial assistance towards patenting applications, provided by the Canton Vaud:** The canton of Vaud offers financial assistance for the registration of patents. Funding is available for businesses located in Vaud operating in the (manufacturing) industry or offering production related services. Required are a long-term business perspective, proven by a solid financial track record, and an overall idea on how to develop und run an IP management strategy.

4. ***Geneva* – IPR Coaching through external experts, provided by FONGIT:** FONGIT is part of the governmental business incubator programme of the canton of Geneva. The service provider is a non-profit oriented, privately managed incubator facility located in Plan-les-Ouates. Among overall support services typical for incubators (such as renting office space, providing infrastructure and help with financial issues), FONGIT offers coaching in business and innovation related areas. External experts are available to assist SMEs in the field of legal and IPR issues.

5. ***Valais* – IPR coaching in various "arks", offered by the THEARK technology hub in Valais**: The technology hub THEARK, a project launched by the canton of Valais, is organised as an umbrella platform offering services and support programmes designed to assist entrepreneurs in the development of their business. Preferred are SMEs active in the field of life sciences, information and communication technology (ICT) but also in the services, tourism and the environment sectors. Services such as coaching, legal counselling and individual consulting are available through the tracks ("arks") of THEARK (i.e. BioArk, PhytoArk, TechnoArk, IdeArk and BlueArk). Within the available service portfolio, information and support regarding IPR-related issues is emphasised.

[20] Original title: Fachseminar „Immaterialgüterrecht für Nichtjuristen"

6. ***Zurich (city of Winterthur)* – Half-day patent seminar, offered by the Technopark Winterthur:** An on-going patent seminar series is held in the buildings of the Technopark Winterthur in the canton of Schaffhausen. In November 2007, the 13th seminar of this series focused on patents and how web-based information tools concerning IPR can be used more effectively by SMEs. First, an overview of available IPR protection mechanism was presented by the Swiss Federal Institute of Intellectual Property (IPI), and overall questions regarding IPR issues were answered. Second, strategies were developed on how to use free online available patent databases and other information platforms on the internet. Assisted practical training provided hands-on experience for follow-up research. Organised as a half-day event, patent seminars are priced around CHF 300.- (about € 190.-) with a maximum of 15 participants.

7. ***Lucerne* –** In Lucerne, two public services in the field of IPR were identified:

    a. **Free initial consulting on IPR, offered by the Technopark Lucerne**: The Technopark Lucerne offers coaching in IPR related questions on demand.

    b. **Free initial consulting for intellectual property rights protection, offered by InnovationsTransfer Zentralschweiz (ITZ):** The ITZ, deployed by the Lucerne University of Applied Sciences and Arts, offers free initial business consulting to local companies, also on how to protect their intellectual assets.

8. ***St. Gall – free initial consulting for intellectual property rights protection, offered by the business incubator TEBO:*** In St. Gall, the local business incubator TEBO (Technologiezentrum Euregio Bodensee) provides, besides office space and infrastructure, initial consultation as well as coaching on various topics. Every second and fourth Thursday each month, TEBO offers also free initial consulting on IPR protection.

9. ***Grisons* – Free initial consulting for intellectual property rights protection at the Swiss Institute for Entrepreneurship (SIFE):** Companies and individuals looking for information regarding the establishment of a business or interested in information on technology transfer are – by the local business development agency in Grisons – refered to the SME centre at the Swiss Institute for Entrepreneurship (SIFE) of the University of Applied Sciences of Eastern Switzerland (HTW) in Chur. The SME centre offers preliminary consultation and advice for regional SMEs or start-ups in a wide variety of areas, such as marketing, communication, internationalisation, but also on innovation related subjects. Regarding IPR, an initial consultation is provided, which may also include a first patent database search. After a feedback round, the client is further referred to appropriate experts, e.g. patent attorneys.

10. ***Thurgau* – free initial consulting for intellectual property rights protection (together with patent attorneys):** In co-operation with local patent attorneys, the Thurgau department of economics and labour offers a free initial consultation on IPR for companies or individuals. This service is offered every second Thursday each month.

11. ***Fribourg* – "Cooperation":** An interesting service is the service "Cooperation" offered by the CCSO network. This network links the business development agencies of the six French-speaking cantons (Jura, Neuchâtel, Vaud, Fribourg, Geneva, Valais) together; the business development agency of Fribourg (FriUp), as a member of the CCSO, offers a variety of IPR-related business support activities: In a four-stage approach, SMEs may get subsidised coaching which is used (i) to identify IPR needs in R&D collaborations and (ii) to draft respective strategies (the topic of secrecy agreements is particularly given attention); the service covers matchmaking activities (i.e., the service staff tries to identify potential R&D partners) and signposting activities (e.g., towards patent attorneys).

6 Benchmarking IPR support services for SMEs in Switzerland

6.1 Overview

In the underlying section, the performance of the support services in Switzerland is examined. The structure of this section follows the logic of the benchmarking procedure (see section 2.3): Critical success factors are discussed in three separate dimensions: the design (set-up) of the services, the implementation of the services (in the sense of benchmarking operational factors) and the actual performance/outcome of the services:

- The section on the **design of the services** (section 5.2) analyses the employed resources and preparatory activities of the services under scrutiny. It thus looks at the way the services came into existence. The investigation is based on the assumption that careful planning of service features correlates positively with later service performance; similarly, adequate endowment with resources has to be seen as a prerequisite for a service to be able to fulfil its goals.
- The section on the **implementation of the services** (section 5.3) focuses primarily on the institutional set-up and furthermore on governance and monitoring procedures. The analysis follows the rationale that proper performance of services is strongly influenced by institutional-contextual factors: It is thus not only important to examine what type of services are being offered, but also who is offering them as organisational traditions and mindsets as well as framework variables (resulting for example from the legal framework) directly affect the way the services are operating. The investigation of governance is necessary as good performance can only be ensured if reasonable data on the evolution of the service is collected and examined, and thus organisational learning (with the possibility to alter the service set-up, if needed) is allowed. Eventually, this section also outlines critical success factors (in the sense of key quality factors) at the generic IPR service level.
- The section on **the performance of the services** (section 5.4) looks at actual (quantitative) outputs (as evidenced, for example, by the number of users of the services) and (qualitative) outcomes (as, for example, observed in behavioural changes with the users of the services, resulting from utilising the offerings) of service activities. The description of characteristics of the user group should help tailor the service offerings better to individual needs (in the sense of “getting to know the beneficiary better”), while the description of effects creates a feeling for possible impacts that can be achieved with IPR services such as the ones analysed.
- A fourth section **summarises the results of the preceding three sections** (section 5.5) in a table, where the prevalence of elements of good practice as observed in Switzerland is contrasted with the general view obtained at EU level. The study team does not endorse the creation of ranking lists or a condensation of the research results on single metric measures, which is why it only estimates whether in particular aspects (elements of good practice) the Swiss IPR support system for SMEs fares better than on average in the EU. The creation of farther reaching benchmarking comparisons is otherwise incompatible with the heterogeneity of the service designs observed. The study team believes this approach to be i) more valuable in terms of providing differentiated opportunities for learning and discussing and ii) thus serving the problem more justice.

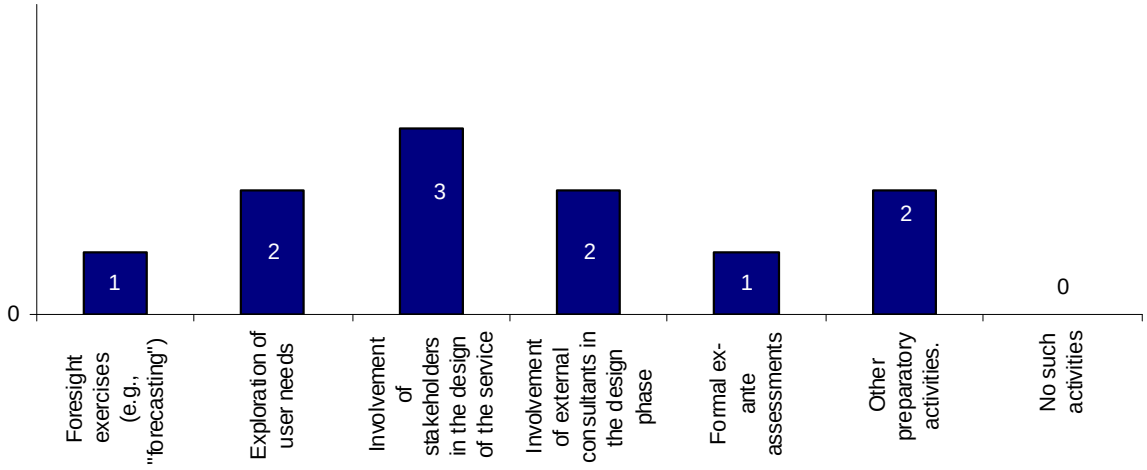
6.2 Design of the services

6.2.1 Historic evolution

The services under scrutiny for the benchmarking analysis are **rather young**: The IPI Assisted Patent Search service has been, for example, operational since 2004. ETH transfer has been implemented in the mid 1990s, and received its "upgrade" to its present form in 2001. The development of seminar programmes offered by and with the help of the IPI can be traced back to the reform of the IPI in 1996 – the respective strategies have been updated several times. In particular, the decision to change the focus of own-organised seminars away from SMEs and participate more in events organised by other organisations took place rather recently in 2004. Regarding CTI offerings, the IPR Roadmap service has been first implemented in 2004, as was also the "venturelab" offering. To compare: 30 % of the benchmarked services of the EU study were implemented before 1998, (only) about 55 % were enacted in 2001 or later.

Graph 1 shows the **preparatory activities** undertaken for setting up the services. As can be seen, there have been no services in Switzerland which had not been subjected to some type of structured planning/preparation activity (by comparison, in the Commission study, 13 % of the benchmarked services at the EU level and 12 % of the case study services have not undergone a structured planning process). Preparatory activities in Switzerland varied largely and in most instances involved consulting with external stakeholders and experts. Also, user needs have been looked into, and in some instances external consultants were also drawn upon for setting up the services.

Graph 1 Type of preparatory activities undertaken for setting up the services, services in absolute numbers *)



*) Multiple counts allowed

Source: Benchmarking process

6.2.2 Ressource endowment

In terms of **available staff**, **very little concerns** were voiced by the service providers. The IPI can draw, for example, on the whole body of its staff, especially patent and trademark examiners, to offer its services (be it commercial services, sovereign tasks or subsidised offerings) to SMEs. Separating lines between the different activities are only drawn through the accountancy system. In the course of the Assisted Patent Search offering, nine names of IPI staff were explicitly mentioned in the user feedback forms filled out by SMEs at the end of the training sessions. The CTI has three (in the near future probably four) dedicated IP consultants working for its IPR Roadmap services. Workshops run through venturelab draw on up to eight IP professionals (including staff from the IPI invited for this purpose). ETH transfer has 11 persons employed.

In the Commission study it was, by comparison, noted that the team size of staff operating IPR services is rather small – there were extensive complaints in expert interviews on that issue. On average, 35 % of the services in Europe employ at most three persons (full time equivalents, FTEs), 18 % see only one person in charge. Care must be taken if the EU and Swiss figures are compared side-by-side. In the EU study services which have employees working full time for the SME support service prevail, while in the Swiss case operating an IPR support service for SMEs is generally a rather small part of the employee duties.

Tentative **budget figures** have been provided for CTI´s IPR Roadmap service (CHF 82,000.- (around € 50,800.-) for the year 2007) and the Assisted Patent Search service from the IPI (CHF 193,550.- (around € 120,000.-) for the year 2007), all of which was available for direct service activities. Again, these figures have to be seen in the light that most services operate in an embedded manner. They are run by a rather large team which has, however, a range of other duties to take care of (see also above). Estimating a budget is in most cases only possible if the accountancy system clearly separates the individual tasks of the employees or if a budget is explicitly (e.g., through contractual agreements) stated.

In terms of benchmarked services at European level, the median value of the budgets was found to be € 158,000.- for the benchmarked services and € 400,000.- for the services scrutinised in the case study phase. When comparing these figures to the Swiss situation, different country sizes (six of the 15 services scrutinised in the case study were implemented in the UK, Germany or France) have to be taken into account. As suggested by the results of the expert interviews, financial funding for current service activities does not seem to be, for the most part, a large issue. However, statements given with respect to a probable need to extend the scope of many of the benchmarked offerings surely have also budgetary implications. These needs should be examined individually for each service further (see also respective statements in the case studies section).

Taken together, one can conclude that the – mostly young – Swiss services tend to be well designed and set-up. All services have been subjected to a structured planning process, predominantly involving stakeholder consultations. The findings put the Swiss support services in terms of preparatory activities clearly above European average.

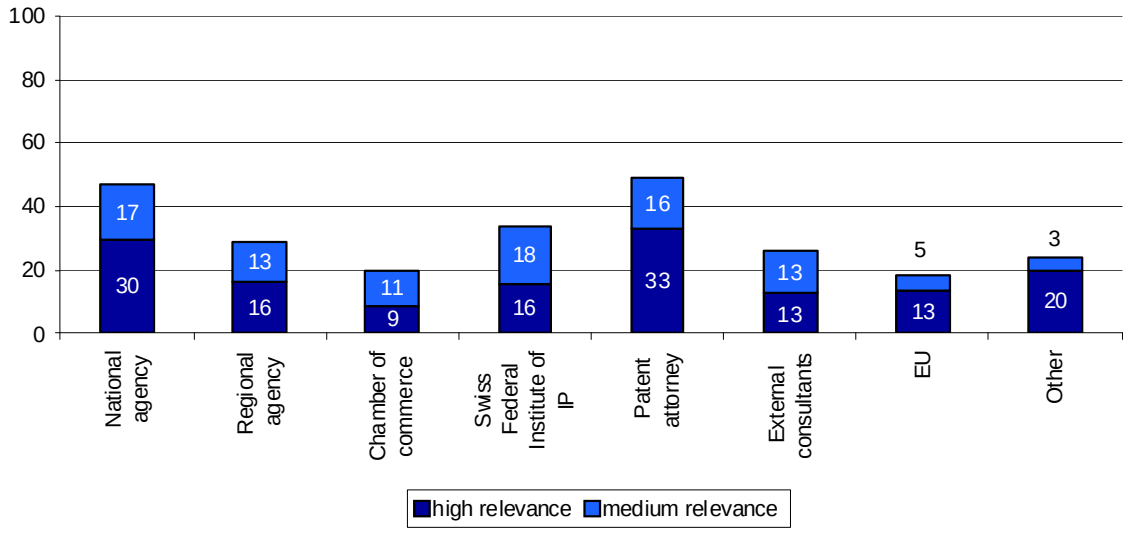
6.3 Service implementation

6.3.1 Issues arising from the institutional set-up

As stated in section 5.1, service success is in large parts contingent on the institutional set-up (meaning which organisation is providing what type of services). The analysis starts of by scrutinising the usage of the different types of service IPR service providers by Swiss SMEs. It then turns its attention to the roles of the different actors in the IPR service provision arena and discusses implications that arise from the observable set-up. Eventually, possibilities to improve the overall effectiveness of the system are outlined.

Graph 2 shows which service providers Swiss SMEs refer to when they need help in innovation matters. It turns out – and this holds true for all services that were part of the case study analysis – that patent attorneys are one of the most important pillars of the support system in place: About one third deem patent attorneys as "highly relevant" service providers for innovation projects, 16 % give this group of professionals at least a medium relevance level. Ranking second is the national agency CTI (for 30 % of high and for another 17 % of medium relevance) – this is likely due to the strong university background of many SMEs (given through the explicit focus of three of the analysed six services on high-tech start-ups which usually stem from universities). 16 % gauge the IPI to be highly relevant, another 18 % see the IPI as moderately relevant. This would place the IPI third in the ranking lists.

Graph 2 **Relevance given to different types of service providers for supporting innovative activities, aggregate view of all users of services, users in %**



Source: User survey, n = 182

Other types of service providers are ranked by at most 26 % of the users to be either of medium or of high relevance. Two things are noteworthy for these remaining organisations: First, that for a surprisingly high share of users (13 %) support received from the EU is highly relevant (given that Switzerland is not in the EU). And secondly, that external consultants (which would include IP consultants who are not patent attorneys) are perceived by 13 % to be of high relevance – this probably reflects that IP consultants are still an emerging group of actors in innovation/IPR support.

This finding of service provider relevance, together with the results of document analyses and expert interviews, yield the following picture of the institutional setting in Switzerland:

Patent attorneys as cornerstones for IPR support

Patent attorneys are, and this is also corroborated in the expert interviews, an important player in the Swiss innovation support system. In terms of IPR support, they are likely the most important type of service provider. In line with the findings of the Commission study, and also backed up through respective expert statements, patent attorneys provide the traditional entry point to the system of IPR support. This entry point function can be seen as the result of the interplay between supply and demand on the market for IPR support services, and in the historic absence of dedicated public IPR support services for SMEs. The big argument favouring and ensuring that patent attorneys will remain to a certain (probably large) degree the entry point – despite of the emergence of public support offerings and that of IP consultants – can be seen in their profound education in legal (patent) related matters and in their technical know-how. In Switzerland, this expertise will be further solidified in the future with the introduction of more severe educational requirements for becoming a Swiss patent attorney (see also section 3.3.1 on the planned introduction of a Swiss patent attorney law).

Notwithstanding this, the interviewed experts repeatedly stated that public support services would be beneficial not only to SMEs, but also to other players on the market, including patent attorneys. The reason given is that in the traditional IPR supporting environment SMEs often pay larger sums for patent attorneys for relatively simple taks which the firms could perform themselves or with the help of cheaper supporting organisations. This may create certain hesitation on the part of the SMEs to use IPR, because employing the patent agents makes IPR seemingly more expensive. Empirical evidence to this situation is also found for other European countries in the literature.[21]

While the cost issue is the main selling point for alternative entry points for the SMEs, patent attorneys benefit through the fact that they could use the public services as marketing channels for their own offerings (through signposting activities by the public service) and outsource the most basic issues to secondary providers. An example of how this can work in practice is given by a patent attorney:

> *"Sometimes I advise my clients to pay the IPI a visit and use its "Assisted Patent Search" service...this is a fantastic offering...the IPI checks, together with the client, in a most general way whether the idea might be patentable or not...it costs the SME little money, and it learns something about patent information, while I avoid doing this fruitless work (especially if it leads to the result that the idea is not patentable)…and as big plus, I get the results from the IPI and can continue, if the results are favourable, from this point further..."* (expert interview, No. 21)

[21] In a study conducted by Hall et al. in the UK (Hall et al., 2003) this particular instance of "unnecessary" utilisation of patent attorneys was noted in the context of patent information search services: The findings of Hall et al. indicated that patent attorneys in the UK frequently conduct patent searches on behalf of SMEs in instances where the SMEs could either perform the searches themselves or have cheaper parties conduct the search for them – Hall et. al noted that SMEs *"...do not know the knack on how to use a patent attorney effectively"* and concluded that in such instances *"patent attorneys constitute rather a barrier to patent information usage than have an enabling function"*

An important success factor of public IPR services is neutrality towards different ways of protecting and appropriating IP. It should be ensured that no preference is given to patents, without an assessment whether this makes sense in the actual business environment of the counselled SME. At least the SME has to be made aware that patenting could prove disadvantageous under certain circumstances.[22] Public support services might be better suited for this role: Unlike private parties, state-run offerings do not have commercial interests. Accordingly, clients consider public services to be more neutral to patents than private ones.

Division of tasks between patent offices and technology development agencies – A case of systems fallacy also in Switzerland?

In the Commission study, it was noted that IPR service provision is the domain of (national) patent offices. By contrast, national and/or regional technology/development agencies (the usual bodies extending support for innovation and R&D), if they operate services in the domain of IPR at all, have IPR offerings often marginalised. Furthermore, it was also noted that the two support worlds (patent offices on the one side, technology/development agencies on the other) form two universes of their own, and that very little cooperation tends to take place between these universes.

This constitutes an instance of systems failure, for a number of reasons: First, as IP management should be part of innovation management, IPR support should be also integrated into overall innovation support – yet, support in innovation matters and support in IPR matters stem from two different non-cooperating sources. Secondly, the facts that (i) technology/development agencies are usually very close to their main customer groups of SMEs (extending them also support in different business-related areas) and thus usually visible to SMEs, while (ii) patent offices and their respective offerings tend to remain unnoticed by the main target group of SMEs. And thirdly, as patent offices have a traditional focus on patents (and trademarks), other forms of IPR protection may get, from the system as a whole, less attention. Especially in the field of informal protection/appropriation methods, there is the danger that "blind spots" emerge.

The situation in Switzerland shows also signs of such a systems failure, albeit to a somewhat lesser extent:

- The first interesting thing to note is the fact that the **IPI is not mentioned in the OECD report on the Swiss innovation system** as an actor within that system (see OECD, 2006, p. 24). This observation nourishes the "two universe" hypothesis. In addition, IPI officials and interviewed experts alike stated that the IPI and its offerings are not well known among SMEs. IPI officials explicitly mentioned that they would find it difficult to reach SMEs (they pointed, for example, at fruitless efforts to reach SMEs for training courses through mailing lists). There seems to be, as one expert stated, a problem that the IPI is in the non-German-speaking parts of Switzerland even less known: *"… I cannot say it for sure for the French-speaking regions in Switzerland (though I suspect it is that way), but in the* [Italian speaking] *Ticino region, the IPI is largely unheard of ..."* (expert interview, No. 25*)* Hence, there is a need on the side of the IPI to set measures and be recognised more as a vital player among innovation supporting institutions (this refers foremost to visibility and recognition within the group of stakeholder organisations; for higher visibility

[22] For a more thorough discussion of this argument, see Radauer et al., 2007, sections 3 and 4.

with SMEs, it is suggested not so much to address SMEs directly, but to use stakeholder networks (i.e., place the emphasis on cooperation with other stakeholders) instead (see also below)).

- The problem that patent offices are perceived frequently as less market oriented and too patent-centric is partly overcome with the **reform of the Swiss patent office** in 1996, when the IPI was established as the Swiss federal competence centre for all matters relating to IP. Thus, the importance of dealing with IP as a whole (covering all means to protect and appropriate IP), has been recognised in Switzerland and institutionalised (which is certainly an element of good practice). Furthermore, the division between "commercial services", sovereign tasks and subsidised services allows the IPI to tackle a wide range of issues, respectively to set up support services in a variety of ways the average national European patent office may not be able/allowed to do. And, eventually, the fact that IPI is not subordinated to a ministry but reports directly to the government avoids many of the "principal-agent" problems seen with agencies elsewhere; it also holds the opportunity to place the subject of IPR and surrounding issues in a much easier fashion on the agenda of relevant policy makers.

- However, the particular organisational set-up presents also some challenges. While in theory the **structural reform paved the ground for the IPI tackling IP issues in a broad manner**, it still stands judgement whether this has been in practice accomplished to a sufficient extent. The service offerings of the IPI very much focus on patents and trademarks; offerings that have the subject of IP management at their heart or address specifically other means of IP protection (such as designs, informal means such as trade secrets, or to go even one step back and provide information on ways to identify intellectual assets) are rather hard to spot. One might also believe that the fact that the IPI finances itself to a large extent through fees obtained from patent applications might constitute a limiting factor towards a fully neutral stance towards patents (given also the historic tradition of the institute as a patent office). However, there is no hard evidence to that end and experts interviewed were very careful with respective statements. Though also an issue at the international level, there are (successful) examples of how challenges such as the subject of looking at IP in an explicitly structured non-patent centric way or, more specifically, looking at informal protection methods can be addressed through public service provision. The following table gives two examples of those.

Table 7 Examples of services outside Switzerland which tackle informal protection mechanisms

Country	Service title	Goals and operation modes	Informal IP protection treatment
Scotland (UK)	Intellectual Assets (IA) Centre Scotland	The IA centre focuses on addressing existing and potential market failures inhibiting the ability of Scottish enterprises to manage and exploit intellectual assets (IA), of which Intellectual Property (IP) forms an asset. Activities focus on 1:1 coaching and awareness raising events.	Informal means to protect IP are prominently described and consultancy on this issue is being made available. Tools such as (interactive) checklists help improve the way SMEs treat arising issues.
Australia (AUS)	Smart START	Start SMART is an initiative offered by IP Australia which targets start-ups and wants to make them familiar with issues surrounding IPR.	On the website of Start SMART, IP Australia has prominently placed a software tool that helps start-ups deal with confidentiality agreements ("confidentiality agreement generator")

Source: Radauer et. al (2007)

- Another drawback of the introduction of offerings in the commercial services section can be seen in the relationship with private service providers: It seems that the **goals of not crowding out private offerings and at the same time operating in a "free market" environment are to an extent in conflict with each other**. IP professionals from the private sector (i.e., patent attorneys) are strictly against the IPI entering the arena of consulting services too much. As a result, the IPI has over the past years tried to limit some of its service activities in extent and scope and advised its staff accordingly. However, internal views within the IPI on this issue are very heterogeneous. The following statements illustrate the situation:

  "We have a very good Federal Institute of Intellectual Property, with highly committed staff...well organised...one issue is, however, if they try to become too ambitious and competitive...this may go beyond their sensible mandate...they should keep the issue of consultancy liability in mind..." (expert interview, No. 5)

  "The IPI should focus very much on providing base line information services and raise awareness...by no means should they try to be active in consulting, they lack the experience with more advanced matters, and they are too far away from the SMEs and the issues that may arise in practice (i.e., court procedures) when using IPR" (expert interview, No. 8)

- The potential issue of crowding out private providers requires careful and repeated reasoning for legitimating "commercial" as well as "subsidised" service offerings – collaboration with the representatives of the most important private stakeholders (i.e., patent attorneys) is hence a must: If sensibly set-up, services (commercial and subsidised ones) can be of benefit for the private market (e.g., by serving as entry points to private providers, through, for example, signposting activities), but they can have a negative market impact in the arena of IPR support if they only displace

well working supporting structures. Fine-tuning in this regard is already effected through the establishment of dedicated advisory councils and committees involving representatives of private parties, which can be seen as an element of good practice.

- As for the **national innovation agencies** – in this case CTI – it is a general conclusion from the Commission study that these possess extensive contacts to SMEs, have good business know-how and provide support on a wide range of innovation matters, albeit not so much in the IPR arena. Against this background, **CTI** seems to be a **special case**. First, CTI seems to recognise the value of IP and gives this topic rather prominent treatment within its existing (and for SMEs relevant) service portfolio. Further to that, it implements a rather broad approach, placing the subject of IP management at the centre of the IPR activities rather than aiming only for, e.g., an increase in the number of patent applications. The fact that these services are "embedded" in larger non-IPR related services can be seen in the specific context of the CTI service setting as an advantage – IPR know-how is delivered when it is needed, as integral part of the activities supporting the process of setting up a business.

- A **blind spot** in terms of IPR support provided could be constituted through the high-tech focus of the CTI, as it does not directly support established SMEs from "**traditional industries**" or "non-hightech industries". The IPI, on the other side, does not seem to have the same strict selection criteria as the CTI, as evidenced by a larger share of such users in its "Assisted Patent Search" service. Although patents are foremost an issue for R&D intensive organisations, the existence of such a user group (see also section 5.4.1) proves that there is also demand for patent-centric offerings stemming from rather "low-tech environments".

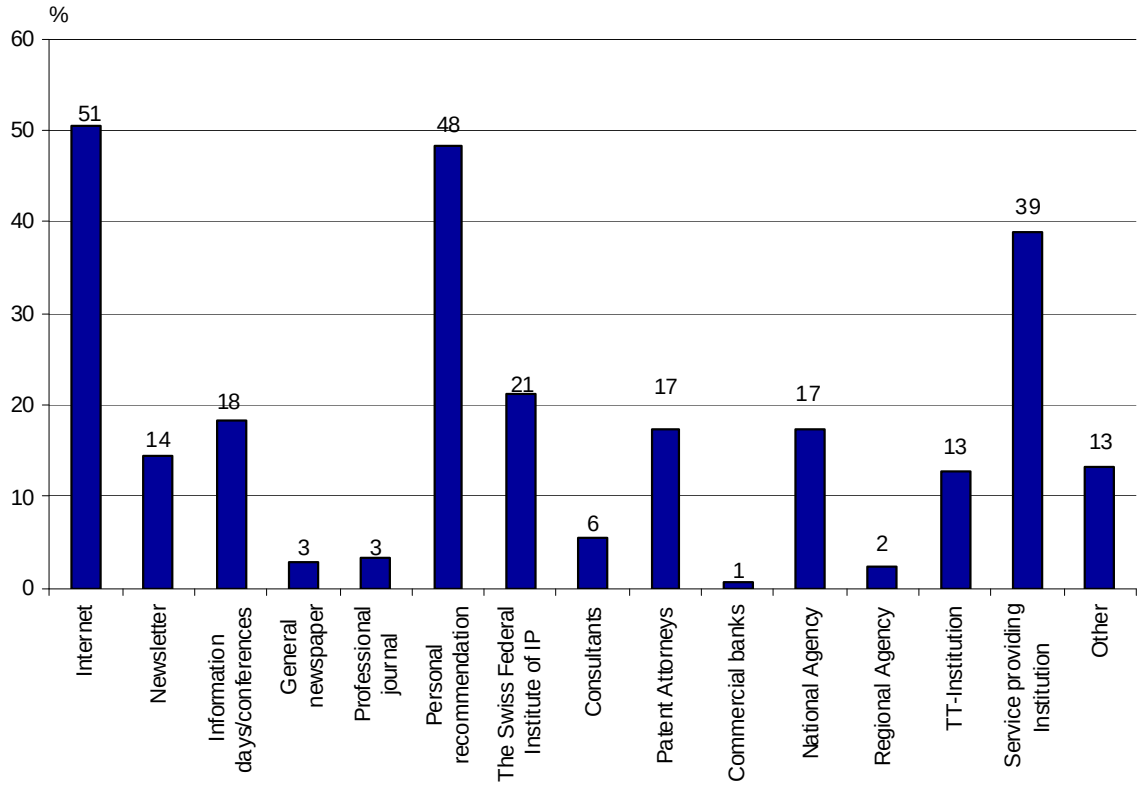
- Accordingly, other tools of the IPR system, e.g. **designs**, have also less of an R&D background and are thus also hardly covered by most innovation support institutions in Switzerland. This may point to an instance of market failure. The problems of SMEs such as designers or traditional SMEs, who want to change their business focus or model, may be similar to those of high-tech start-ups (e.g. lack of IPR awareness, limited resources for using IPR, etc.). Again, this decision (at least on the part of the CTI) to leave this target group out of supporting activities is deliberate, respectively set by the legal framework. Further analysis might be necessary to check whether, with regard to non-patent IPR, the described above market failure exists and how interventions that would not hamper the way the private markets are working could look like. In any case, there is evidence stemming from the user survey and expert interviews indicating that awareness on the topic of "designs" in terms of IPR is improvable:

  "*Before we got into contact with the IPI, we were not aware that designs could be protected by IPR instruments...in any way, one would need also to teach simple ways to show how to effectively deal with ownership of design rights (e.g., on the importance how to include and phrase statements of ownerships in contracts between designers and their customers)...*" (expert interview, No. 25)

  "We were surprised to learn that also designs could be protected through IPR...this information came too late." (venturelab user, No. 18)

- **Improving cooperation** between institutions for IPR service provision to SMEs is an issue that is on the table in Switzerland as it is throughout Europe. Cooperation between the IPI and CTI, for example, takes place but rather on an ad-hoc basis and mostly at lower hierarchy levels (e.g., by inviting IPI staff to hold presentations in trainings courses (venturelab) of the CTI). This type of collaboration may be a good starting point for increasing and intensifying further collaborative endeavours at institutional, respectively strategic, levels. By taking such an approach, it can be ensured that services from different organisations are set up in a complementary manner. Furthermore, it also provides the possibility of using each other´s services for promoting the own offerings.

Graph 3 **Information channels from which users got to know about the IPR service they actually used, aggregate computation, users in % *)**



*) multiple answers possible

Source: User survey, n = 182

Against this backdrop it is interesting to look at the ways how Swiss SME users of IPR support services found out about the offerings (see graph 3). The most important channels from which the firms learned about the service they used are i) the internet (which was for about half of the users is the first information source on the service), ii) personal recommendation (for 48 % the information source) and iii) the service offering institution itself (for 39 % the information source). Cross-institutional signposting might be (as seen in shares of users who got to know about the service through institutional channels other than the service providing organisation itself) improvable. Further breakdowns by individual services (see the respective case studies in annex I to the report) make it even clearer that cross-signposting hardly takes place.

The lack of cross-institutional referral/signposting activities is especially a **challenge for the IPI**. By using other institutions as entry points, and establishing itself as a prime competence centre on IP issues also in the heads of other institutions, the IPI would likely be able to extend its user outreach and complement respective marketing actions. The counter-question what the benefits would be for the organisations which would signpost to the IPI is in this context an important one: An advantage can be seen in the fact that they could provide an "added value" to their customers without the need to establish own and costly supporting structure. Realising such advantages, however, requires i) that the signposting institution is convinced that IPR is an important matter to be addressed and ii) that the IPI is recognised by the signposting institution as the central competence centre for the respective specialised service types in question.

The level of knowledge necessary with the signposting institution seems to constitute thus a critical factor: It is not enough just to be aware of the fact that IPR is important, but some specific knowledge on where and when IPI offerings should be in practice used is necessary. Extending this concept further, one would envisage a system where institutions other than the IPI act as an entry point for SMEs to the IPI. In this context, it may be also beneficial to consider drafting and implementing a national institution-over-arching innovation/IP strategy. However, Switzerland would enter unknow terrain with such an approach as only few countries (most notably, Japan) have a national IP strategy in place[23].

A particularly interesting way of how cross-institutional collaboration in IP matters can be done is found in the Netherlands, where an innovation agency formally collaborated with the national Patent office to deliver a patent information search service to Dutch SMEs (see box 1).

Box 1 IOI – Example of a patent database search service, where a technology/ development agency cooperated with the national patent office

Within the scope of the programme **IOI (Innovation by patent information, Innovatie door Octrooi-informatie)** the Dutch Patent Office and a technology/development agency (Syntens) teamed up to offer patent database searches to SMEs. The service aimed at educating SMEs and transferring knowledge and skills enabling SMEs to find information on patents. Originally, the service focussed on performing periodic (custom made) patent scans for users and sending the "front pages" of the selected patents to them. After a commercial patent agency's complaint with the Netherlands Competition Authority (NMA), this activity was terminated on 24/02/2004.The measure afterwards offered information services, training programmes, tailor-made advice services, re-ferring entrepreneurs to specialised commercial parties, and providing co-funding to hire commercial parties in support of using IPR. In principle, IOI, from 2004 on, showed SMEs how to conduct a "first-time" patent search and referred them subsequently to commercial parties, notably patent attorneys. The programme as such does not exist anymore, but has instead become part of daily operations at Syntens and at the Dutch Patent Office.

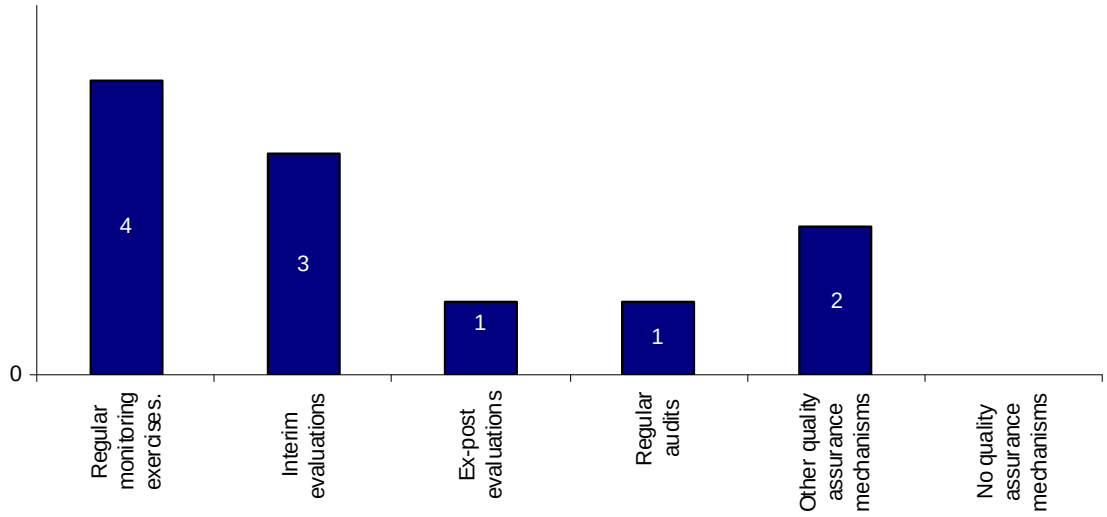
[23] For more information on the Japanese national IP strategy, readers shall be referred to Radauer et. al (2007, section 5.6.2); Arai, 2006; Wada, 2005.

6.3.2 Governance structure

In order to achieve the aims of an already implemented support service, it is important that there are provisions in place which allow checking the actual performance of the service against the intended goals and target figures. For this purpose, a variety of instruments has been established over time in innovation/technology policy and has proven their usefulness: In the scope of monitoring systems, a set of key performance indicators is defined and the evaluation of the values of these variables is tracked over time. Interim evaluations (while the support service is running) and ex-post evaluations (after the running time of a service (element)) allow for thorough assessments of the performance and spell out recommendations concerning the future continuation of the offering; interim and ex-post evaluations should be ideally carried by external evaluators (see Plattform fteval, 2003). Other quality assurance mechanisms include various internal reporting procedures (yearly performance reports), peer reviews or regular audits. Because of the heterogeneity of the services in question (and thus also different implementations of quality assurance mechanisms, which can be then hardly compared side-by-side), the benchmarking procedure only examines the existence of various generic forms of quality assurance instruments.

Graph 4 shows the quality assurance mechanisms in place with the benchmarked Swiss support services. All scrutinised services employ regular monitoring exercises (the IPI lectures within the course of seminars offered by other organisations are left out of the picture, as the implementation of quality assurance mechanisms is the individual responsibility of the seminar offering organisation), which seem to look predominantly at user satisfaction. Three state to conduct regular interim evaluations, one had already an ex-post evaluation conducted. One service stated to conduct regular audits, two have also other quality insurance mechanisms in place (such as the “four eyes principle”, where service outputs are cross-checked by other staff). Most importantly: No service mentioned to have no form of quality assurance in place.

Graph 4 Quality assurance mechanisms in place, percentage of services, services in absolute numbers *) **)



*) Multiple counts allowed

**) Ex-ante evaluations would in the strictest sense also be part of quality assurance mechanisms, but are discussed for better readability as part of the preparatory activities

Source: Benchmarking process, n = 6

Again, in terms of service governance, this puts the Swiss services clearly above the European average which found that 23 % of the benchmarked services and also 12 % (one) of the case study services had no quality control measures implemented. However, the issue of an extended use of evaluations is still on the table for the service providers, not the least because many offerings are rather young, and one could expect in reasonable time to have collected enough/further experience in order to conduct a thorough review by an external evaluator (and thus gathering intelligence on how to develop the offerings further).

6.3.3 Quality factors to consider when setting up support services for SMEs

Graph 5 shows the key quality factors users of Swiss support services deem (either highly, or at least moderately) relevant for an IPR service such as the one they used. Computations presented are aggregated, creating thus a "general profile" for quality factors of an IPR support service (at the level of individual services, variations of the general picture exist, but these variations turn out to be not very far stretching).

The results show the familiar picture from the Commission study that the **competence of staff** is seen as the by far major quality factor for an IPR support service for SMEs: 88 % of the users gauge this factor as "highly relevant"; only 7 % give it a "medium relevance" rating.

The reason why this factor is seen as essential can be seen in the rather complex subject of IPR which requires ideally technical, legal and business know-how, and this not only at a general level, but also at industry sector-specific levels. Consequences arising from such requirements are manifold and impact possible service designs strongly: For once, it is likely that young professionals will not be able to provide the necessary level of expertise - which in turn calls for senior operating staff. Then, such staff is probably scarce in the respective labour market segments and hence also expensive. Restricted payroll regimes usually found in the public sector may hence constitute a limiting factor for employing dedicated IPR experts of this level.[24] To this end, the results of the Commission study are all in all in line with those in Switzerland.

The question now is whether the currently operating Swiss IPR support services are up to the challenge. The answer to this question cannot be given in a straightforward manner. The results of the user survey suggests that in the majority of the cases the user get what they want and respective satisfaction levels are, on average, high. Occasionally, there are also unsatisfied users – this dissatisfaction is most of the time explained by the fact that these SMEs operate in (niche) industries the coaches/service offering personnel is not familiar with in substantial detail. While all service providers have recognised the need to employ highly skilled personnel and have acted accordingly (and practically all see staff qualification an asset of their service, which is by and large also underlined by independent expert opinions), this issue will remain on the desk for all service providers.

The second most important quality factor is **"ease of access & identification"** which refers basically to the visibility of the service. For 69 % of the users, this is a "highly relevant" factor and for another 22 % an aspect of medium relevance. In the European context, many service providers (especially patent offices) see this as a significant

[24] In the case of the IPI it has to be noted, though, that the IPI is more flexible than other administrative bodies in Switzerland to draft remuneration schemes (see also Schweizer Bundesrat, 2008).

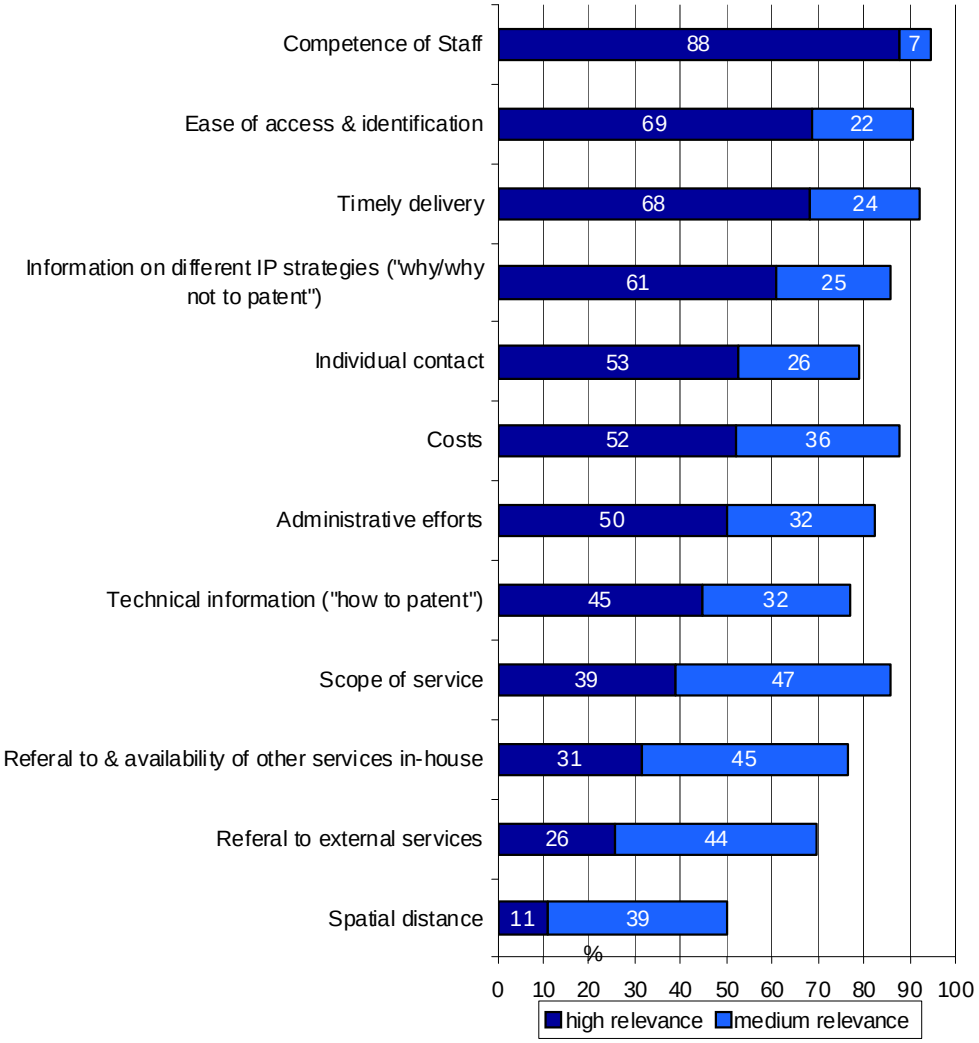
problem; the same holds true for Switzerland, probably even more so than in the better performing EU countries. The reason for this can be partly seen i) in the lack of pro-active awareness raising campaigns (which are more prevalent in Europe) ii) the institutional set-up with the IPI´s traditional role as patent office and, up till now, as somehow "invisible" player in general innovation support and iii) the fact that most IPR services are embedded in non-IPR related offerings and not marketed as support measures. As a result, it is highly unlikely that existing SMEs know about the signif-cance of IPR (or even players who might be able to provide assistance in that field) – but then again, existing SMEs (especially from non-high tech sector) are, deliberately, not very much in the focus of innovation support in Switzerland.

Almost on par as a quality aspect with "ease of access and identification" (in terms of being highly relevant) is **"timely delivery"** (for 68 % of high, and for 24 % of medium relevance). This factor has to be seen in the light that timing is an essential aspect of using IPR (keeping in mind, for example, that in patenting whoever files (or, depending on the country, whoever invents) first will get the sought for patent protection). Almost all Swiss services analysed fare very well in this respect, as evidenced by respective satisfaction levels. Timely delivery might be to an extent an issue for the ETH transfer service which showed a rather a larger share of users not satisfied with that aspect (although it has to be noted that the average satisfaction with timely delivery was still "good").

The quality factor ranked forth, **"information on different IP strategies"("why and why not to patent")** is significant because it voices expectations on the side of the SMEs not to be informed only on procedural aspects of IPR (which are graded, by comparison, by only 45 % to be of high significance (aspect "**technical information" (e.g. "how to patent")**), but also on business-related management decisions regarding different ways to use IPR. The Swiss services fare better in this context than the European average, because they have partly catered for the concept in the service design (in the case of IPR Roadmap, even explicitly) or allow for individual face-to-face coaching (which would provide leeway for respective discussions with the coach/ trainer).

In comparison to the above mentioned factors, aspects such as **"costs"** (still for 52 % of high relevance), **"scope of the service"** (here possibly understood as scope extending beyond IPR questions), **"referral services"** and, foremost, **"spatial distance"** play less of a role. It seems that in order to get high-quality information from experts for a topic as important as IPR, Swiss SMEs (like their counterparts in the EU) are willing to travel considerable distances, if necessary.

Graph 5 **Key quality factors for the provision of IPR services, perceptions of Swiss users of such services according to relevance, service users in %, aggregated answers for all services benchmarked**



Source: user survey, n = 182

6.4 Performance of the services

6.4.1 User outreach

One of the key questions for the success of a support service is whether the user take-up of the service can be considered sufficient and whether the intended target groups have been reached. In the following, therefore, the number of SMEs making use of the different services is examined as well as the characteristics of the user groups.

In terms of actual numbers of SME users of the services, there are quite different findings, depending on the service under scrutiny. One of the results of the Commission study is that services which have a sufficient number of users to carry out a user survey with an aimed for 50 successfully conducted interviews are difficult to find. Though in most of the cases the study team fell somewhat short of the goal also in Switzerland (see section 2.4), one can nonetheless say that user take-up (with the exception of some training services) for existing services is less of an issue in Switzerland than with most other benchmarked IPR support offerings in the EU. Provider perceptions on this issue vary, however:

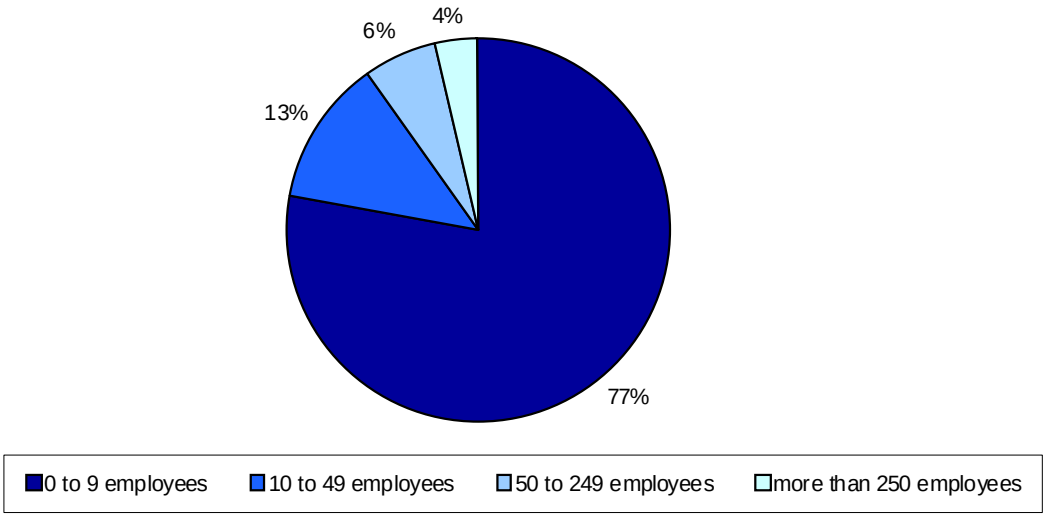
- CTI service officials did not voice concerns over the number of users of their two services which include IPR elements (IPR Roadmap and IPR lectures within venturelab). Both programmes are well established and renowned brands in the Swiss innovation support system, and the existence and application of a rigorous selection procedure suggests that a sufficient number of start-ups and SMEs are likely to apply.
- The issue of user take-up by services offered through the IPI is more ambiguous. While the sampled service of accompanied patent searches had a sufficient number of SMEs participating in order to conduct the user survey, it is, according to IPI officials, in general difficult for the IPI to reach SMEs. This applies especially to trainings offerings, where the IPI has changed its strategy from offering the trainings directly to participating (by providing lecturers) in lecturing programmes of other seminar providers – yet, as it turns out, SME user take-up through these offerings is also rather low. In many instances users are representatives of large companies. But also with regard to the Assisted Patent Searches, IPI officials complain about a lack of visibility with SMEs, a perception that is also shared by practically all other interviewed experts. The visibility issue may be seen as a result of the historical role of the IPI as an administrative public authority (patent office) (see section 3.2)
- In the case of ETH transfer it seems that there were no complaints about a lack of demand for the IP-related services of the technology transfer unit. However, ETH Transfer seems to be also concerned about a lack of visibility which it stated to be "expandable".

Graph 6 shows the structural composition of the surveyed SMEs which have made use of at least one of the six benchmarked services. It turns out that Swiss IPR support services are mostly used by micro-enterprises: Four out of five SME users employ less than nine employees (by definition micro-enterprises), 13 % have 10 to 49 employees (small enterprises) and only 6 % have in between 50 to 249 employees.

There is also a small share of 4 % of the user base which has more than 250 employees, a result explainable by two factors: i) the lack of an official SME definition to be applied in supporting activities in Switzerland and ii) company evolution – some companies that may have used an IPR service as SMEs (according to EU definition) in the past may have grown considerably in the mean time.

The company size distribution observed is primarily due to the explicit focus of three of the services – IPR Roadmap, venturelab IPR offerings and ETH transfer – on start-up companies with a high-tech background. SME users of the Assisted Patent Search service are on average larger: Micro-enterprises make up around two thirds of the user base, and small enterprises and medium-sized firms account for 17 % and 10 % of the users, respectively (also the share of larger companies is with 8 % clearly above the overall average).

Graph 6 **Company size distribution of users surveyed for the six benchmarked IPR support services, firms in %, 2007**



Source: User survey, n = 182

The high focus on start-ups also implies that most of the supported companies are rather young: The median year of foundation is 2005 - half of the companies were founded, hence, before and after 2005. Deviations from this picture arise again in the Assisted Patent Search service of the IPI: The median year of foundation of the supported firms here is 1997.

In terms of industries most supported SMEs are operating in high-tech industries such as the ICT sector, followed by the biotech and the pharmaceutical sectors as well as production technologies. For users of the IPI patent search service, this picture is also observable, but to a lesser extent: About a quarter of those who conducted Assisted Patent Searches stem distinctly from industries (such as textiles, gardening or the construction sector) which are not usually considered as high-tech. The existence of such a user group may suggest that further demand may exist on the parts of already established SMEs in traditional industries who wish to either advance their businesses and/or to expand into new business areas through innovations. It stands to judgement whether this group of SMEs forms a viable target group for other service activities (offered by other institutions), too.

6.4.2 Expected and actual outcome and impact of the support services

The measurement of actual outcomes and impacts in the context of an IPR service has to take individual business-specific factors into account. Many IPR support services have been set up in Europe with the aim to foster IPR usage; in terms of, for example, patents, an increase of the number of patent filings could be in this context aimed for. However, and as stated before, from the point of view of an individual SME it is not always beneficial if it applies a "one size fits all" approach (e.g., has a new invention automatically patented). Depending on the particular market environment, technology standing and risks concerning enforcement it may be better for a firm (be it large or small) to use a different appropriation/protection method instead. Hence, by using advice, information and money for a decision on how to appropriate an innovation IPR-wise, the desirable result could be that in some cases a patent is filed, while in others a trade secret is used or a lead time advantage strategy adapted (for a more thorough review of this argument, see sections 3 and 4 of the Commission study).

The described situation creates considerable challenges for measuring the success of many IPR support services, as likely no single quantitative indicator will suffice for illustrating performance. For the purpose of this study, the study team adopted an approach where it measured changes in attitudes towards certain aspects of IPR and IP management, resulting from using an IPR support service. Such changes could occur in any direction (e.g., patents could be used more (increased use/attention level) or less (decreased use/attention level)) and no a priori assumption is being made whether a certain change (increase or decrease) is for the better. This approach draws on the concept of "behavioural additionality" (BA): The BA concept extends the traditional notion of additionality in evaluation – meaning to measure the outcomes of a policy intervention which would not have happened if the intervention were not present – to (sustained) changes in attitudes ("behaviours") of supported subjects towards a certain topic (see also OECD, 2006b).[25]

The combined results for all benchmarked Swiss support services show a picture very similar to the one obtained for the case study services at the EU level:

- A particularly interesting observation is that utilising support services had for most SMEs the effect of paying, on average, more attention to all IPR-related aspects the study team enquired into. Most interestingly, displacement effects between different IPR instruments (and informal IP appropriation/protection strategies), for example a decrease of the usage of trade secrets which is substituted through a higher utilisation of patents, can be seen only in a rather low share of cases.
- Most of the changes took place with respect to the aspects "knowledge management know-how" (which increased for 52 % of the users) and "general awareness on IPR issues" (which increased for 49 % of the users). Patent knowledge in the business environment increased for 42 % of the supported SMEs. Like in the

[25] Traditionally, one would enquire, for example in the case of an R&D subsidy, whether the R&D project would have been undertaken without the subsidy; if the answer is "no", one would assess that providing the subsidy has made a difference and created an added value; if the answer is "yes" this would reflect deadweight losses, i.e. money spent for things which would have happened anyway. Against the backdrop of such an "added value" thinking, a behavioural additionality question would be phrased differently, e.g. if the use of the subsidy has led the company, beyond this particular R&D project, to conduct R&D more frequently/intensively.

Commission study, the three most prominent behavioural changes concern the IP and IPR know-how of the company.

- Ranking forth in terms of induced changes is patent usage which increased for 28 % of the SMEs. At the same time, also the (conscious) utilisation of trade secrets augmented, as did the usage of trademarks (it increased with around 26 % and 25 % of the supported SMEs, respectively). Thus, as concerns usage of certain IP(R) instruments/appropriation methods, these three instruments display the by comparison highest behavioural changes.
- Probably as a result of the increased IP know-how, about one quarter of the enterprises pool their IPR know-how in departments or assign IPR tasks to specific persons.
- Relatively little effects are reported with respect to copyright usage, the informal methods of lead time advantage strategies and reliance on the complexity of design, as well as licensing activities and the utilisation of designs. Interestingly, if substitution effects between formal and informal means to appropriate IPR are visible, they rather affect the strategy of relying on the complexity of the design and lead time advantage strategies (decrease of attention level by 4 % and 3 %, respectively, and increased attention levels of 13 %, respectively 16 %) than the usage of trade secrets.

As in the case of the Commission study, and while no definitive assessment can be made whether the behavioural changes described are for the better (and also, no statement can be given on the magnitude of the individual changes at firm level), one may nonetheless argue that the services were able to tackle the full range of IP protection and appropriation methods and provide input on when and where each business should apply which method.

Individual coaching matters

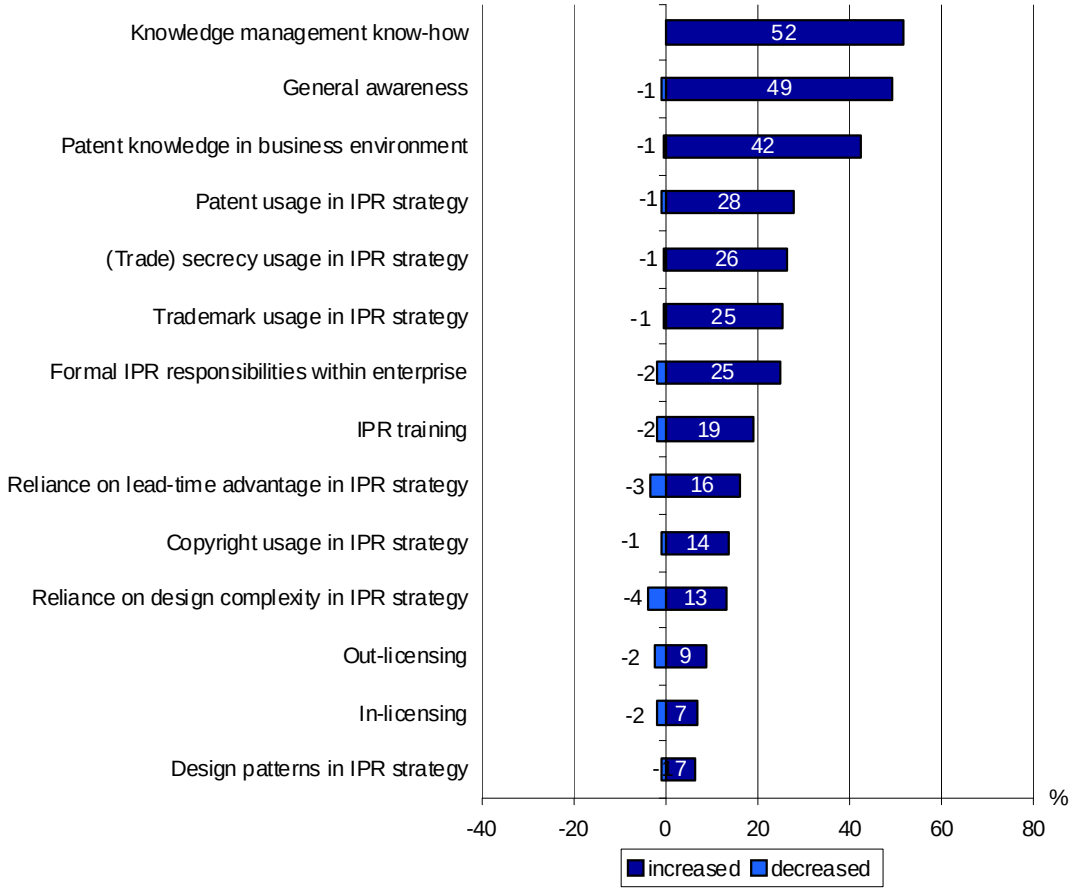
The explanatory factors for this outcome are in Switzerland, however, as opposed to the Commission study in a subtle way different. In the Commission study the outcomes of the services under scrutiny are the result of the services being mostly larger integrated offerings. Such services would act as IPR support programmes on their own and would offer a portfolio of IPR-related services (awareness raising, training, subsidies etc.) out of one hand. The advantage of this approach would be to be able to pool otherwise scarcely available expert know-how with various backgrounds and, further on, realise synergies between the different service elements.

In Switzerland there is hardly such a thing as an integrated offering (with the probable exception of the “Assisted Patent Search” programme, which is part of the portfolio of activities of the IPI; however, it is not in itself an integrated offering as, besides conducting patent scans, it has no additional/complementary service elements). The lack of dedicated IPR support programmes has been noted in section 4.1. Swiss services are able to make up for the lack of integrated offerings through much more intense face-to-face coaching than usually seen at the EU level.

Another explanatory factor for the rather wide range of IPR aspects which receive higher attention levels by Swiss SMEs after using an IPR support service may be that in some services (i.e., the IPR Roadmap service) the issue of IP management is more explicitly considered in the service´s goal system than usually found at EU level. Still,

the subject of IP management remains a challenge even for a service such as IPR Roadmap.

Graph 7 Outcomes of the case study IPR services in Switzerland – behavioural additionality, users in %



Source: User survey, n = 182

6.4.3 Slide-in: education in IPR at higher education facilities – a long term perspective for increasing awareness levels in SMEs

The scarcity of IPR expertise and respective educational offerings in Europe

Both the results of the Commission study and the underlying analysis for Switzerland suggest that success of IPR services is closely linked to the competence of the operating staff. In the Commission study it was also pointed out that the availability of such staff is a bottleneck in almost all countries surveyed, as the level of required expertise is considerable: Ideally, it would combine technical, legal and business know-how surrounding IP utilisation, protecting and management issues.

The scarcity of such expertise may be also an explanatory factor for the relatively low numbers of training and educational offerings for SMEs present in the European market (about 8 % of the sampled support services, see Commission study) targeting IPR matters. As only few persons are capable of dealing with IPR issues in a comprehensive and qualified manner, diffusion of such knowledge tends to be limited to and within a relatively small group of specialists who also draw on specialist educational offerings. Even at universities, IPR tends to be a subject which is, according to the interviewed experts, if treated at all, of seemingly marginal importance in the teaching syllabi of engineering and business administration courses. In Europe, there is thus a clear need to extend the educational offerings and diffuse IPR know-how, at least regarding the basics, to a broader audience within the higher education levels; a need which has been underlined in the course of most expert interviews conducted in the analysis of the Commission study.

The situation in Switzerland

The results of the underlying investigation for Switzerland show a similar picture, albeit seemingly not to the extent seen in the rest of Europe. Having said that, it has to be noted also that all interviewed experts agreed that there is still a clear and pronounced need to boost educational activities in the field of IPR. The rationale behind such thinking is that by creating IPR awareness levels already in higher education facilities in the heads of soon-to-become engineers, scientists and business managers – who then work in firms – a lot of strain is taken from the market of IPR service providers; specialists may then focus on more advanced and detailed questions, and are approached by firms sooner in the process of utilising IPR (and not, as many interviewed experts stated, *"when it is – almost – too late")*.

Teaching IP knowledge in higher education facilities is important. However, such offerings are not support services for SMEs as defined for the underlying study because they do not aim at SMEs as target group. The study can thus not fulfil the function of benchmarking the quality and relevance of respective lectures and lecture series. Nonetheless, because of the significance of educational offerings in the context of IPR, at least an overview over available educational measures in higher education organisations is given. Further considerations are then left to future investigations.

For the purpose of creating an overview over available educational offerings in the field of IPR in Switzerland at higher educational facilities, the study team sampled foremost the course catalogues of the relevant academic institutions (by searching for IPR-relevant lectures and programmes). These institutions were identified in respective literature and directory sources. Only lectures, lecture series and educational programmes which had a clear IPR reference in their title were considered in the search.

Lectures which treat IPR as an element of their syllabi (e.g., a course on innovation management with a respective title, which treats patents in one of the modules) are thus for the most part not included; within this type of offerings only those were considered of which the study team was explicitly aware that IPR is an integral part of the teaching.

The analysis shows the following picture (see also table 8):

- The academic landscape in Switzerland distinguishes between the following types of institutions: Federal Institutes of Technology (of which there are two: the ETH ("Eidgenössische Technische Hochschule", Swiss Federal Institute of Technology) Zurich and the EPFL Lausanne (Ecole Polytechnique Fédérale de Lausanne)), cantonal universities (of which there are ten) and seven inter-cantonal universities of applied sciences ("Fachhochschulen").

- The two Federal Institutes of Technology have considerable IPR offerings at the post-graduate level. Outstanding seems to be the availability of a three semester masters programme at the ETH Zurich for IP management which puts the ETH Zurich, according to interviewed experts, at the forefront of institutions offering such programmes in Europe. The EPFL Lausanne has a dedicated IPR course within its Executive MBA in Management of Technology. Both institutions have also lectures in their undergraduate programmes.

- At the cantonal universities, several courses on IPR have been identified. Within the Executive Master of Business Engineering, at the University of St. Gall, IPR is lectured as part of the subject "innovation and technology management".

- At the level of the Universities of Applied Sciences (UAS), two relevant offerings were considered: Most interesting is the availability of a master's programme at the ZFH Zurich which is targeted completely at IPR (two year masters programme targeting scientists and engineers); again, this can be, according to experts, regarded rather as a novelty in the European landscape of similar institutions.

Table 8 Overview of educational offerings in the field of IPR, offered by the Swiss Higher Education System

	Study	Education or training related to IPR
Swiss Federal Institutes of Technology (ETH domain)		
ETH Zurich	Chemistry, Biotechnology	Required subject (various levels): „Naturwissenschaft und Gesellschaft: Chemie und Industrie, Rechtslehre für Chemiker“
ETH Zurich	MAS Programme: Intellectual Property (MAS ETH IP)	Two semester postgraduate programme targeting engineers and natural scientist.
ETH Zurich	Module of the MAS Programme in Intellectual Property (MAS ETH IP), offered as an independent trainings course	Independent advanced training course focusing on basic IP protection issues, offered also outside the formal Masters programme MAS ETH IP
ETH Zurich and University of St.Gall (in cooperation with faculty members of MIT – Massachusetts Institute of Technology, SMU – Singapore Management University and FUDAN – School of Management, Shanghai)	International Senior Entrepreneurial Leadership Programme (ISEP)	Module (IV): Intellectual Property
EPFL Lausanne	Executive MBA in Management of Technology – MoT	Module (Specialization): Intellectual Property Management
EPFL Lausanne	Dominante Création d'Entreprise	Module: Intellectual Property Rights (« Droit de la Propriété Intellectuelle » (Offered 2004/05)
Cantonal universities		
University of Zurich	Biomedical Engineering	Required subject: “Fundamentals of Regulatory Affairs and Patents”
University of Zurich	Master of Advanced Studies in International Organisations	Special Course: The UN System and the Protection of Culture (IP and counterfeiting as major topic).
University of Berne	Various studies	Required or falcutative subject (depending on study syllabi): „Erfindungsschutz auf dem Gebiet der Physik“ („protection of inventions in the field of chemistry and biology”)“
University of St. Gall, Swiss Research Institute of Small Business and Entrepreneurship University of St.Gall (KMU-HSG)	Diplomprogramm: Intensivstudium KMU (“diploma programme: intensive study SMEs“)	Advanced training course; Relevant in this context: Unit 9 (Innovation and Technology Management), Unit 11 (Law and Corporate Governance)
University of St. Gall; Institute of Technology Management (ITEM-HSG)	Various seminars and lectures	E.g. in the Master Programme in Information, Media and Technology Management (IMT) or doctoral studies in this area treatment of IP management issues
University of St. Gall	Executive Master of Business Engineering	Innovation and Technology Management as part of the Executive MBA
Universities of Applied Sciences		
Zürcher Fachhochschule (ZFH); Regional Unit: HSZ-T Hochschule für Technik Zurich	MAS Programme: Intellectual Property (MAS ZFH)	Two year part-time programme targeting engineers and scientists.
University of Applied Sciences of Southern Switzerland (SUPSI), Campus Manno; Dongguan University of Technologies (DUT), China	Master of Science Programme: MSc in Precision Manufacturing	Four semester full-time programme. Within the unit “basics of sociology and Human resource management”, a module called “patents and intellectual property” is offered. The programme is provided in co-operation with the Dongguan University of Technologies (DUT), China).

Source: Data collected from university websites, reports and brochures

Conclusions

All in all, this overview shows that the Swiss higher education system seems to have offerings in the field of IPR (especially in Zurich with the two master's programmes) which are not present in most other European countries. The situation is still, according to experts, vastly improvable. First, most of the offerings are post-graduate offerings – in order to increase awareness levels in a broader manner it seems necessary to increase the number of lectures already in undergraduate courses for scientists, engineers and students of economic/business studies. There is some disagreement whether such courses should be compulsory or not. By contrast, most experts suggested that IPR lectures and educational programmes offered to scientists, engineers and students of business/economic studies should have a different spin in the way that the topic should be treated more lively and should focus on business-strategic aspects rather than on detailed legal and respective procedural issues. In the context of SMEs, one expert pointed to the relative importance of universities of applied sciences within the educational system: It is the graduates of these institutions that supposedly form the main body of future employees in SMEs – this is why it was said that particular focus should be placed on these institutions when introducing new educational offerings for IPR. In addition, evidence from Austria (see Steiner et al., 2006) suggests that universities of applied sciences cooperate more often with SMEs in R&D undertakings than "traditional" universities do.

6.4.4 Slide-in: licensing as an alternative to patenting – some impressions

As stated in section 1, there are a considerable number of studies suggesting that SMEs make rather little use of the system of formal IPR protection and most notably patents, due to reasons of costs, enforcement issues or the time it takes till the IPR titles and hence protection is granted. As a result, many SMEs refer to less formal IP protection instruments such as trade secrets or strategies like relying on innovation lead time advantages. Another strategy could be – in the context of patents – an augmented utilisation of licensing: The basic idea behind this is that instead of inventting and patenting a technology on its own, an SME might alternatively look for other firms which have developed similar technological solutions applicable for the particular problem the small firm is confronted with. It could then license the technology from its original inventor and (patent) right holder in and subsequently forego the R&D costs (and IPR filing/maintenance/enforcement costs) for own new and proprietary development efforts.

Against this background, the study team was asked to give this subject more attention in the sense of (i) collecting evidence which would clarify the claim that in-licensing is a viable alternative to the filing of patents for SMEs and (ii) providing some insights whether this can be regarded as a specific situation where policy action/intervention is needed.

In order to address the above mentioned issue, the study team incorporated minor modifications to the user survey questionnaires of the Commission study, conducted one additional interview with a dedicated expert on licensing (from the Licensing Executive Society LES) and had the topic of licensing also explicitly touched in a number of other expert interviews. As the study design has, however, no specific focus on the topic of licensing there are clear limits (i) to the extent to which research questions specific to the topic of licensing can be treated and (ii) with respect to the (statistical) validity of the findings. The results presented in this section should thus be

seen more of a collection of observations and a potential starting point for further research rather than a self-contained and concluded analysis.

Notwithstanding these limitations, these observations sketch an interesting picture for the licensing topic:

- Available research on the usage of licensing by SMEs and analyses on explanatory factors for observed licensing utilisation behaviours are rather scarce. Interestingly, the subject of in-licensing seems to get less attention in studies than the subject of out-licensing (where the firm/SME would license a technology it developed itself to another company). In the context of the latter, the work of Lichtenthaler is of particular interest (although it has no particular SME perspective; in fact, Lichtenthaler noted that the interviewed out-licensing companies are rather large firms): The study looked into motives behind decisions to out-license technologies with 155 industrial members of the Licensing Executives Society in Germany, Austria and Switzerland. The major explanatory factors found were securing the freedom to operate, gaining access to technologies (e.g., through cross-licensing) and entering new markets (see also table 9).

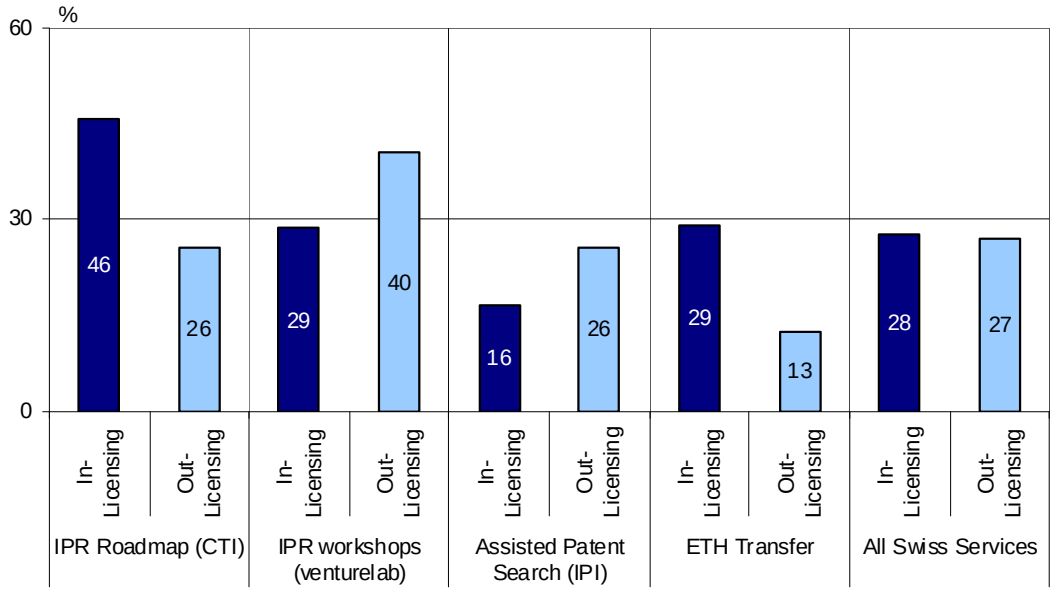
Table 9 The 10 most important motives for firms to out-license technology, ranked by descending order of significance

Rank No.	Motive to out-license
1	Secure freedom to operate
2	Gain access to knowledge
3	Realise market entry
4	Sell additional products
5	Ensure technological leadership
6	Generate revenue
7	Set standards
8	Enhance reputation
9	Strengthen networks
10	Realise learning effects

Source : Lichtenthaler, 2007; own representation.

- As concerns the usage level of Swiss SMEs with regard to in-licensing and out-licensing, no thorough quantitative data seems to be currently available. Some indications may be derived from the user survey for the case study services in the underlying study (see graph 8), though the bias given by the fact that these SMEs are actually users of IPR support services (and thus likely to be more active in IP-related activities) has to be kept in mind. The findings show considerable variability with respect to the service scrutinised. The usage of licensing seems to be in general more pronounced with users of the CTI offerings. This could be possibly explained by the high-tech focus of the companies, which – given the complexity of product development in such environments – often necessitates accessing new technologies and sharing them with different actors (this is especially true for the ICT sector, where one single type of product may need to incorporate a range of different patented technologies in order to work). Across all scrutinised services, 28 % of the interviewed Swiss SMEs engage in in-licensing activities, while 27 % engage in out-licensing.

Graph 8 **Usage of in- and out-licensing by Swiss SME users of various IPR support services, 2005 to 2007, SMEs in %**

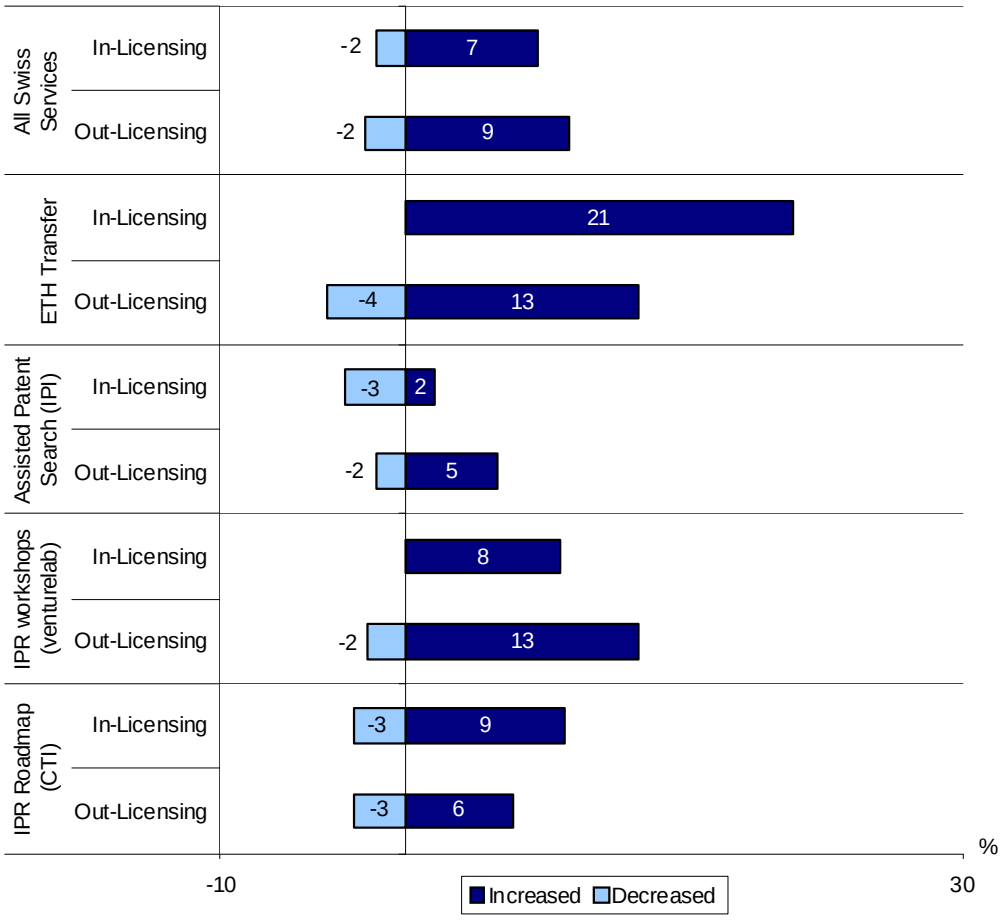


Source: User survey, n = 182

- The usage levels of in-licensing by Swiss SMEs were, for the most part, of little concern for the interviewed experts. Only few stated that SMEs in Switzerland would not license technologies to a sufficient extent. According to LES experiences, Swiss SMEs tend to use in-licensing for non-critical (yet necessary) components, but not for those technologies that form the core of the respective offering. In this context, another expert explained that *"…Swiss SMEs try to invent the important things on their own; it is a Swiss tradition"* (expert interview, No. 22*)*. As for out-licensing, a number of experts noted that respective SME engagement could be improved.

- The current system of IPR support services in Switzerland hardly influences the usage of licensing by SMEs. Graph 9 shows the changes in attitudes of the users of the most significant Swiss IPR support services towards licensing, broken down by the respective support measures. Overall, only 7 % engage in further in-licensing, and only 9 % of the firms out-license more after using a respective service; 2 % of the companies decreased their usage of in-licensing and out-licensing, respectively. However, some variations are visible: Interestingly, the Assisted Patent Search service of the IPI influenced its users the least with regard to licensing behaviour. By contrast, some 21 % of the users of the ETH transfer service reported augmented in-licensing activities. The latter finding can be explained by the very nature of the ETH transfer service which has a focus on brokering licensing agreements between the university and its spin-offs.

Graph 9 **Behavioural additionality with respect to in- and outlicensing, SME users of IPR support services in %**



Source: User survey, n = 182

- If the topic of licensing is tackled through publicly funded support services in Europe, it is usually in the form of initiatives which attempt to create and maintain (electronic) markets for companies demanding technologies (in-license seekers) and those trying to sell them (out-license seekers). Noteworthy in this context are, for example, the German *INSTI/SIGNO innovation market* measure (see text box 1) or the Irish *TeachSearch* Programme, run by the national innovation agency Enterprise Ireland (EI). The latter offering takes a particularly clear stance towards increasing the usage of in-licensing by SMEs – it provides also (otherwise rare) figures which look specifically into the potential benefits of increased technology acquisition for small firms: At individual industry level an EI study suggests that 93% of companies in the food sector are aware of the potential of licensing for their business, but only 33% of companies surveyed were actually using licensing to acquire products and technologies (Enterprise Ireland, 2007). These figures provide for EI the rationale to operate its “TechSearch” programme: It is believed, for example, that Irish companies in the food and beverages sector could increase exports by € 80 Mio per year with a yearly additional investment of € 10 in technology licensing. Less than 5 % of € 1.4 Bio spent on R&D by the Irish enterprise sector is used for (in-)licensing (Ryan, 2006).

Box 2 The SIGNO/INSTI innovation market as an example of a service tackling the issue of licensing

The *SIGNO/INSTI innovation market* realises an online market for technologies in Germany. Interested firms who want to sell or buy technology licenses can register themselves on a website and place there ads in one of the three sections "innovation seeks capital", "innovation seeks firms" and "firms seek innovations". Companies who wish to place such an ad may draw on funding from SIGNO, which covers 30 % of the costs (with a ceiling given at € 800.- for the funding volume) for creating the actual texts; SMEs are hereby further supported through the fact that SIGNO personnel (SIGNO partners) help in drafting the texts, thus creating, according to SIGNO, *"…an added value if compared to other innovation markets"*. On July, 16 2008, the three sections listed 18 (innovation seeks capital), 76 (innovation seeks firms) and 14 (firms eek innovation) open advertisements.

- It has to be noted that the establishment and operation of "licensing markets" is also a lively field of activity for private service providers. Cases in point are, for example, PERA which is headquartered in the UK or the U.S. based firm "yet2.com". Furthermore, as stated in section 3.3.2, respective matchmaking services are also offered by various IP consultants. The interview results of Swiss experts hint at a very dense private support structure for licensing matters in Switzerland, given through, for example, the members of the Licensing Executives Society (LES). According to the LES, there is no additional need to address the issue of licensing by SMEs through new or improved support measures, not least because of the supposedly well established private market in this field. The LES is *"…completely happy with the situation as it is"*. Only one expert suggested that the IPI could operate a market for technology licenses akin to the INSTI/SIGNO innovation market service. This idea received scepticism by most other interviewed experts, mainly due to the feared potential interference with the private sector.

Box 3 The Irish TechSearch programme as an example of a service tackling the issue of licensing

According to Enterprise Ireland (EI), *"TechSearch is a technology licensing and partnering service available from Enterprise Ireland which operates across all industrial sectors and provides assistance and expertise to clients to successfully licence technologies from international sources"*. At the heart of the measure lies the "TechSeach" toolkit which is available via the TechSearch website (http://www.enterprise-ireland.com/TechSearch/). The toolkit comprises four instruments: (i) "Test your Readiness" (a questionnaire which allows SMEs to establish their readiness for the implementation of a licensing agreement); (ii) "DIY Search" (a tool which enables Irish SMEs to search for technologies worldwide via the TechSearch portal, hereby linking four key databases); (iii) "Marketplace" (an instrument which provides a listing of key opportunities that the EI staff consider to be potentially interesting to Irish businesses); (iv) "Patent Search" (the last tool which links into two key patent databases and allows corresponding searches). If an Irish SME decides to undertake licensing activities, it may also draw on financial support provided by EI for this purpose.

Concluding remarks

At this point, the evidence towards the need to introduce support services that tackle the field of licensing in Switzerland is inconclusive. The only thing that can be safely said is that the current system of support services hardly changes the way the support seeking SMEs make use of licensing; however, even the basic question whether there is an under-use of in-licensing due to resource constraints by SMEs cannot be answered. The interviewed Swiss experts seem to be, apart from a small minority, reluctant in proposing respective policy actions or do not gauge this topic as high priority. This contrasts with the EI study results presented in Ireland, but the findings there may need to be reviewed with regard to their applicability to Switzerland.

6.5 Elements of good practice and success factors for IPR support services targeting SMEs – Switzerland and the EU at a glance

The following table gives an assessment over identified elements of good practice with the support services analysed. The assessment considers services which were subject to a case study analysis both in Switzerland and in the EU and takes an aggregate/ portfolio view (i.e., it does not look at the individual service level but at general impressions emerging from all the services scrutinised). For the diverse set of aspects displayed, subjective assessments on the study team gauges the Swiss support services as opposed to those analysed in the Commission study are given.

The general observation is that Swiss support services cope with the same type of challenges as do their EU counterparts. However, when IPR support services are enacted in Switzerland, they tend to perform better, though – not least because of the great care taken when setting up and governing such offerings. An important issue is, however, the general availability of support services (i.e., if certain problem areas of IPR usage by SMEs are tackled by Swiss support services at all). But then again, this is a question of philosophy regarding the extent of wanted state intervention.

Table 10 Overview and aggregate assessment over selected benchmarking indicators and observed elements of good practice with Swiss and EU support services that were subjected to the case study analysis

Element of good practice / Service Aspect	Comments with regard to Swiss IPR support services for SMEs	Performance SUI compared to EU
Portfolio view		
Availability of IPR support for SMEs	Availability of support refers to the fact whether there are enough support services in the field of IPR in order to tackle relevant problem areas in using IPR by the respective target group of SMEs. In this respect there seems to be a lack of dedicated IPR support programmes in Switzerland.	**-**
Coherence of support	Some few IPR support measures exist in Switzerland, mostly embedded in a meaningful manner in other larger non-IPR related services. From an inter-institutional perspective, however, rather little coherence is visible.	**O**

Element of good practice / Service Aspect	Comments with regard to Swiss IPR support services for SMEs	Performance SUI compared to EU
Portfolio view		
Overall effectiveness of support	Almost all enacted support services show high user satisfaction, respectable user outreach and were able to induce considerable changes in attitudes with the supported SMEs.	**+**
Design of the services		
Preparatory activities	Practically all Swiss IPR support services have been implemented in a structured and thoughtful manner, involving outside experts.	**+**
Clearness of the goal system	The goals of the scrutinised services are for the most part clear-cut and attainable with the operated instruments.	**+**
Topics addressed – focus on IP management	Many Swiss services are still patent-centric, there are only few that explicitly have provisions for other forms of IP protection/appropriation in place	**-**
Resource endowment	As most services in Switzerland are embedded offerings in a portfolio of larger services, they are rather small, but still sufficiently endowed with respect to their envisaged targets.	**+**
Implementation		
Governance structures	Monitoring systems and evaluation exercises employed are clearly above European average. The lack of evaluations in some instances can be attributed to the rather young age of the services.	**+**
Marketing activities and visibility	Visibility is an issue for Swiss IPR support services – IPI offerings are not generally known by SMEs, CTI IPR offerings are not marketed to the outside. This seems to be a general problem also in the EU.	**O**
Integration	Integration refers to the fact that several IPR service elements are combined in a larger offering, which is seen at EU level as an element of good practice (one-stop shop idea, with the possibility to pool otherwise scarce know-how). This is not visible in Switzerland to this extent, as dedicated IPR programmes with distinct service packages are not present.	**-**
Individual SME-tailored approaches	Swiss IPR services take in many instances an individual approach in counselling SMEs, thus accounting for the company-specific situation for using IPR.	**+**
Competence of service operating staff	A strong explanatory factor for service success is the quality of the operating personnel. Services in Switzerland generally employ well trained staff. However, there seem to be some additional demand with regard to business/industry expertise. The situation in Europe, however, is similar.	**O**

Element of good practice / Service Aspect	Comments with regard to Swiss IPR support services for SMEs	Performance SUI compared to EU
Implementation		
Inter-institutional cooperation	Inter-institutional cooperation in Switzerland happens on an ad-hoc basis at lower hierarchy levels – but this is also seen, on average, at European level.	**O**
Costs	Most services are free of charge or subsidised at attractive rates, creating a favourable cost structure (this is also observable at the European level).	**O**
Interaction with private sector	The public support services have well working gover-nance structures in place that involve representatives from the private sector	**+**
Referral activities	Referral activities between institutions offering IPR/ innovation support are rather rare. This is also true for the EU.	**O**
Performance		
User outreach	User outreach is still considerable, given the fact that several services suffer from visibility issues	**O**
Added value (in terms of induced behavioural changes)	Most SMEs reported significant changes due to making use of the service, almost all aspects of IP management get higher attention levels following service utilisation. Well performing services in the EU show similar results.	**O**
User satisfaction	For all analysed services, user satisfaction is high. This is also true for services selected for displaying elements of good practice in the EU.	**O**

Assessment scale:

+) better than EU average good practice case studies
o) on par with EU average good practice case studies
-) below EU average good practice case studies

Source: Austrian Institute for SME Research

7 Conclusions and recommendations

The following observations stand out while summing up the results of the study: IPR support in Switzerland is provided mostly in an embedded way, as part of non-IPR related offerings. There are hardly any dedicated and self-contained IPR support programmes. Existing IPR services (IPR service elements) are usually enacted and run in a very thought-through and structured manner. As a result, a number of the scrutinised Swiss IPR services for SMEs are performing on par or even better than some of the best offerings found in other countries of the EU. Challenges remain, especially with respect to (i) the systemic set-up (and thus also the institutional work-division) and (i) the identification of blind spots in the field in question which may need to be tackled further through respective policy intervention.

Against these general findings (and those laid out in detail in the main body of the text), the study team drafted the following set of recommendations:

1. ***Develop and solidify a clear role of the IPI within the Swiss innovation system*:** With the reform in 1996, the IPI has created the foundation to be the primary competence centre on Intellectual Property in Switzerland. The corresponding organisational changes (also allowing for service provision to SMEs) coupled with the opportunity to cover non-patent related IP and IPR management issues combined with the fact that the IPI reports directly to the government (thus allowing for direct input of IP issues into overall general policy) have created a unique opportunity. This opportunity could allow one institution to be responsible for the topic of IP and IPR as a whole (i.e., not limited to patents) with this institution addressing this topic in a broad manner within the Swiss innovation system. However, there may be still some steps ahead: First, there is a clear need for IPI to be recognised as an important institution of the innovation system for its specific tasks and expertise (besides acting as an authority granting IPR titles, foremost fostering the qualified (!) usage of IPR by researchers, companies etc.). Second, the IPI traditionally specialises in patents and trademark. In this respect, the institute is advised to extend its scope to other IPR and IP approaches. These issues can be addressed by i) extending the scope of IPI activities to explicitly cover also other ways to deal with IP (informal protection mechanisms, licensing) and ii) respective awareness raising with other institutions of the innovation system on the significance/important aspects of the IPR system.

2. ***Examine in detail whether there are instances of market failure with regard to SMEs and IPR usage in Switzerland which make the implementation of new support schemes (or the extension of existing ones) in this field necessary:*** As described above, available IPR support in Switzerland tends to be limited to certain topics and certain industries, resulting from the Swiss stance to keep state intervention a minimum and to offer support only in those areas (which are predominantly high-tech) where it seems absolutely necessary. The user group analysis of the IPI has revealed, however, that even clear-cut patent related services (which clearly require a technological background and a significant inventive step) are in demand with many firms coming from low and medium-tech environments. The IPI should, in conjunction with other institutions, thus consider further investigation of unmet demand by SMEs with respect to IPR services. This should be done in order to determine whether they merit being tackled by potential new support services. As sources of inspiration, the IPI should examine existing dedicated IPR support programmes such as the INSTI/SIGNO patent action in

Germany, IP Prédiagnosis programme in France or the innovation protection programme (IPP) in Austria (to name just a few).

3. ***Foster the dissemination of IPR and IP management know-how at the academic level*:** There is a general consensus among the interviewed experts that know-how on IPR and IP management issues in Switzerland is not as wide-spread as desirable. This is true not only with existing SMEs but also with students at technical universities or business schools who are future employees and business owners. This target group deserves particular attention. Though Switzerland has a few significant university offerings in terms of IP management at the post-graduate level (which sets Switzerland above the European average), it seems necessary to foster educational activities (in terms of innovation/IP management courses) also at the graduate and undergraduate level of business schools, technical universities and at universities of applied sciences.

4. ***Increase specific IPR awareness with stakeholders active in supporting businesses:*** The general increase of IPR awareness could be further boosted, if "train the trainer" initiatives for business consultants and other institutions providing general business support to SMEs are launched. That way, some basic support as well as awareness raising measures, such as the identification of probable IPR issues and subsequent referral to IP professionals for in-depth consulting, could also be offered in by a group of business supporting professionals/organisations which do not deal with IPR on a day-to-day basis.

5. ***Foster cooperation activities between the IPI and other institutions:*** Ideally, IPR and IP management should be part of the overall innovation management in a business. This is also why IPR and innovation support should be provided in a concerted and coherent way. The fact that IPR support in Switzerland is provided in large part by the IPI, and general innovation support is the responsibility of other institutions (notably, the CTI, but also regional actors) creates a situation with the danger that IPR and innovation are treated as separate topics. Moreover, the lack of visbility of the IPI identified by both interviewed experts and SMEs may result in certain IPR topics being completely out of sight of the target group of the SMEs. Collaboration between the IPI and main institutions providing support in the field of innovation management is thus a necessity in order to provide essential IPR and innovation support as an integrated package to SMEs. Until now, collaboration between the IPI and the other institutions seems to only happen at lower hierarchies and/or on an ad hoc basis (mostly drawing on lectures to be held by IPI personnel on IPR basics); signposting/referral activities between the institutions (especially towards the IPI and its search services) hardly take place. Examining and implementing measures to enhance or institutionalise collaboration between the main actors in IPR and innovation support is therefore recommended – examples at the international level such as the Dutch IOI programme could provide a reference for such activities.

6. ***Maintain close ties with the private sector in order to allow for a well-concerted division of tasks between private and public IPR support services:*** One of the findings of the underlying study was that the private sector predominantly welcomed the IPI and other institutions to be active as IPR service providers. Such activities could provide a "win-win" situation for all parties involved. For patent attorneys, for example, the availability of entry-level IPR support programmes yields a new entry point for their own offerings, e.g. through signposting activities by the IPI or the CTI (or through the fact that patent attorneys may themselves outsource

basic IPR awareness raising to the IPI). From the point of view of the public offerings, it is essential that their offerings provide an added value. They need to create effects that cannot be realized absent state intervention (well functioning private offerings should not be displaced, however). To this end, the IPI and other organisations, have established reliable governance structures involving representatives of the private sector (i.e., the involvement of patent attorneys in advisory boards and steering committees) that have proven valuable in designing and adjusting the publicly funded service portfolio. These governance structures can be certainly considered as good practice in an international context and should thus be maintained.

7. ***Develop an IP/innovation strategy which would involve all important institutions in innovation support in Switzerland*:** One of the most unique aspects of innovation support in Switzerland is probably the largely visible absence of central government units (ministries) to coordinate, as "principals", the different supporting activities of relevant agencies and external organisations. The advantage of this approach is certainly the high flexibility the different agencies enjoy at the national and/or regional level in designing their activities. Additionally, the Swiss system allows for direct lines of communication for certain decision-making processes and a greater presence of independence. However, the set-up makes the coordination of multi-agency subjects (as is often the case for IPR) difficult: One is faced with diverging motives and incentives of the acting persons in charge within the institutions. It is thus questionable whether many of the above presented recommendations (e.g., on inter-institutional cooperation) can be successfully tackled, solely based on bilateral agreements. In this context, a national IP/innovation strategy is recommended. Such a national IP/innovation strategy is suggested to outline the responsibilities of all institutions that contribute to the Swiss innovation system. In particular, the role of these institutions regarding innovation support and IPR and their fields of action should be defined.

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Statistics Switzerland	www.bfs.admin.ch
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Association of Swiss Foreign Trade Chambers	www.swisscham.ch
Association of Swiss patent and trademark attorneys (VSP)	www.vsp.ch
Association of Swiss patent attorneys for the industrial sector (VIPS)	www.acbis.org
Federation of the Swiss Watch Industry (FH)	www.fhs.ch
ICC Switzerland	www.icc-switzerland.ch
Institut für gewerblichen Rechtsschutz (INGRES), Institute for Intellectual Property Rights in Switzerland	www.ingres.ch
Licensing Executives Society, Swiss Chapter (LES-Switzerland)	www.les-ch.ch
Promarca	www.promarca.ch
Swiss Advertising Association	www.sw-ps.ch
Swiss Association of business centres and technology parks	www.swissparks.ch
Swiss Association of idea and innovation management	www.idee-suisse.ch
Swiss Association of Technology Transfer Professionals	www.switt.ch
Swiss trade and crafts association	www.sgv-usam.ch
Umbrella organization representing the Swiss economy	www.economiesuisse.ch
Other Sources	**Website**
CCSO Network	www.ccsoge.ch
Commission for Technology and Innovation (CTI)	www.admin.ch/bbt
Company profiles presented by the IFJ (Institut für Jungunternehmen)	www.estarter.ch
Education and Networking Plattform presented by the International Business School (ZfU)	www.swiss-practice.ch
EUResearch	www.euresearch.ch
Foundation SME Switzerland	www.stiftung-kmu.ch
InnovationsTransfer Zentralschweiz (ITZ)	www.itz.ch
Institut für Jungunternehmen (IFJ)	www.ifj.ch
National SME Web-Portal	www.kmu.admin.ch
National Web-Gateway to Switzerland	www.ch.ch
OSEC Business Network Switzerland	www.osec.ch
Start-up platform presented by the IFJ (Institut für Jungunternehmen)	www.startup.ch
Start-up platform, Zurich	www.gruenden.ch
Swiss Federal Institute of Intellectual Property (IPI)	www.ipi.ch
Swiss National Science Foundation (SNSF)	www.snf.ch
Technology transfer ETH to SMEs	www.tek-kmu.ch
Top 100 Swiss Start-ups; Ranking presented by the IFJ (Institut für Jungunternehmen)	www.inno-swiss.com
Verein KMU Campus	www.kmu-campus.org
Web-Portal for Business and Investments in Switzerland	www.swissnetwork.com
Source: Austrian Institute for SME Research	

ANNEX I

CASE STUDIES

1 The IPR Roadmap and Assessment of the CTI Start-up programme

Country:		Switzerland
Original title:		IPR Roadmap and Assessment (as part of the CTI Start-up Programme)
Target group:		SMEs (Start-Ups)
Coverage:		National
Category:		(Pro-active) awareness raising measure/Public Relations
	X	Information Provision Service
		Training
	X	Customized in-depth consulting and advisory service/point
		Financial Support & Measures within the legal framework

1.1 The CTI Start-up programme and the incorporated "IPR Roadmap/Assessment" service element in a nutshell

Provided by the Swiss Innovation Promotion Agency CTI, CTI Start-up is a nation-wide initiative to support the establishment of high-potential growth businesses in Switzerland. The programme provides various entrepreneurial education and coaching activities which cover selected stages of a company's life-cycle. In essence, start-ups are offered tailor-made coaching activities that cover all aspects related to business administration and development (including explicitly Intellectual Property management issues). Successful participants (those who get a positive assessment at the end of the supporting period) obtain, after around 18 months, a "CTI Start-up" label; the label is set to lend credibility, enhance a company's image and may help access venture capital for future investments.

The IPR service element within CTI Start-Up is provided in two ways: First, by the possibility to draw on designated "IP Coaches" who provide consulting on IP management issues when/if needed (this decision is up to the primary coach, the so-called "case owner"); these IP coaches design during the whole supporting phase an "IPR Roadmap" which lends this service element its name. The second way IPR is addressed is through the preparation of an "IPR assessment" report at the end of the coaching process: Prior to approval of the CTI start-up label, every company has to undergo a series of assessments regarding the state of affairs of various business operation activities, and reports to this end are to be written by the coaches on the individual subjects (such as on the topic of marketing, accounting/costing etc.); the "IPR assessment" report is one of these reports and deals with the state of affairs of IPR matters. It has to be noted, though, that as the IPR assessment is being done for the CTI and not for the SME, it is hence mostly not perceived by the companies as a service which is being provided to them. As a consequence, the following analysis will focus entirely on those start-ups that made use of the IPR Roadmap service element.

Background and resources

Implemented by the Federal Department of Economic Affairs and funded by the Federal Office for Professional Education and Technology (OPET), the Innovation Promotion Agency CTI aims to promote innovation and its commercialisation as well as the transfer of knowledge and technology. Under these objectives, CTI offers a range of innovation-related services and support programmes to firms and research institutions, among which “CTI Start-up” is only one of the initiatives; other CTI services noteworthy are the programme “CTI Project Support R&D” (whereby the commission encourages science-to-market activities and promotes R&D projects that are carried out jointly by private-sector industry and academia), the CTI Entrepreneurship programme (which runs the “venturelab” initiative; this initiative is going to be discussed in a separate case study) or CTI Invest (a private association which operates a platform set up with the goal to facilitate access to finance for start-ups, whereby business angels as well as both national and international venture capital firms are targeted from the financial sector).

Although no specific disciplines or technology fields are explicitly targeted, the main part of CTI funded/supported organisations is in the life sciences/biotechnology and Information/Communication Technologies field. The composition of the (company) user base (by industry/technology field) reflects the fact that CTI only supports, on the company-side, (high) technology firms.

The CTI Start-up initiative has a budget of CHF 4.5 Mio per year at its disposal. It is operated through contractual relationships with renowned business consultants and entrepreneurs and/or experts in certain fields of business administration. The budget available for IPR-related service elements amounts to around CHF 150,000.- per year (in 2007: CHF 138,000.-). A two-day coaching session for developing and monitoring the “IPR Roadmap” is priced at CHF 1,600.-, the drafting of the IPR assessment report costs CHF 2,300.- per company/case. The supported companies are made aware of these costs, but do not need to pay them – all costs incurred are fully subsidised by CTI.

Modes of operation

The service element of the “IP Coach” and the respective “IPR Roadmap” had its genesis through a bottom-up approach: Several supported companies had expressed the desire to be informed on intellectual property protection. Such wishes are collected and discussed twice a year in "focus workshops" among CTI staff and the coaches. Once the desire for stronger IPR attention was voiced and discussed in 2003, a series of pilot IP Coachings were performed after which the whole service element has become fully operational in 2004. As can be thus seen (the CTI Start-up initiative dates back to 1996), the IP Coaching (IPR Roadmap) is a relatively young service element within the support programme. The “IPR assessment” has been operational since 2001. The need for implementing a coaching service was also recognised: Once IPR assessments identified deficiencies at the end of the supporting period in the IP management of supported SMEs, there was little time left for reactions and no in-depth advice on how to tackle this issue could be hence provided.

The operation of the service element “IPR Roadmap” is similar to that of coaching activities addressing different areas of business administration. It is important to note that the “IPR Roadmaps” are not sub-programmes of their own and are not marketed explicitly as services – only the frame programme of “CTI Start-up” is being advertised.

As such, the “IPR Roadmap” is a clear-cut example of an embedded IPR service, that is, a service which is part of a bigger service (or portfolio of services) which is (are) not IPR-related.

Start-ups which wish to participate in CTI-Start-Up need to apply; only a fraction (those with the highest probability of success) is admitted. After being accepted, the start-up is assigned a primary coach, the so-called “case owner”. The start-up may now draw on up to 200 hours of fully subsidised customer-tailored consultancy work provided by the case owner; if the conclusion is reached that a certain subject (such as IPR) needs to be treated in more detail (and the coach does not have the required expertise), the case owner may use some of his/her 200h time budget and refer to the respective specialised coach in this context (e.g., the IP coach). The case owner will only get partly remunerated for the time “given off” to the specialised coach, however. Whether this creates a situation where the case owner is rather reluctant to involve a secondary expert – even though it might be necessary – is subject to further investigations.

Once involved, the IP coach discusses with the start-up the state of affairs of IP protection and IPR usage and develops a roadmap on what IPR and/or IP protection instruments to use at which time. The approach taken is rather broad, and not limited to patents: Trademarks and informal methods are discussed as well and it is sought to find an optimal mix for the respective business model and environment. This approach – broad and tailored to the individual enterprise needs - can be certainly considered good practice in the international “IPR support service” context.

While the programme is offered by the CTI and administered by CTI staff, the whole coaching process itself is carried out by external renowned private consultants and patent attorney firms with whom respective contractual agreements have been reached. For the part of the IP coaching, three IP consultancy firms have been contracted:

1. Industrieberatung Maier (located in Sissach)

2. BDC – The Business Development Company (located in Hochwald)

3. Patents and Technology Surveys SA (a patent attorney firm located in Neuchâtel)

There are plans to extend the IP coaching service further which is why the CTI is currently negotiating with a fourth contractor – current talks have progressed to the stage that pilot projects (coaching sessions) are being conducted by the soon-to-be IP coach and an evaluation of this pilot phase is pending.

Evaluation and performance

CTI´s start-up initiative seems to be in quite high demand in the target group of high-tech/high-growth start-ups: According to CTI officials, around 120 such firms apply each year, and only around half of them (50 to 70) are accepted. Concerning the IP service elements CTI reports that around 25 to 30 IPR Roadmaps/IP Coachings are performed per year, and approximately 20 to 25 firms receive every year the desired “CTI Start-Up Label” (those start-ups that receive the label have automatically also an IPR assessment conducted on them). In the time frame from 1996, the start of the CTI Start-Up programme, to June 2008 178 labels have been issued; 154 of the labelled companies are still in business.

The support programme has a rather sophisticated monitoring system in place which draws e.g. on regular customer feedback and on regular focus group sessions among coaches and CTI staff (as stated, respective meetings are held twice a year, in addition to 3 to 4 regional meetings within the coaching teams). Interestingly, not only the currently supported start-ups are monitored but also those who have already received their label: Every still active and labelled company is contacted once a year and key company data is enquired. The companies are then grouped in three categories (A, B and C) according to their performance.

The CTI Start-up initiative is also subject to regular impact assessments. The latest has been carried out in 2005/2006 by the Institute of Technology Management of the University of St. Gall on behalf of the CTI. It compared the evolution of CTI Start-up Label holder companies (which received the label in the time frame of 1998 to 2005) with a control group of start-ups which did not receive support through the Start-Up programme.

The analysis – for which only the executive summary has been made available to the study team - yielded the following results (Voelz, 2005):

- Supported start-ups showed a higher probability of survival than unsupported companies: Whereas 83 % of all firms which ever received the CTI label were still operational after 5 years, only 78 % of the companies in the control group were alive (and only 59 % after 10 years). An independent analysis for the survival rates of Swiss start-ups in general puts the average start-up survival rates even lower at 59 % (5-year time horizon) and 50 % (10-year horizon).

- Supported companies showed a better performance as measured by key business data and performance ratios than firms in the control group. CTI labelled companies excelled when it came to profit and turnover development; on average, CTI labelled companies grew by 2.9 employees per year, while start-ups in the control group grew only by 1.4 employees per year; the study authors see this as a result of the selection process of the programme managers and its focus on likely high-growth firms. By contrast, CTI labelled companies had a lower turnover return on investment which is attributed to the fact that the investment volumes of CTI labelled companies are significantly higher than in the control group.

- Success factors quoted by CTI-labelled firms for the good business performance include abilities to raise funds and, most interestingly, to protect innovations. These factors have been corroborated by interviewed external experts who reviewed the company cases. Interesting is also the finding that the subjects of collaborations/network participation, finance, strategy and organisations were fields where little differences between supported firms and the control group could be observed.

All in all, one can confidently say that the governance of the IPR service elements of the CTI Start-Up programme is among the best seen internationally.

1.2 The user's view

In order to get an idea on how the service is perceived by its users and customers, a user survey was carried out in the scope of the underlying study, the results of which are presented below.

Characteristics of the user group

Contact details of 56 companies who enrolled in the CTI Startup programme and received coaching within the scope of the "IPR Roadmap" element were received from CTI; all of them were contacted and, eventually, 35 interviews were successfully conducted. These 35 companies showed the following (structural) characteristics which are unsurprising for the stated target group of high-tech/high growth potential start-ups:

- Most interviewed SMEs (94 %) were micro enterprises with at most 9 employees; 6 % had 10 to 49 employees.

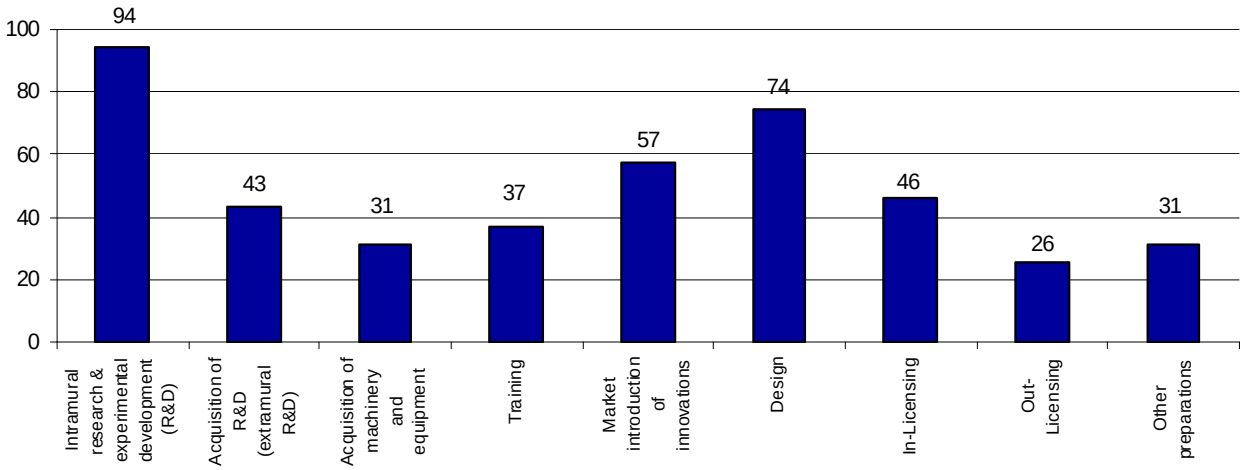
- 50 % of the SMEs have been founded after 2006; almost all businesses were established in and after 2001.

- In terms of industries the firms are running their businesses in, IT technologies, followed by biotechnology (and medical technologies) and by the production technology sectors, stand out: Most companies (37 %) operate in the IT sector, a smaller share operates in the field of biotechnology and medical technology as well as engineering and construction (14 %, respectively). Other companies have the field of (solar) energy technology (2 companies), material engineering (2) and electronics (2) as their main field of activity, while the remainder of the companies mentioned to operate in the pharmaceutical sector, the healthcare sector, in the nano technology fields and in optical technologies.

Between 2005 and 2007, the service users were very innovative: Around 65 % of the service users introduced product innovations (new or significantly improved products) onto the market; 21 % came up with process innovations.

Regarding dedicated innovation activities (see graph 10), 94 % of the companies conducted intramural R&D, 74 % had design activities. Interestingly, 43 % had R&D conducted by outside partners (extramural R&D), and 46 % licensed technologies in – both results may suggest strong cooperation links with R&D institutions or suppliers. A considerable share (26 %) showed also out-licensing activities.

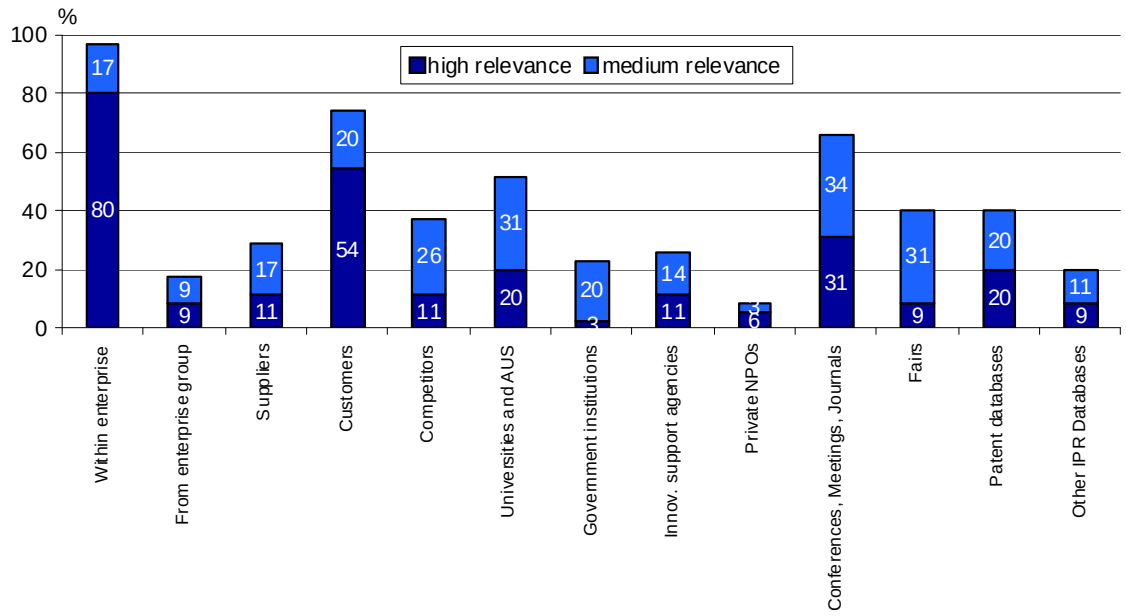
Graph 10 Innovation activities in interview sample, IPR Roadmap users, 2005 - 2007 *)



*) multiple answers allowed
Source: User Survey, n = 35

As regards the sources of information which the companies consider important for suggesting new innovation projects, internal sources within the enterprise stand clearly out, followed by information from clients or customers and professional conferences, meetings and journals (see graph 11). The latter may be most likely due to the high-tech and university background of most of the companies or start-ups. Surprisingly high is also the share of users which draw on patent databases (for 20 % of "high relevance").

Graph 11 Sources of information for new innovation projects, 2005 - 2007 *)

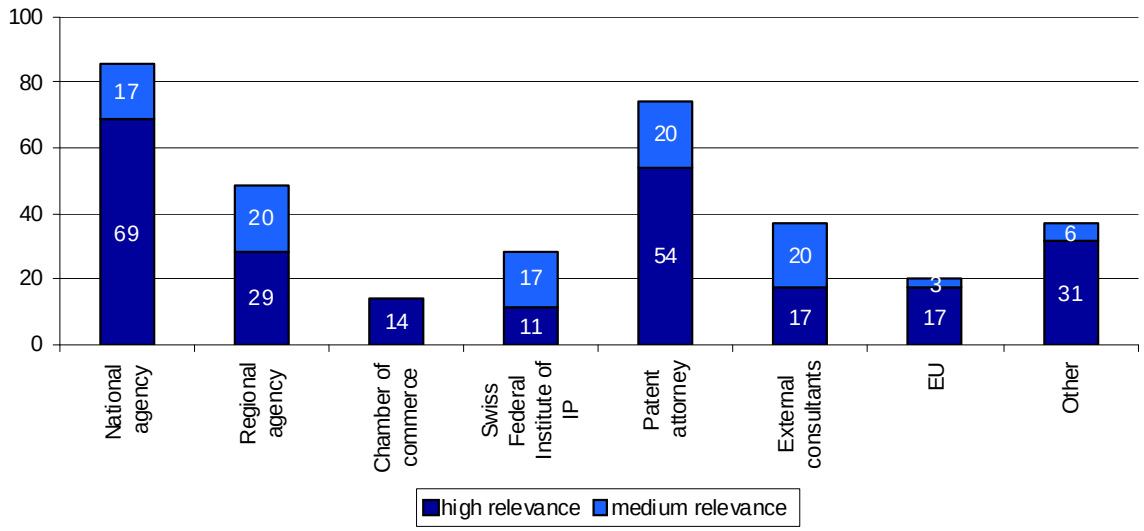


*) multiple answers allowed
Source: User Survey, n = 35

In terms of making use of different service providers for innovation activities, it is no surprise that the users deemed the offerings of national agencies to a fairy large extent as “highly relevant” (see graph 12). Second in place in terms of relevance as service suppliers are patent attorneys which 54 % of the users consider to be of “high relevance” and a further 20 % at least of “medium relevance”.

The reason for the high relevance of support provided by patent attorneys (and to an extent also explaining the, at least by comparison to other IPR services, higher importance given to external business consultants) seems to be, in the specific context of the IPR Roadmap service, twofold: First, the company is already coached within the IPR Roadmap by patent attorneys and/or IP consultants – thus, although the attorneys/consultants operate within the CTI Start-up framework, they may be considered frequently as service providers of their own.[26] Secondly, some SMEs refer to external patent attorneys in addition to making use of the IPR Roadmap offerings and combine the results of the offerings. Quite interesting seems to be the fact that a certain number of companies used also “other” sources of assistance, namely from universities, techno- and business parks.

Graph 12 Usage of different service providers, IPR Roadmap users in % *)



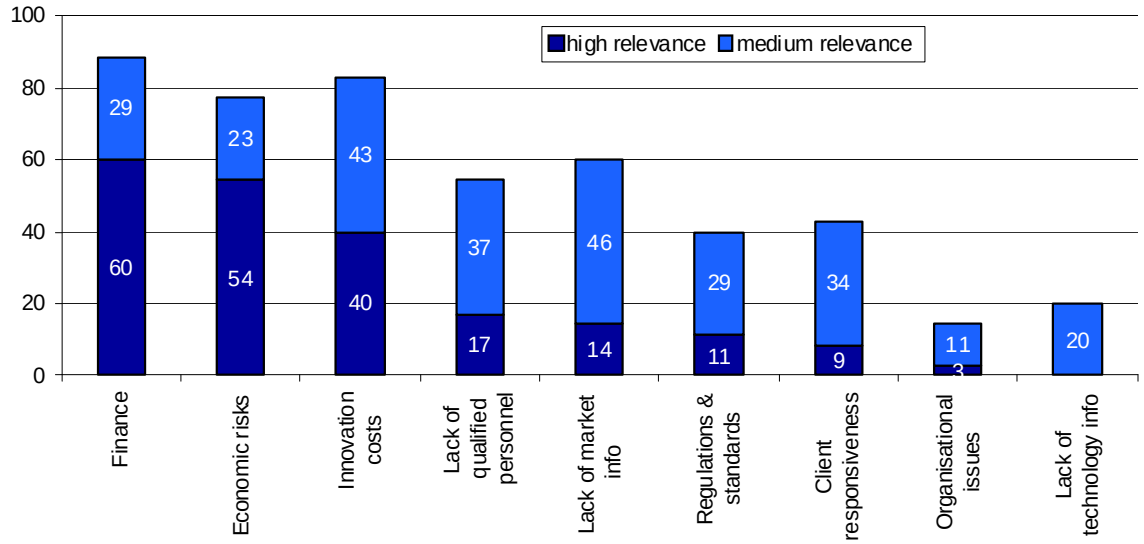
*) multiple answers allowed

Source: User Survey, n = 35

[26] Statements given in the interviews suggest also that in some instances commercial customer-client relations may develop between the SMEs and the coaches after the SMEs received support from the IPR Roadmap. The service thus also acts as an entry point and marketing tool for private providers.

Regarding hampering factors for innovation activities, companies complain mostly about the lack of appropriate sources of finance (of high relevance for 60 % and medium relevance for 29 %), economic risks (for 54 % of high and 23 % of medium relevance) and high innovation costs (of high relevance for 40 % and medium for 43 %, see graph 13). By contrast, the lack of information on technologies, organisational issues, client responsiveness, regulations and standards, the lack of qualified personnel and the lack of market information are considered less important hampering factors for innovation activities. These results are more or less in line with those obtained from services at European level. Noteworthy are, however, the different perceptions of the level of market information the companies possess vis-à-vis the level of knowledge regarding technology (the former being a much more visible barrier than the latter).

Graph 13 Hampering factors for innovation activities, 2005 to 2007, IPR Roadmap users in % *)

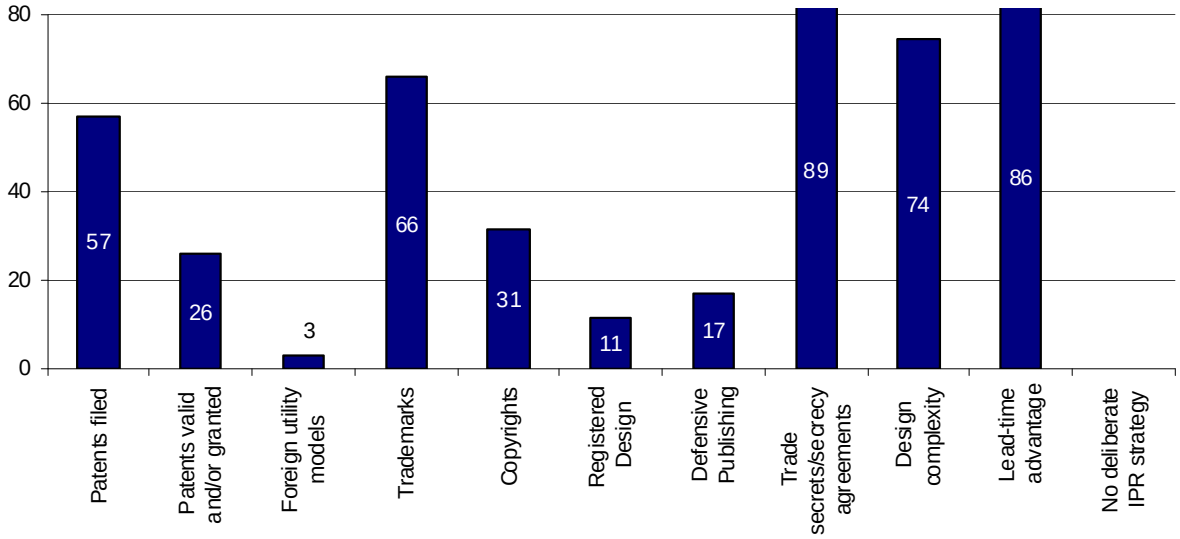


*) multiple answers allowed

Source: User Survey, n = 35

IPR Roadmap users employ a rather high number of formal IPR protection methods concurrently (see graph 14). Between 2005 and 2007, 66 % registered trademarks and 57 % filed patents; around 26 % already had a patent granted or valid in that time period. On the other hand, the companies employed to an even larger extent informal IP protection/appropriation methods, e.g. trade secrets and/or secrecy agreements (89 %), strategies of lead time advantage (86 %) or relied on the complexity of the design (74 %). All users declared that they already follow a strategy with respect to the protection of their intellectual property – this outcome is likely the result of the broad IP coaching process and, in terms of overall usage, above European average.

Graph 14 IP protection methods employed by service users, 2005 to 2007, IPR Roadmap users in % *)

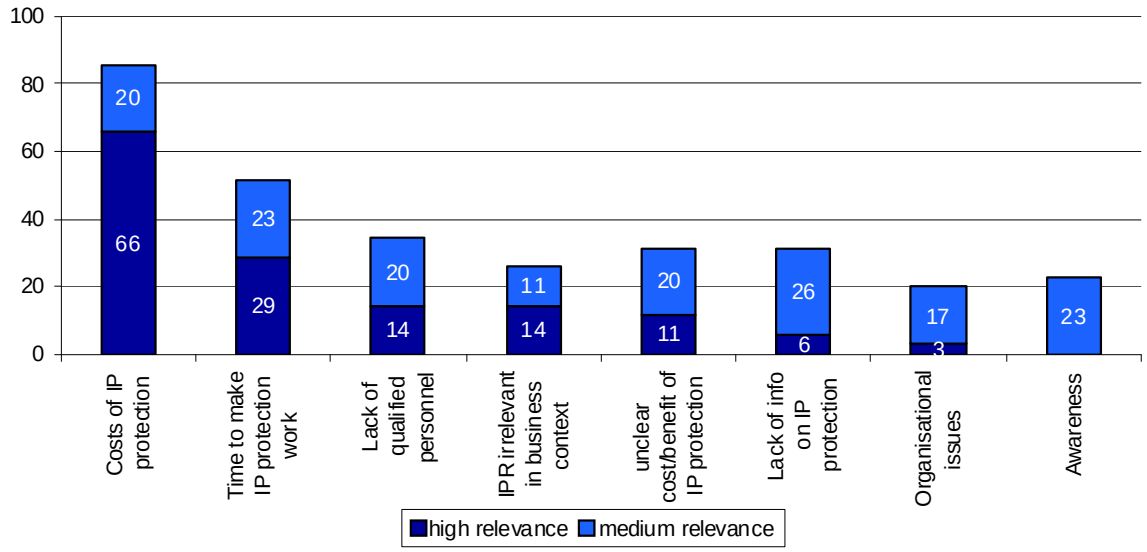


*) multiple answers allowed

Source: User Survey, n = 35

For the IPR Roadmap users, the costs of IP protection (for 66 % of high and for another 20 % of medium relevance) and the time to make IP protection actually work (for 29 % of high and for 23 % of medium relevance) are the main barriers perceived for using IPR (see graph 15). This result is in line with the findings of the Commission study for the services sampled in the EU, with the exception that cost/benefit considerations (i.e. the question why to use IPR) are less pronounced barriers than in the underlying service for this case study; the different reaction to the cost/benefit aspect may likely relate to the IPR Roadmap service activities themselves, i.e. be a positive outcome of the broader approach towards IP management issues than in most other services analysed in the Commission study.

Graph 15 (Internal) barriers to using IP protection mechanisms, IPR Roadmap users in % *)

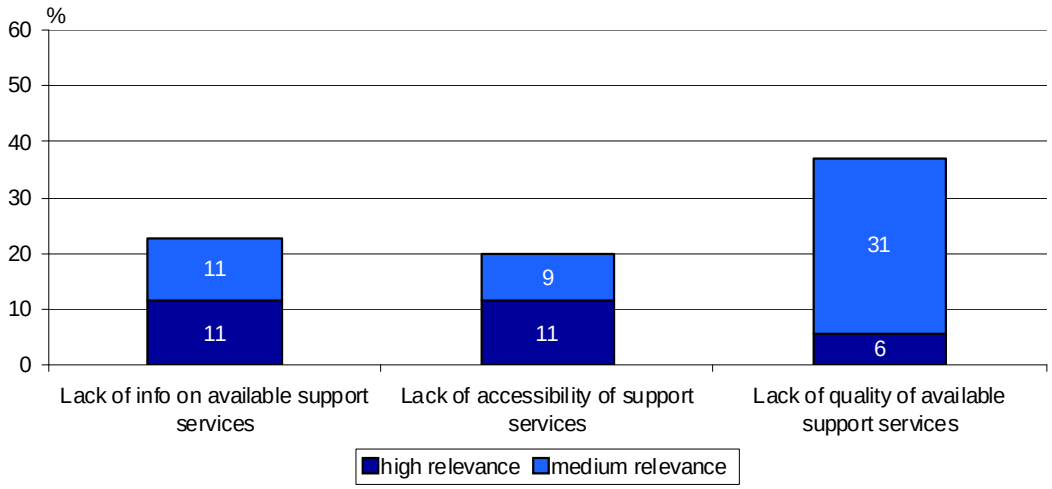


*) multiple answers allowed

Source: User Survey, n = 35

External service-related barriers are not considered to be a significant obstacle for the usage of IPR: The lack of information (high relevance for 11 %, medium for another 11 %), the lack of accessibility (for 11 % of high and 9 % of medium relevance), and the lack of quality of available external support services (for 6 % of high and 31 % of medium relevance) are, especially if compared to the costs of IP protection and time issues, of less relevance (see graph 16).

Graph 16 (External) barriers to using IP protection mechanisms, IPR Roadmap users in % *)



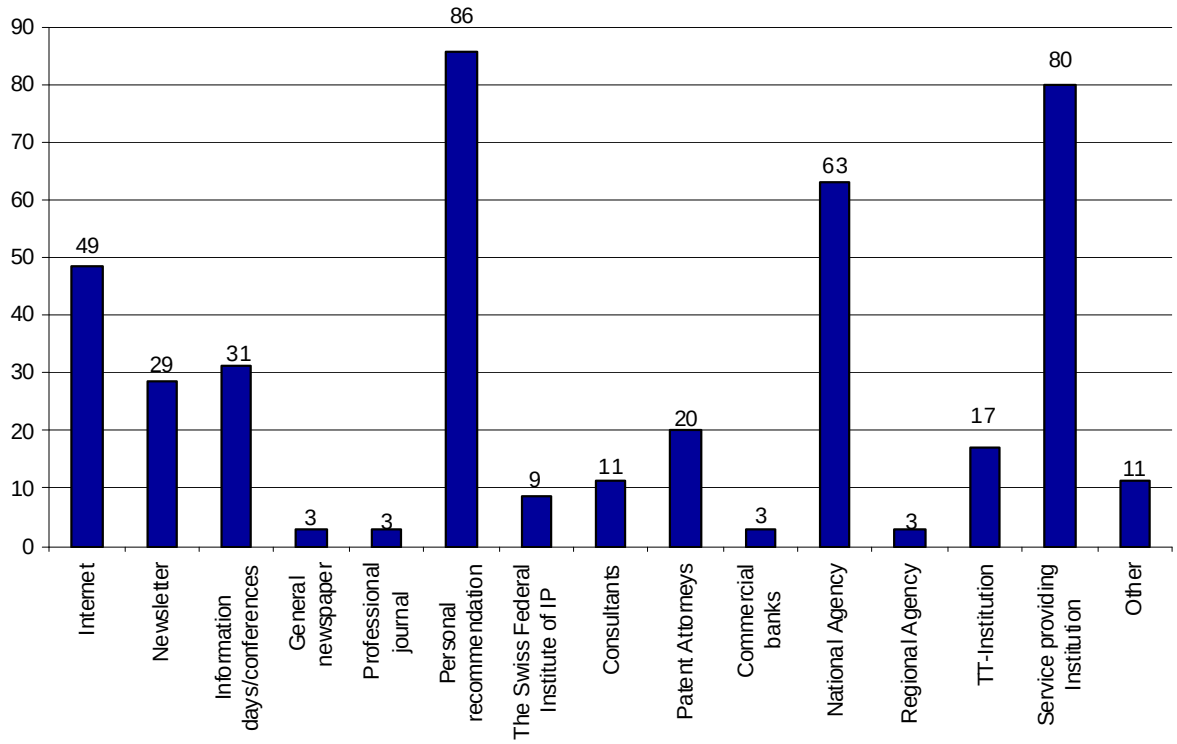
*) multiple answers allowed

Source: User Survey, n = 35

User outreach and satisfaction levels

Personal recommendation (86 %) is one of the most important information channels by which users got to know about CTI-Start-up, suggesting that the programme enjoys high reputation (see graph 17). Furthermore, it seems that CTI has well working in-house referral links (e.g., from the R&D grants offered) and good working links to its target group. This can be derived from the fact that around 63 % of the IPR Roadmap users state that they have heard about the CTI-Start-up through a national agency (CTI) – the difference of 17 percentage-points to the "service-providing institution itself" (4 out of 5 SMEs stated to have heard from the "service-providing institution itself" which happens to be CTI) may be accounted for by referral/recommendation activities set by the patent attorneys/IP consultants employed for the IPR Roadmap/assessment; these attorneys/consultants are – see also above – often considered as service providers of their own). Other important marketing channels are the internet (49 %) and information days (31 %). Only a small share was referred to the programme by the IPI.

Graph 17 Information channels, by which users got to know about the service, IPR Roadmap users in % *)



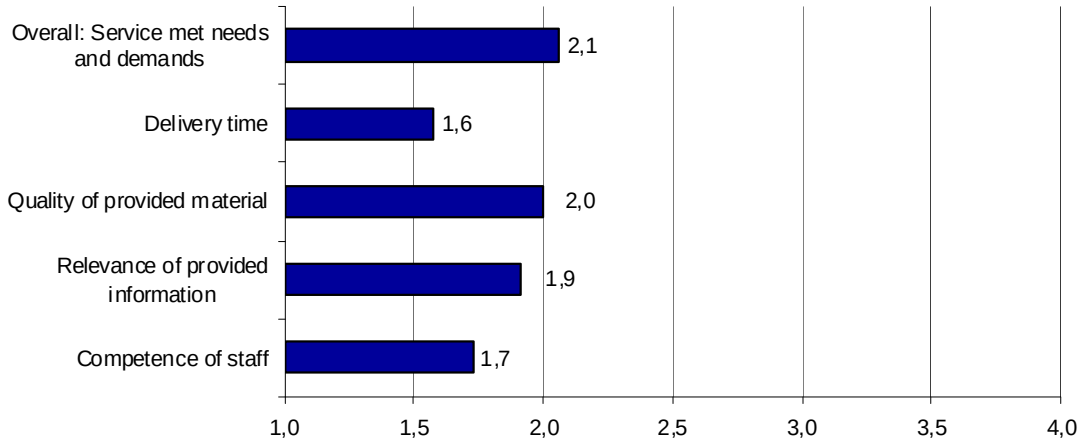
*) multiple answers allowed

Source: User Survey, n = 35

Generally speaking one can say that the services users are rather satisfied with service provision: All aspects (the competence of staff, the quality and relevance of the provided information, etc.) are graded with "2.1" (arithmetic mean) or better, on a scale from 1 (very satisfied) to 4 (unsatisfied) (see graph 18). Around 62 % of the users rate the extent of the service offerings to be adequate. On the other hand, 35 % of the users think it is too narrow/superficial. Spatial distance does not appear to be a problem for the service users (for 65 % a very low-level barrier and for another 32 % a factor

considered to be at least acceptable); administrative efforts (for 57 % a quite low barrier, for another 31 % considered to be acceptable) are not considered to be an obstacle either.

Graph 18 Satisfaction levels with different aspects of service provision, arithmetic means



Source: User Survey, n = 35

The high user satisfaction is underlined in a number of user testimonials which also show that the benefits seen lie frequently in the provision of a general overview and, based hereon, that very specific IPR-related problems can be (successfully) addressed:

> *"Through intervention by the CTI (respectively the IP Coaching), where a clearly defined IPR issue has been addressed by the coach in a way very much tailored to our needs, it was possible to improve the relationship to our patent attorney. And the specific issue was solved."* (IPR Roadmap user, No. 2)

> *"We learned about various strategies…the answers of the coach were on a very high technical level; the coaching helped to find contacts in Switzerland that can be of use in the future; one idea of a design was cancelled after the coaching".* (IPR Roadmap user, No. 4)

> *"The biggest benefit from using the service…was the examination and analysis of our particular situation."* (IPR Roadmap user, No. 1)

> "[With the help of the service]*, we have been able to implement an* [IP] *strategy in a very clear-cut and hands-on manner. We know now where the pitfalls are...".* (IPR Roadmap user, No. 3)

However, the significant share of one third of the user base gauging the extent of the offerings to be too narrow (respectively too superficial) deserves some attention. It seems that satisfaction with the extent of the IPR Roadmap offerings is related to two factors: First, the level of prior knowledge of the SME on IPR issues and, second, the level of knowledge of the coach in the particular industry/business environment the SME is operating in.

As for the first factor, those companies which stated to possess somewhat advanced know-how on IPR often found the level of information obtained likely to be more "superficial" and/or "unspecific", as evidenced by the following statements:

> *"we got very little NEW information…it should be possible to take more time for this service* [element*], so that the coach can prepare the* [IPR] *company case better and understand the company specifics…more meetings with the SME are needed".* (IPR Roadmap user, No. 5)

> *"I had the hope that the offering would be more tailored to specific needs, in the end it was too superficial…the normal target group is probably less far* [in terms of business development] *than we are, we had already some basic understanding".* (IPR Roadmap user, No. 6)

Such opinions come somewhat as a surprise, given that one of the principal selling points of the IPR Roadmap is its tailored approach to the problems of a specific SME – such an approach should account for prevailing SME know-how differences. It could thus be that i) either the IP coaches employed cannot deliver such know-how in very specific cases (while available time in principal would allow for satisfactory treatment of the issues in question) or that ii) there is not enough time to prepare certain cases with very specific problems to a desirable quality level.

The answer is likely to be a combination of both explanations. It is absolutely clear that a two-day (at most) counselling process cannot cover every specific problem which normally needs to be tackled by a patent attorney or IP consultant in the course of a commercial "longer-term" case. On the other hand, though, successful counselling on advanced IPR matters is likely to depend on a good knowledge of the respective business/industry environment and market know-how. Given the plethora of different industries and markets high-tech SMEs can operate in it is also evident that no single patent attorney is likely to be able to possess detailed know-how on all possible technology markets and the respective IPR issues these markets are faced with. This has been corroborated by other expert interviews, and indications to this end (i.e., specific know-how requirements within IPR, as seen by IPR Roadmap users) are also found in service user statements:

> *"Coaching was too superficial – our company is a* [player] *which is active internationally, especially in the U.S. IPR Roadmap provided us only with introductory basics, and these were too much Switzerland and EU-focussed. The patent attorney should also know international patent law".* (IPR Roadmap user, No. 8)

> *The coach was not trained for the specific* [activity] *field of our company. He only wrote a report, kind of a summary; we did not get advice on how to effectively solve the problem, in practice IPR issues are much more complicated and such fine details cannot be discussed within the available service set-up".* (IPR Roadmap user, No. 9)

Taken together, one can conclude that the service is faced, at least with a smaller but still significant share of its users, with the challenge to, on one hand, cater for different levels of IPR know-how[27] of the supported SMEs and, on the other hand, the heterogeneity of the different technology fields of the start-ups.

Finally, the following set of indicators regarding user satisfaction seems noteworthy, too:

- Questioned whether the start-ups would have used the service if it were chargeable, around 54 % answered that they would not do so.
- 50 % of the service users were referred to or informed about other services within CTI by the service operating staff and/or the various coaches.
- 44 % were, in a similar manner, referred to external service providers.
- Overall, 66 % of the users think that the benefits of using the IPR Roadmap service are adequate to the efforts; 26 % state that the benefits clearly outweigh the efforts.
- 88 % would recommend the service to other enterprises.

Additionality of the service

In order to answer the question whether a support service works or does not work, one should also inquire into the added value of the service – i.e., what would have happened in case the service were absent. This is done in order to isolate a "net effect" as opposed to things which would have happened anyway, despite of the service. Similarly, also other type of changes incurred within the enterprise, as a result of using the service, are to be recorded (these changes are referred to as "behavioural additionality") (see also section 5.4.2 of the main text)

Not surprising for an in-depth coaching service addressing multiple areas of IPR issues, the most striking changes in the attitudes towards the protection of IPR concern knowledge management know-how (increased for 60 % of the supported firms), patent knowledge in business environment and general IPR awareness (both increased for 51 % and decreased for 3 %; see graph 19). The way to deal with several IP protection methods (formal ones as patents, but also trademarks), and to develop a corresponding IP strategy, was frequently seen as one of the biggest benefits:

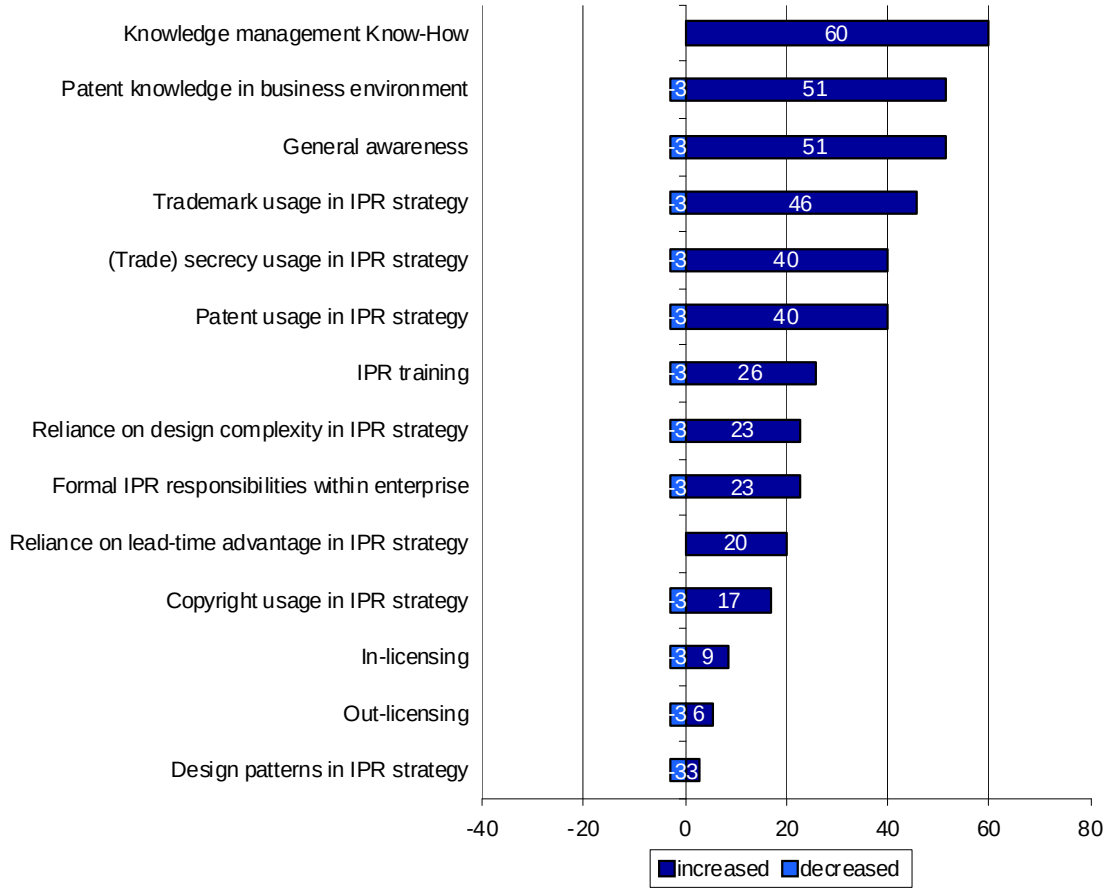
> *"Our awareness increased regarding the use of patents as a strategic instruments, we now have much deeper insight…we learned especially a lot of things about trademark protection"* (IPR roadmap user, No. 10)

> *"The biggest benefit of the coaching lied in an increased awareness. Especially the insight and perceptions that there are alternatives to patenting"* (IPR roadmap user, No. 11)

[27] Besides the situation where users complained about a too low level of the information provided, interviewed service stakeholders pointed also to instances where it was necessary to spend coaching time for IPR basics which the company could have already possessed. For such cases, it was suggested to increase cooperation between the CTI and the IPI, whereby the IPI would get the tasks of providing such SMEs with a fundamental IPR know how.

Against this backdrop, behavioural changes occurred with respect to the usage of a variety of IP appropriation and protection instruments, most notably trademarks (increased for 46 %, decreased for 3 %) and patents (increased for 40 %, decreased for 3 %) and, in parallel, also with respect to informal methods (the usage of trade secrets increased with 40 % of the companies, and decreased only with 3 %). Noteworthy is that almost all IP protection/appropriation means mentioned get in the majority of cases higher attention levels; the aspects where by comparison the least changes were observed refer to the usage of design patterns – although the initial usage of design is rather high – and to licensing activities (both in and out-licensing).

Graph 19 Behavioural additionality of the IPR Roadmap, IPR Roadmap users in % *)



*) multiple answers allowed

Source: User Survey, n = 35

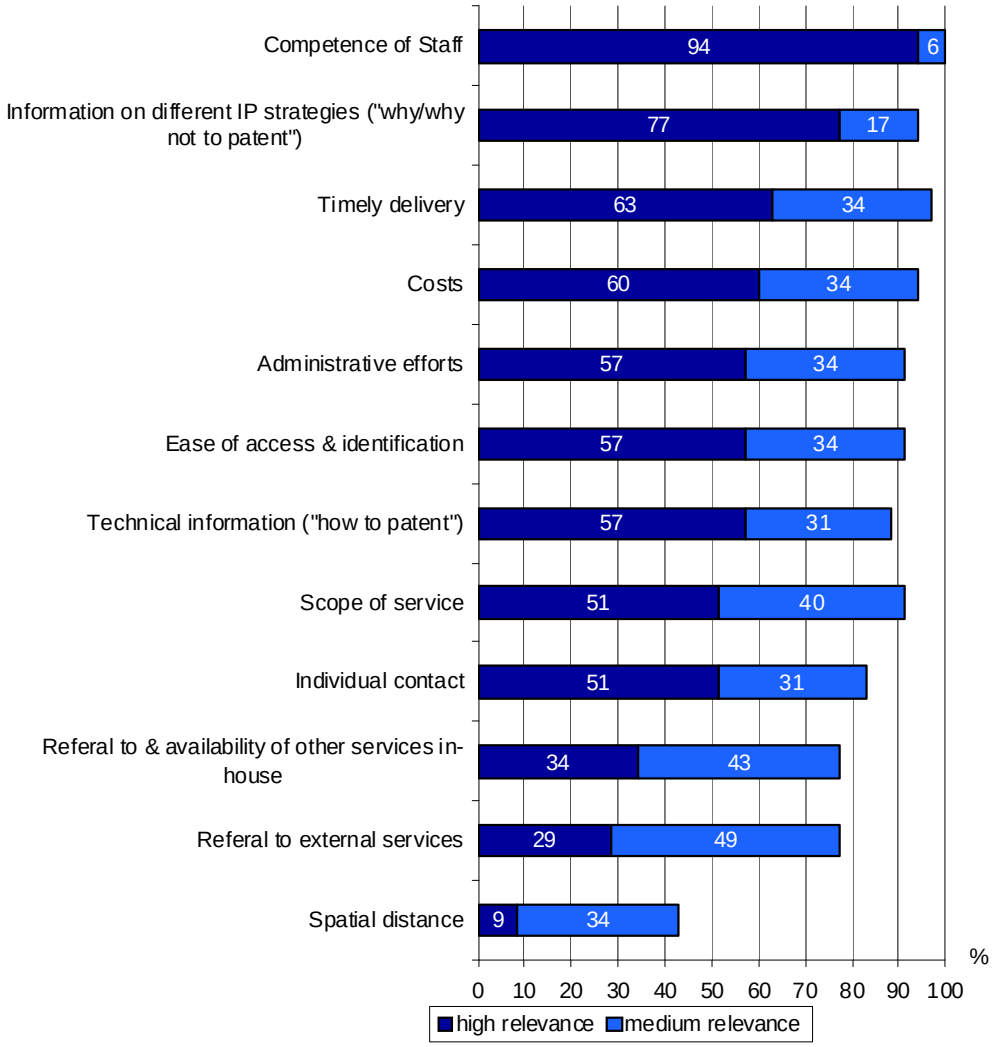
While this picture can be interpreted rather favourably, one also has to note that there has been a small share of SME users (9 %) which reported no behavioural changes resulting from this service. They explicitly stated that the service was of no particular use to them, except for the fact that the "CTI label" received at the end of the supporting period is of some help for public and/or investor relation:

For IPR Roadmap users, the key quality factors of such a service are the competence of staff, information on different IP strategies (thus highlighting the IP management focus and the significance of being informed on the interaction of different IP protection methods) and timely delivery (see graph 20). The significance figures for the aspect "information on different IP management strategies" are the highest among all services

benchmarked in Switzerland and in the EU. In fact, the fact that the service focuses so much on this issue constitutes one of the main benefits for the user base.

Technical information about the patent process, costs, ease of access and identify-cation were considered also as important factors, but to a lesser extent. Especially spatial distance, but also the referral to external services or services which are offered in-house received rather low relevance figures (it has to be noted, though, that for those SMEs which claimed that referral activities are important, they were one of the key success factors for the service). Surprisingly for a face-to-face coaching service, individual contacts seem to be of not-so-high significance to the respective users – this result may be explained by the desire of many SMEs to obtain high quality expert opinions in the first place (meaning that the quality of the delivered information is what counts, and not so much who delivers it).

Graph 20 Key quality factors for a service such as IPR Roadmap. IPR Roadmap users in %



*) multiple answers allowed

Source: User Survey, n = 35

1.3 Elements of good practice

The service (or better: the IPR service elements of the service) exhibit(s) the following elements of good practice:

a) *A broad approach towards IP protection/exploitation:* The service puts the subject of IP management at its heart and advises the SMEs not only on the use of patents, but also on other means to make use of the company IP (including the way these instruments interact). Against the fact that qualified choices for/against different ways to protect IPR are a vital prerequisite for successfully dealing with IPR, this can be certainly seen as an element of good practice.

b) *The individual/customer-tailored approach:* The service addresses all SMEs and their IPR problems individually. As issues in connection with IPR are highly dependent on the particular business context, this particular approach allows the coaches to advise on the development of a company-specific IP strategy, which is the only way (in terms of being tailored to the business) that an IP/IPR strategy should be designed.

c) *The qualification of the IP Coaches (external experts with hands-on experience from the "theatre of operations"):* In line with the finding that competence of staff is the key quality factor for a service such as the IPR Roadmap, the service employs dedicated staff with strong reputation and professional background. Despite of this, for some specific technology fields/industries it might be, however, still necessary to draw on additional experts.

d) *The favourable governance of the service:* The planning activities, the way experts and users alike are involved in the design of the services and the reporting procedures can be certainly considered as "good practice" in the European context.

The service is likely faced with the following challenges:

a) *The scope of the service:* Several users and experts noted on a, in their view, probably too narrow scope of the service (in that the budget for IPR roadmaps/assessments does not allow to go too much into the details of IP management issues), calling for an extension of the service offerings in terms of time spendable on IP coaching.

b) *The heterogeneity of the supported start-ups:* The heterogeneity of the start-ups in terms of technology fields they are operating in is certainly an issue worth monitoring. It could call for a larger number of IP coaches, where the additional coaches would provide extra expert know-how in certain technology fields which may, at the moment, not be sufficiently covered

2 venturelab – IPR workshops/lectures within the venture.plan, venture.training and venture.challenge seminar series

Country:		Switzerland
Original title:		IPR lectures given within the programme “venturelab”
Target group:		SMEs and start-ups (as well as persons intending to start a business)
Coverage:		National
Category:		(Pro-active) awareness raising measure/Public Relations
		Information Provision Service
	X	Training
		Customized in-depth consulting and advisory service/point
		Financial Support & Measures within the legal framework

2.1 venturelab in a nutshell

Background

“venturelab” is the name given to a programme whose aim is to foster the creation of start-ups in Switzerland. It comprises a series of seminars and lectures addressing various aspects related to the founding of enterprises and to managing them. Lecture series are delivered in the form of branded packages/courses (so-called “modules”) that are tailored to the needs of specific target groups. Two of these packages – venture.training (a five day seminar course) and venture.challenge (a seven day (or rather: 14-half day) course) – offer dedicated lectures (among lectures addressing other issues) which address IPR issues. These lectures are either directly attended by start-ups/SMEs or by persons who wish to found a company. The initiative has been operational since 2004 and focuses entirely on the two before-mentioned target groups.

The IPR lectures within the venturelab modules are examples of embedded services which have been incorporated into a larger (non-IPR-related) support programme; they are not marketed as distinctive IPR offerings. Venturelab is being offered by the national Swiss innovation promotion agency CTI (Commission of Technology and Innovation). The daily operation of the programme is, however, outsourced to the IFJ (Institut für Jungunternehmen, “Institute for Young Entrepreneurs”), a private institution which counsels start-up companies also in other ways (e.g., by printing brochures, producing a CD-ROM which explains how to set up a business plan or by operating a network for innovative start-ups). Within the venturelab initiative, CTI/IFJ aim to co-operate also with other relevant stakeholders, such as technology parks or the Swiss Federal Institute of Intellectual Property (IPI). The aim of the cooperations is, among others, to increase user outreach.

Venturelab is being operated by around 12 persons from the IFJ. The involved IFJ staff is mainly active in organising and managing the courses and events. The lectures themselves are developed and delivered by renowned experts in the various fields – stemming from universities, well-known law firms or having a (successful) entrepre-

neurial background. Noteworthy in this context is also that the IFJ draws for (some of its) IPR lectures on staff (or more precise: one specific person) from the IPI.[28] From the point of view of the IPI, venturelab is the most important partner for presenting workshops on IPR – the majority of lectures given by IPI personnel concern the venturelab initiative.[29]

Modes of operation

The venturelab offerings comprise six seminar modules (venture.plan, venture.training, venture.ideas, venture.challenge, venture.leaders, venture.topics), one networking module (a series of networking events, regularly organised in different Swiss cities under the umbrella term "venture apéros") and various information services (such as brochures, toolkits and statistical data (like the "Top-100 Swiss start-ups" list, or a database of high-tech SMEs in Switzerland).

In the following, the focus of the case study shall be placed only on the modules "venture.training" and "venture.challenge" (and to a small extent on "venture.ideas"), as these embody the only relevant dedicated IPR offerings within venturelab:

- Venture.challenge is a 14 half-day course targeted at researchers (senior students, research staff of R&D facilities) who are thinking about founding a company. The module in question can be considered as a "how-to" course/guideline on what to consider when setting up a firm – topics treated comprise, among others, marketing, communication, accounting, finance or human resources. Half-day 11 is earmarked for the topic of Intellectual Property protection. The subject of IPR is, in an introductory manner, discussed in the context of IP management issues (e.g., which instrument to apply in which context) and on legal and tax issues involved when dealing with IPR. Successful participants of the venture.challenge modules are encouraged to utilise the modules venture.plan (where a business plan is developed)[30] and, further to that, the module venture.training as follow-ups.

- Venture.training is a 5 full-day course targeted (i) at young (including future) entrepreneurs who have attended the module "venture.plan" and have there developed a business plan (ii) start-ups which already posses a "well designed" business plan as well as (iii) start-ups which consider implementing a sound growth strategy. Topics treated within the module in question comprise presentation techniques, steps towards internationalisation, key account management & acquisitions, team building & usage of respective management tools, financing and project management skills. Day 4 of the module is reserved for the topic of IPR: IPR is there discussed in the context of product development and protection possibilities in a more advanced manner than in "venture.challenge".

The different modules (venture.challenge, venture.plan and venture.training) form thus a logical line-up of lectures, which can be used consecutively by researchers and stu-

[28] Data regarding other resources employed (i.e., earmarked budgets) has been enquired into, but due to confidentiality reasons not forwarded by the IFJ or the CTI.

[29] Lectures performed by the IPI for seminar organisers other than venturelab will be, altogether, discussed as a separate case study (see case study in section 10).

[30] Although venture.plan can be considered a link between the modules venture.challenge and venture.training, it shall not be discussed in this case study further, as it does not provide explicitly IPR education (lectures).

dents on the way to founding their company. However, attendance of "earlier-stage" modules is not necessarily a prerequisite for utilising "later stage" modules. Later stage modules (venture.plan and especially venture.challenge) have an admissions process in place, whereby only the most promising/best-performing applicants (e.g. in the case of potential new entrepreneurs those who significantly progress towards founding a company; but, as stated, also established start-ups which did not attend earlier venturelab modules) are granted access to the courses and seminars; the admission process is considered to be quite rigorous.

The teaching itself makes use of various methods: traditional (head-on) lectures, IT tools, group discussions or presentations by course participants. In addition, the lecturers try to tailor their presentations as much to the needs of the participants as possible; for this purpose, feedback rounds (approx. 60 minutes per day in the case of venture.training) are established.

Noteworthy for both modules are the links to the CTI Start-Up programme (see separate case study on the "IPR Roadmap/Assessment" offerings within the CTI Start-Up initiative): On day 5 of the venture.training module, for example, participants can present their business model to potential investors and CTI representatives; successful presentations may be encouraged to apply for participation in the CTI Start-Up programme in order to obtain the "CTI start-up label". This interrelation between the two initiatives allows a good mix between face-to-face coaching as offered by CTI Start-Up initiative and lecturing (as offered in venturelab).

Evaluation and performance

Due to confidentiality reasons, exact data on participation in the individual modules organised through venturelab has not been provided to the study team. However, the following mostly tentative figures have been forwarded in the course of interviews and through documents:

- About 100 experts are involved in offering lectures in the various modules.

- About 20 events are organised each year to promote venturelab at various (cantonal) universities and universities of applied sciences. This is done in the course of the module "venture.ideas" which also presents the topics treated in the various modules. In this context, one could consider "venture.ideas" to also have elements of a (pro-active) IPR awareness raising function (as IPR and its significance is presented as a topic that needs to be and will be treated in venturelab lecture modules), but the extent to which IPR is treated is fairly low.

- "Venture.challenge" is organised around 15 times per year in Switzerland; around two thirds of the courses take place in the German-speaking parts of Switzerland. Each course is attended by an audience of approx. 25 persons.

- There are about ten "venture.trainings" per year offered throughout Switzerland, about seven of which were held in the German-speaking regions of Switzerland. Each "venture.training" event had about ten to 12 participants.

- About 6.500 persons took advantage of the various venturelab offerings until 2007 (Koci, Kägi & Hof, 2007).

Service quality is ensured through feedback given by course participants at the end of the trainings; respective information is collected and addresses topics such as organisation, administration, applicability in real-life situations. Results are summarised and sent to CTI.

Another performance measure utilised is the number of "incorporations", i.e. the number of start-ups actually established after attending venturelab modules. Incorporated start-ups are also tracked over time in order to determine the probability of survival of supported firms. However, and again due to confidentiality reasons, no such data (neither feedback forms from the event, nor figures concerning the number of incurporations) has been made available to the study team. Notwithstanding this, experts underline that venturelab has a high impact and enjoys a good reputation within the relevant community. This can be seen by the high share of venturelab participants who get start-up prizes (e.g., such as one for the "most successful Swiss start-up") or a nomination in this context.

Venturelab has been subjected to a comprehensive formal interim evaluation in 2007, which was carried out by "B,S,S. – Volkswirtschaftliche Beratung" from Basel (Koci et al., 2007). The evaluation drew on document analysis and standardised written surveys with 445 former participants of the programme, potential participants in the Swiss higher education sector (2,977 successful surveyed persons) and personal interviews with representatives of the programme and international experts (70 such interviews in total).

Noteworthy are the following results of the evaluation:

- The need of policy intervention in the activity fields tackled by venturelab was affirmed. The programme seems to have well working cooperational links with a variety of relevant regional actors (technology parts, universities) which are seen as primary and necessary success factors for a programme such as venturelab.

- Venturelab succeeded in its goal to increase participant awareness on the topic of founding enterprises. 90 % of the former venturelab participants stated that the seminars were in their offered form suitable to achieve the programme goals, and 80 % of the overall interviewed user base corroborated that the offerings were of value.

- The study authors recommend continuing the scheme and highlighted nine recommendations to improve service quality. Amongst others, it was recommended to (i) institutionalise collaboration with some of the programme partners and to (ii) to increase business start-up support in the interfacing area of "science to market". In this context it is said that *"…further institutions of the innovation process (such as knowledge and technology transfer institutions and technology parks) should be tied stronger into a comprehensive network"*.

2.2 The user's view

In order to get an idea on how the service is perceived by its users and customers, a user survey was carried out in the scope of the underlying study, the results of which are presented below.

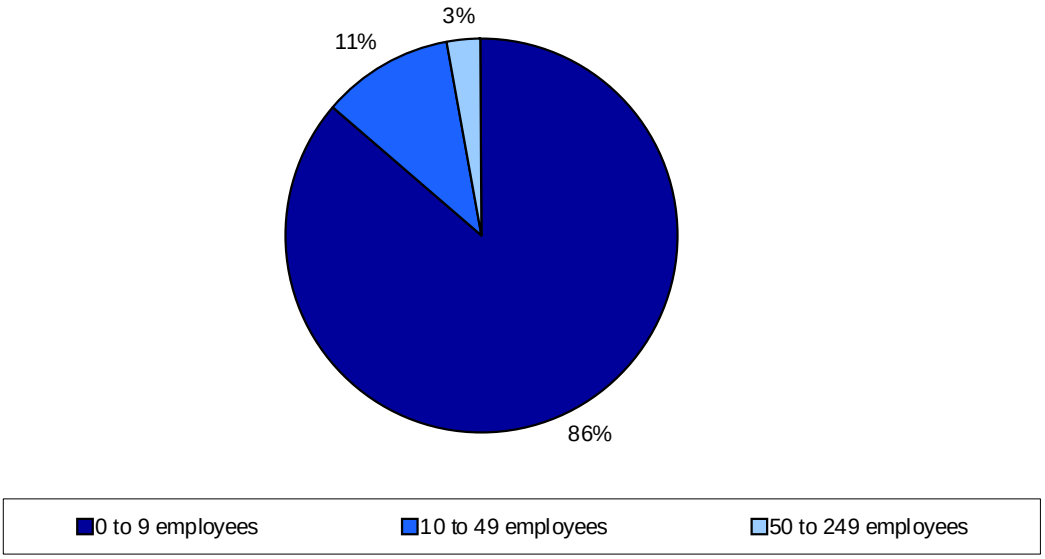
Characteristics of the user group

In total, 48 venturelab users (out of a database of 100) were reached and asked about their experiences with the services offered by venturelab: Five of them made use of venture.challenge only, 25 attended the venture.training module. Another 18 took advantage of more than one module, where venture.challenge or venture.training was at least one of them. All 48 users were put together in one sample ("venturelab users") and enquired specifically into their perception of the IPR-related lectures.

The 48 surveyed companies confirm venture lab's focus on small start-ups and single inventors: 86 % of the companies employ not more than 9 persons, 11 % have 10 to 49 employees. One outlier is given through a company which declared to employ around (already) 200 persons (see graph 21). 25 companies were founded between 2002 and 2006, nine in 2007, and three in 2008. Two users stated that he/she are currently in the process of preparing the company registration – for simplification they were treated as actually operating start-ups.

Most of the companies operate in a high-tech environment, predominantly in the IT sector (often, they had web and/or software related businesses). Expressed in figures, 18 firms operate in the field of information and communications technology (ICT), four in the area of life sciences and three carry out their activities in the pharmaceutical sector; furthermore, some firms were active in healthcare (2 firms), production technologies (3 firms), energy technologies (1), optical technologies (1) and in the electronics industry (1). Two companies run their business in the textile industry, another two in the field of consumer goods and tourism; four companies declared to work in the services sector without naming the exact industry. Taken together, this distribution of activity fields resembles to a fair extent that of the user group of the other IPR service offered by the CTI, the IPR Roadmap service element within the CTI Start-up initiative (see case study No. 1) This is of no surprise given the, by law defined, focus of CTI company supporting activities on the high-tech/high growth segments.

Graph 21 **Company Size distribution in interview sample, 2007, venturelab users in %**

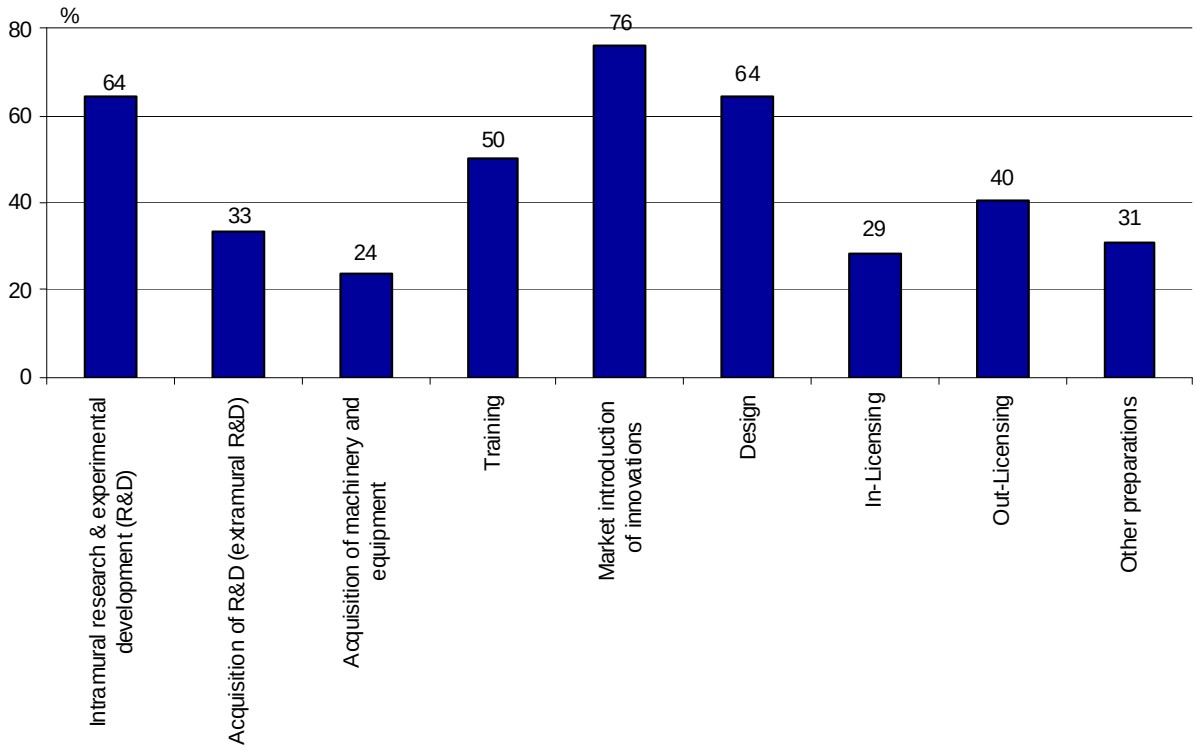


Source: User Survey, n = 48

As could be expected, venturelab users were very innovative between 2005 and 2007: Around 72 % introduced new or significantly improved products onto the market; more than 37 % came up with process innovations.

Regarding particular innovation activities, the market introduction of innovations is the activity carried out the most by venturelab users (76 %), closely followed by intramural R&D and design activities (64 %, respecively, see graph 22). Out-licensing activities were conducted by 40 % of the users, 31 % licensed technology in.

Graph 22 **Innovation activities in interview sample, 2005 – 2007, venturelab users in %**

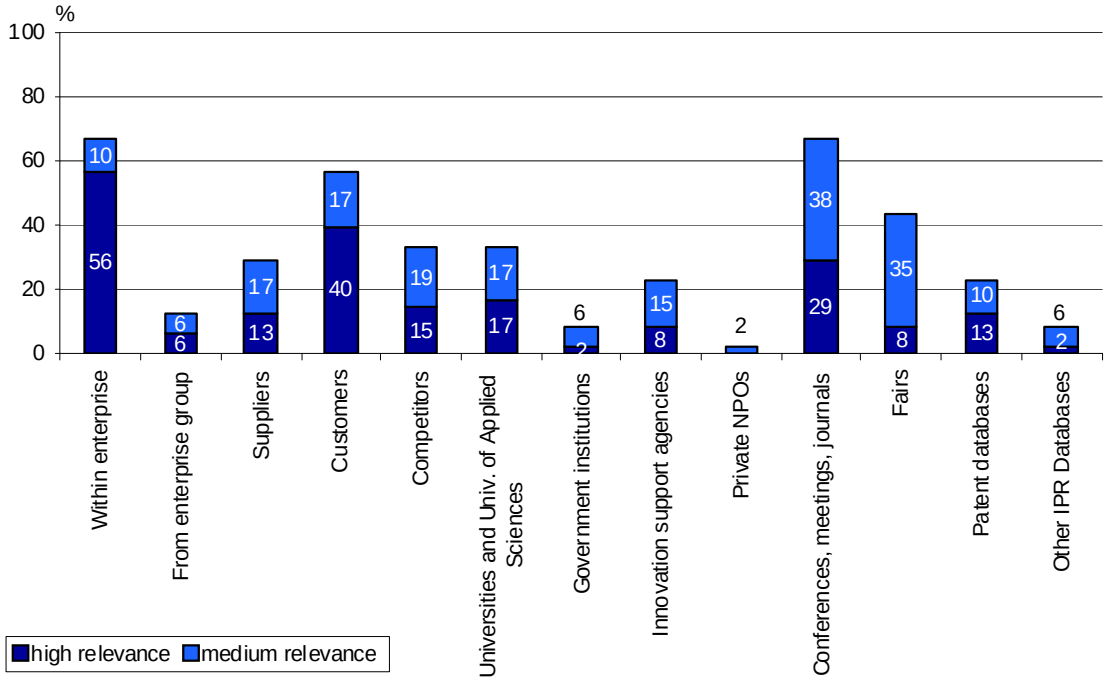


*) multiple answers allowed

Source: User Survey, n = 48

For the venturelab users, internal sources are considered to be the most important source of information used for new innovations or the development of existing innovation projects (see graph 23). Customers and clients, but also especially professionnal conferences, meetings and journals, are of particular relevance for developing new innovation projects in the surveyed companies.

Graph 23 Sources of information for new innovation projects, 2005 - 2007 *), venturelab users in %

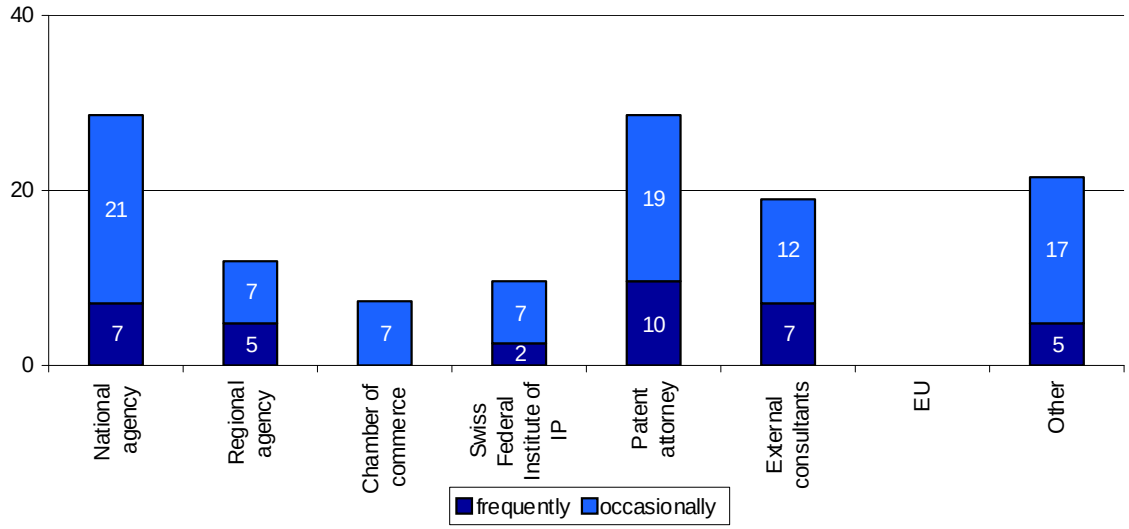


*) multiple answers allowed

Source: User Survey, n = 48

The usage of external innovation support providers seems to be on average quite low (see graph 24) – this can be to an extent explained by the fact that many venturelab participants may be so young that they actually have not had the chance to make use of available support services (as a matter of fact, venturelab would, according to its design, predate the CTI Start-up initiative which is already addressing young enterprises). The, by comparison, more pronounced usage of patent attorneys seems at first sight surprising, given that venturelab is not a specific IPR offering, but it is in line with the findings of the Commission study which shows that if radical/patent-able innovations are the subject of the innovation activities, patent attorneys seem to play an important role in innovation support.

Graph 24 Usage of different service providers, venturelab users in % *)

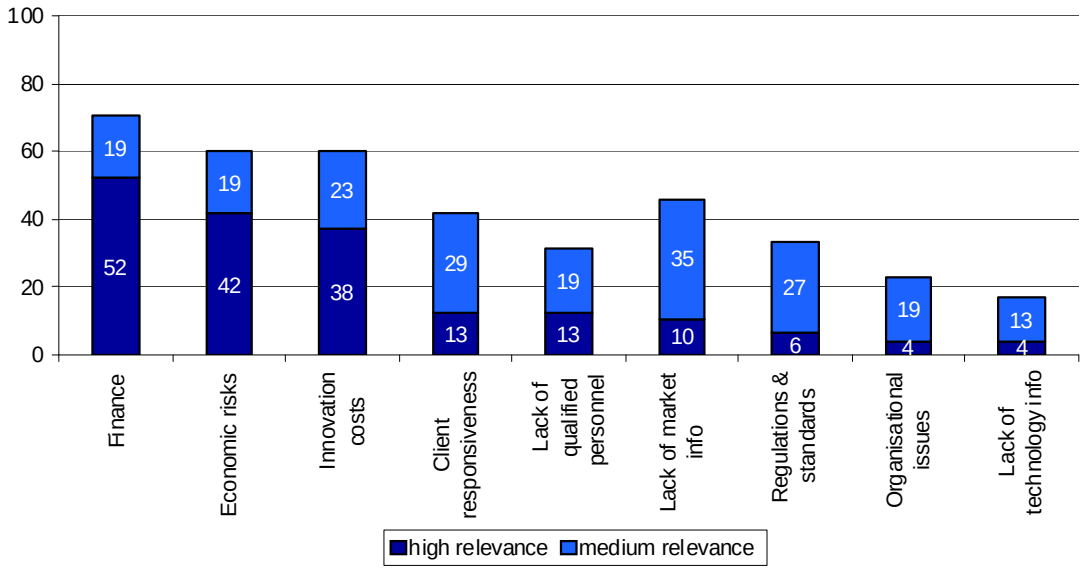


*) multiple answers allowed

Source: User Survey, n = 48

Concerning hampering factors for innovation, a rather large share of venturelab users complained about a lack of sources of finance (for 52 % of high and for further 19 % of medium relevance), making this the most prominently cited barrier to innovation. Economic risks (for 42 % of high and 19 % of medium relevance) and high innovation costs (for 38 % of high and 23 % of medium relevance, see Graph 25) ranked second and third, respectively. The lack of information on technologies, organisational issues and regulations and standards seem to play, according to the interviewed SMEs, less of a role.

Graph 25 Hampering factors for innovations, 2005 to 2007, venturelab users in % *)

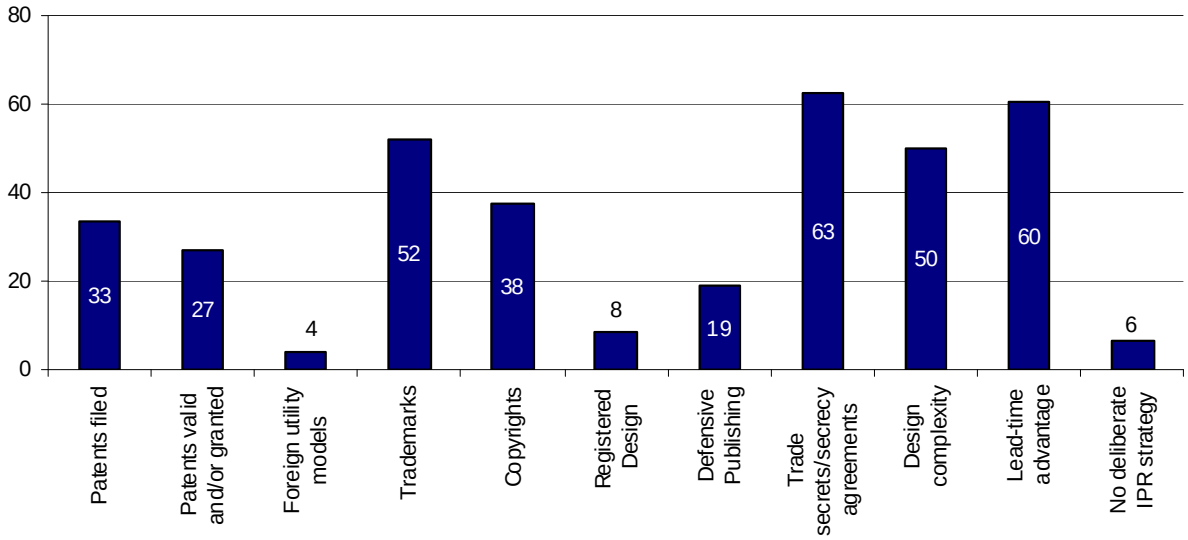


*) multiple answers allowed

Source: User Survey, n = 48

Regarding formal methods of IPR-protection used, most venturelab users (52 %) registered trademarks between 2005 and 2007, 33 % filed for a patent, and 27 % already had a patent granted or valid in that time period (see graph 26). An even higher number of users employed also informal protection methods, i.e. they relied on trade secrets, and/or tried to maintain a lead time advantage over competitors (63 % and 60 %, respectively).

Graph 26 IP protection methods employed by service users, 2005 to 2007 *), venturelab users in %

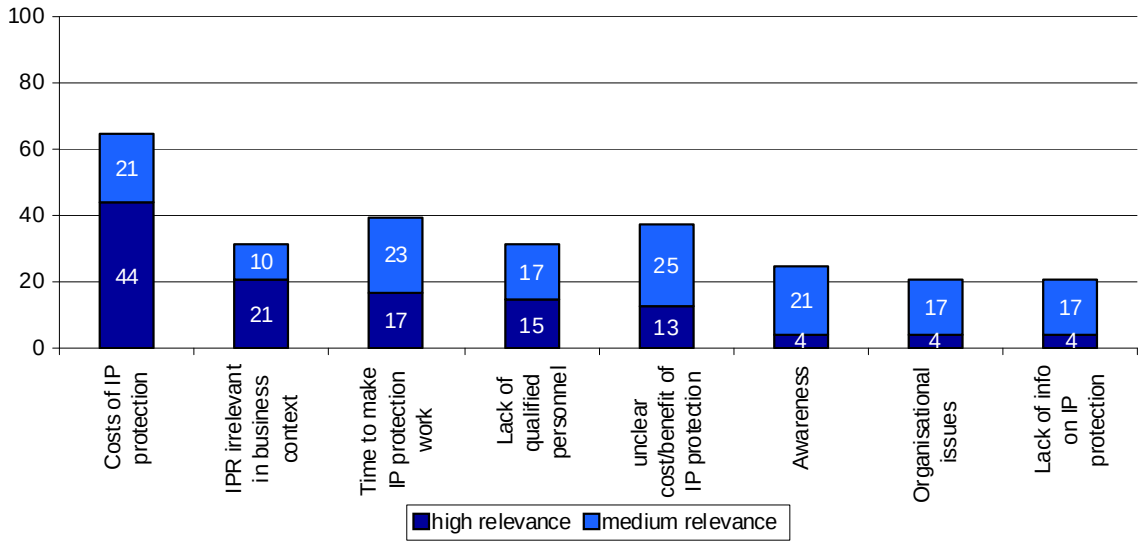


*) multiple answers allowed

Source: User Survey, n = 48

Financial barriers (for 44 % of high and for another 21 % of medium relevance) are seen as the most important internal obstacle which stands against a higher usage of IP protection (see graph 27). The time to make IPR protection work and the lack of specialised personnel are also considerable barriers, at least by comparison to other factors. While the former of the two aspects is in line with the general findings on obstacles towards patenting, the statement of lack of qualified personnel comes, if compared to the Commission study results, somewhat as a surprise. This may be explained by the fact that most of the venturelab users are start-ups with new and possibly rather inexperienced staff in such matters.

Graph 27 (Internal) barriers to using IP protection mechanisms *), venturelab users in %

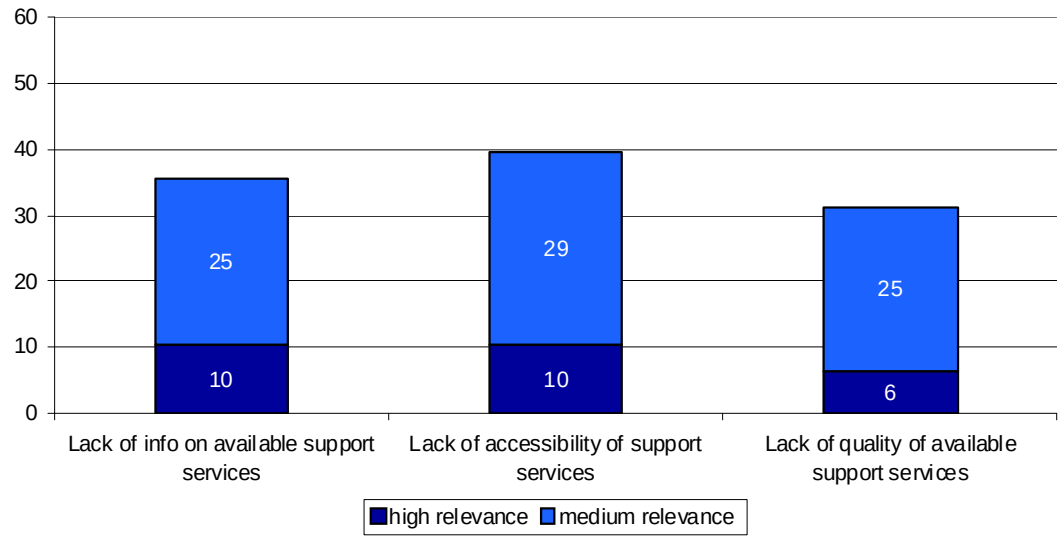


*) multiple answers allowed

Source: User Survey, n = 48

External barriers towards the availability of IPR support services are considered to be obstacles of rather medium relevance for venturelab users: The lack of information (high relevance for 10 %, medium for 25 %), the lack of accessibility (for 10 % of high and 29 % of medium relevance), and the lack of quality of available external support services (for 6 % of high and 25 % of medium relevance; see graph 28) are thus not barriers that get too much attention by the start-ups.

Graph 28 (External) barriers to using IP protection mechanisms *), venturelab users in %



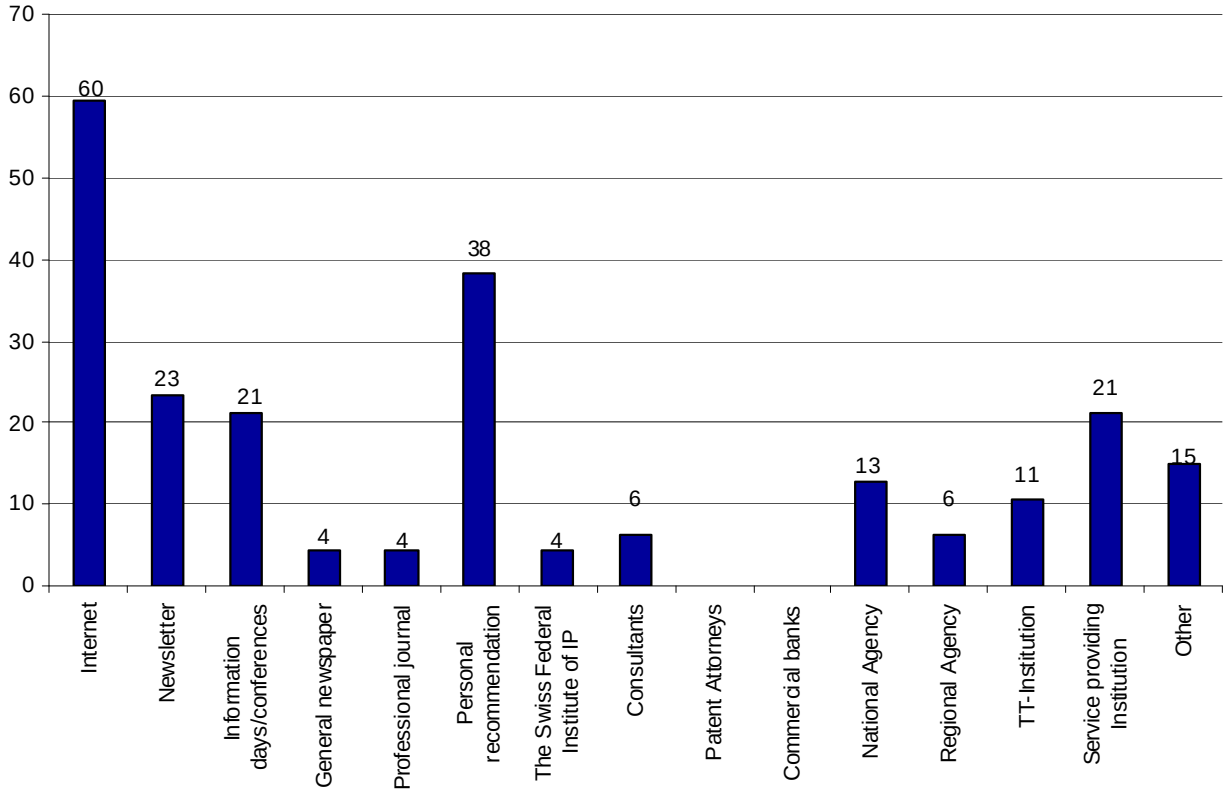
*) multiple answers allowed

Source: User Survey, n = 48

User outreach and satisfaction levels

Service users got to know about venturelab mainly through the internet (60 %) and personal recommendations (38 %; see graph 29), making these two instruments by far the most important distribution channels. To a lesser extent, venturelab also reached its target group through promoting the service by newsletters (23 %) or through contacting the SME itself. 15 % got to know about venturelab through other sources, as for example from posters and non-venturelab related seminars and workshops. 21 % learned about venturelab through conferences and information days (information days being in this specific context mostly the venture.ideas module). Advertisements in classical media are, by comparison, not significant carriers of information on venturelab.

Graph 29 Information channels, by which users got to know about the service *), venturelab users in %



*) multiple answers allowed

Source: User Survey, n = 48

The service users were, on average, very satisfied with IPR lectures: All aspects (the competence of staff, the quality and relevance of the provided information, etc.) were graded with “1.7” or better, on a scale from 1 (very satisfied) to 4 (unsatisfied) (see graph 30). The high satisfaction rates are reflected in a range of user statements:

> *“...a lot of competence, broad and informative, super coaching...”* (venturelab user, No. 1)

> *"the service is excellent, as is also the approach chosen...we maintain the links"* (venturelab user, No. 2)

> "*The service had no weaknesses to speak of"* (venturelab user, No. 3)

Against this backdrop, only little criticism was voiced, the most prominent one was on variations on the levels and quality of the individual lectures, depending on the person of the lecturer (quote: *"some were very very good, others only average"* (venturelab user, No. 6). Some few negative opinions were raised with respect to a supposedly too high amount of time to be spent in/for the workshops, and – interestingly – with respect to the admission procedure for the participating SMEs:

> *"CTI plays it safe. No projects were selected that would not be for certain a success"* (venturelab user, No. 4)

> *"The foci and stances are too rigid...everybody is looking for the "holy" grale...only big things are sought for, such as cancer research; if only smaller steps are needed one reaches very fast the limits* [of CTI support]*".* (venturelab user, No. 5)

Around 81 % of the venturelab users consider the extent of the service offerings to be adequate; only 13 % think it is too narrow/superficial. The latter (rather small) share of SMEs which would have wanted to have the subject of IPR treated more in-depth frequently suggested a more flexible modular approach (where SMEs are able to choose among a number of "more in-depth" workshops, including one on IPR):

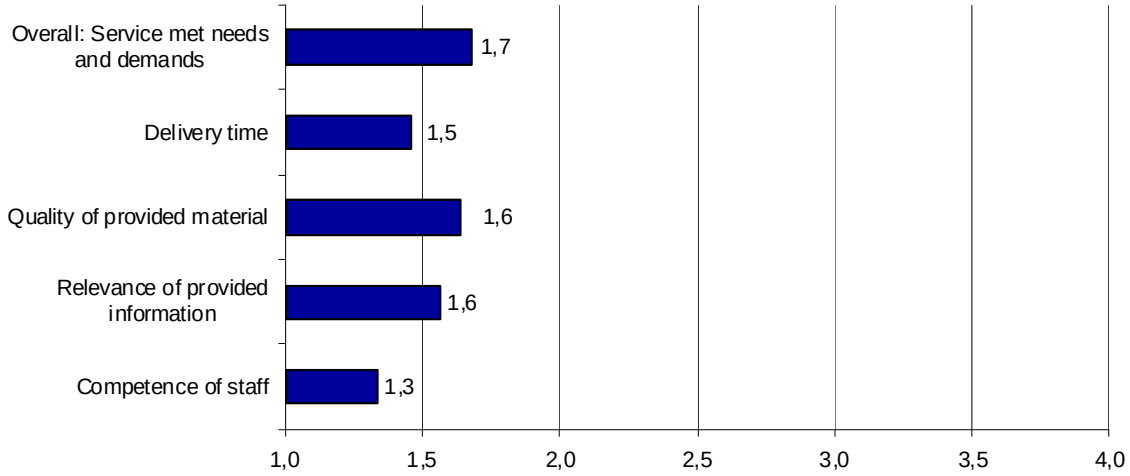
> *"The questions on patents and IPR were dealt with rather spartanically; in terms of time, they could form a separate workshop, otherwise there is too little time to do the subject justice....one could create a more modular system, where people can choose from different topics, say* [extra] *module 1: finance,* [extra] *module 2: IPR etc. Maybe such ancillary modules would benefit the "main" programme"* (venturelab user, No. 7)

> *"Some subjects were treated too superficially (maybe one could think about a more modular approach)...the treatment of IPR would benefit if cases studies are presented"* (venturelab user, No. 8)

Spatial distance (for 25 % a very low-level barrier and for another 67 % a factor considered to be at least acceptable) seems to be no problem at all, a result found for almost all services subjected to this type of analysis. 63 % believe the administrative efforts to use the service to be quite low – for 33 % at least acceptable.

Overall, 48 % think that the benefits of using this service clearly outweigh the efforts, 48 % state that the benefits are adequate to the efforts. 67 % got also information about external service providers – again a positive result. Nearly all venturelab users (98 %) would recommend the service to other enterprises, hereby frequently pointing to a high reputation of the service.

Graph 30 Satisfaction levels with different aspects of service provision, arithmetic means



Source: User Survey, n = 48

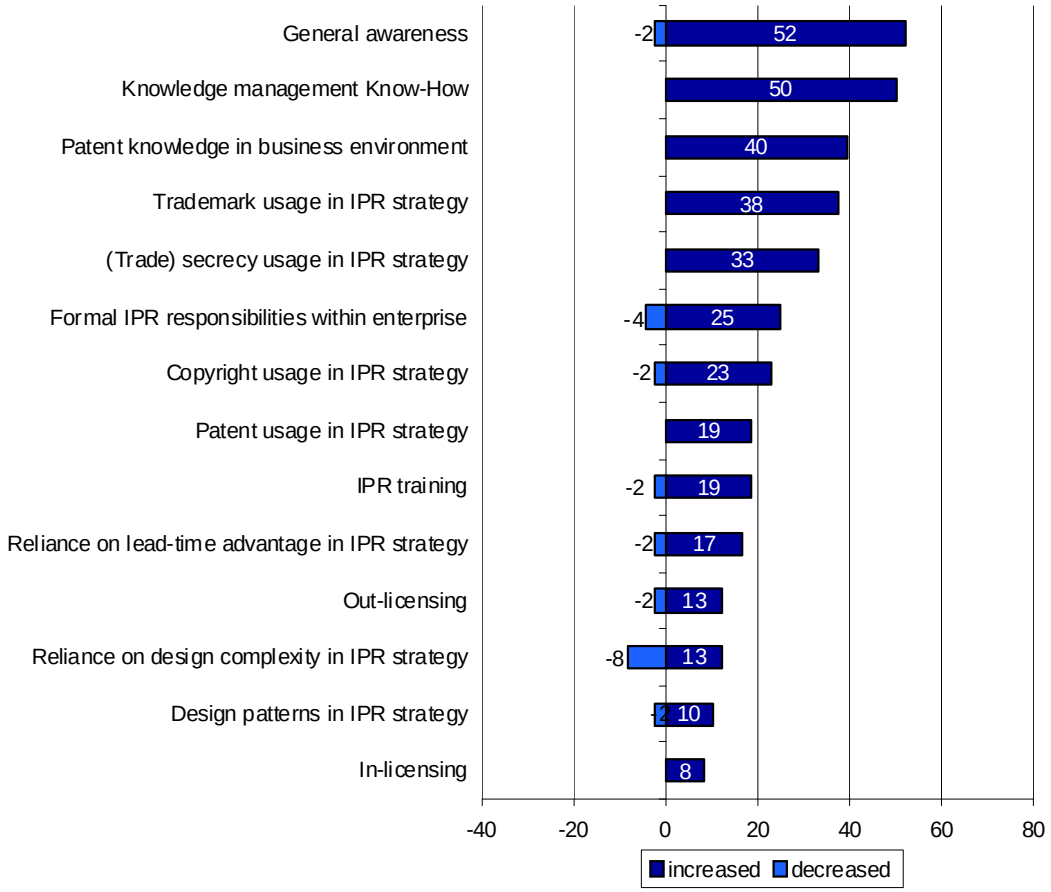
Additionality of the service

In order to answer the question whether a support service works or does not work, one should also inquire into the added value of the service – i.e., what would have happened in case the service were absent. This is done in order to isolate a "net effect" as opposed to things which would have happened anyway, despite of the service. Similarly, also other type of changes incurred within the enterprise, as a result of using the service, are to be recorded (these changes are referred to as "behavioural additionality").

The information and know-how on overall IPR issues provided in venture.training and venture.challenge triggered a considerable change in attitudes towards using different IP protection/appropriation methods: General awareness for the importance of IPR increased (for 52 %, it decreased for 2 %) as did knowledge management know-how (increased for 50 %; see graph 31). The awareness towards patent knowledge in the business environment and trademark usage did also increase for 40 % of the service users. Using trade secrecies in IPR as well as the usage of copyrights was also recognised to be important, which can be seen by the fact that their conscious usage increased for a significant share.

On the other hand, the attitude towards in- and out-licensing as well as design has not changed significantly. The highest decrease (attention level: -8 %) took place with respect to the reliance on design complexity (although it increased for 13 % of the users as well) – this shows that the seminar participants were able to derive different courses of action regarding the way of appropriating IP in their individual business contexts from the information presented.

Graph 31 Behavioural additionality of the venurelab *), venturelab users in %



*) multiple answers allowed

Source: User Survey, n = 48

As can be expected from a training oriented service (and also for an IPR service, as evidenced by the results of the other case studies), all users considered the competence of the staff (or trainers) involved in a service similar to venturelab as the most important key quality factor (for 88 % of high, for 12 % of medium relevance). In graph 32, the surveyed users listed, in addition, the following quality indicators to be of particular relevance for a service such as the one used (i.e., the IPR lectures within venturelabs): ease of access and identification, timely delivery, costs, individual contact, information and information on different IP strategies.

In general, the fact that a comprehensive overview on different topics – including IPR – is given is seen as one of the biggest benefits:

> *"The biggest benefit is that a broad overview over a variety of relevant subjects is delivered and that one is made aware of the different aspects of IPR protection"* (venturelab user, No. 10)"

> *"The different specifics of Swiss patent law were very well explained"* (venturelab user, No. 11).

In addition to the factors enquired into with the standardised questionnaire, it turned out (during the interviews) that networking opportunities with fellow start-ups are likely to be also one of the assets of the programme:

"Venturelab is implemented in a very useful and down to earth manner. It is a very good platform for like-minded people; for me it was especially useful as a platform of exchange (meaning: networking)" (venturelab user, No. 12)

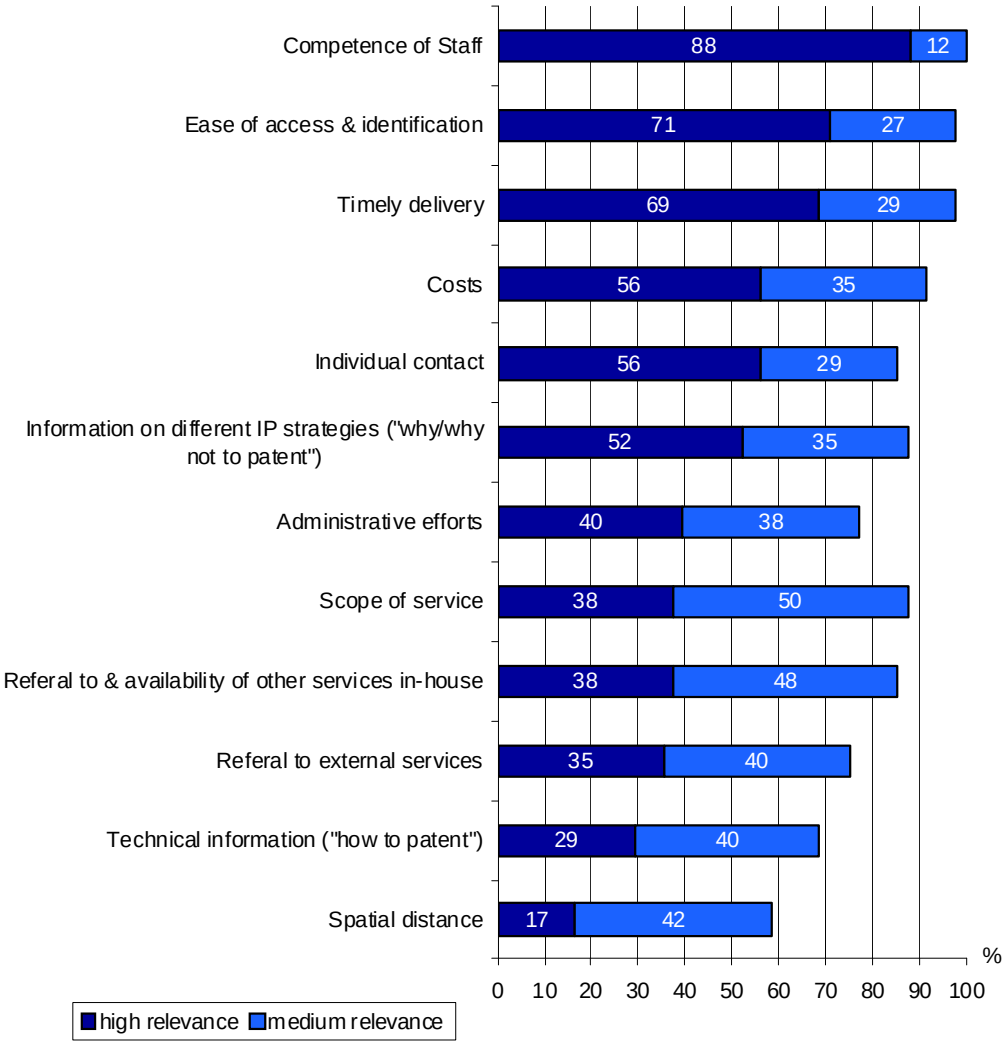
"Networking and cultural mediation are the biggest benefits, as communication is often difficult because of Swiss mentality...for example, in the case where someone says "hey, look at this, this could be interesting for you" it is really difficult, as a non-Swiss, to gauge whether "this" is really interesting..." (venturelab user, No. 13)

"I met other people which had problems similar to mine. With some of them I am still in contact...all in all, positive network effects" (venturelab user, No 14)

"I must say that I am very satisfied. The cost benefit ratio is very high. I got to know many people which were also in the process of founding a company or had already done so. This is always good, as one can benefit from synergies." (venturelab user, No. 15)

Factors of less relevance are, by contrast, referral to external services, provision of technical information and spatial distance.

Graph 32 Key quality factors for a service such as venturelab, venturelab users in %



*) multiple answers allowed

Source: User Survey, n = 48

2.3 Elements of good practice

The IPR service elements within “venturelab” exhibit the following elements of good practice:

- Highly qualified personnel/trainers (which holds true also for the subject of IPR):
- Very good administration and organisation, as evidenced trough respective user statements
- The broad overview character presented in the lectures on IPR
- Networking possibilities among participants
- High reputation (though not formally assessed), useful as a “quality brand” for potential investors
- The service is faced primarily with the following challenge to increase flexibility; following a more thorough evaluation, one may discuss some measures to increase the flexibility of the modular approach, in order to allow for a more in-depth treatment of certain subjects.

3 Assisted Patent Search

Country:		Switzerland
Original title:		*"Begleitende Patentrecherche"*
Target group:		SMEs, enterprise starters and individual inventors
Coverage:		National
Category:		(Pro-active) awareness raising measure/Public Relations
	X	Information Provision Service
	X	Training
		Customized in-depth consulting and advisory service/point
		Financial Support & Measures within the legal framework

3.1 The Assisted Patent Search in a nutshell

Background

Patent and trademark searches as well as monitoring services for trademarks are one of the core-services provided by the Swiss Federal Institute of Intellectual Property (IPI). Amongst them, assisted (subsidised) patent searches are provided which target especially SMEs. This service is set-up as half-day training session for single individual SMEs which are held at the IPI premises in Berne. The session is split into two parts: First, general aspects of IP are discussed and questions are answered. During the second part, an IPI employee performs a search together with the client and teaches him how to use free patent databases. This type of accompanied research has been available since 2004 at the IPI.

According to the IPI, the main objective of this service is to enable the client to make a qualified decision whether or not to aim for a patent application and to offer a strategic insight on the importance of patent information as a source of technology and market intelligence. In this light, the service aims to increase the knowledge on the patent environment among SMEs, addressing especially the field in which the company or inventor is operating in. It also aims to answer questions on how and why to use the available patent information. After the training, the client should be able to conduct a patent research on his/her own, and to interpret the research findings, at least with regard to the basics.

Accompanied patent searches are not restricted to a specific user group, although the product design is tailored to SMEs and single inventors (the same type of service is also offered to researchers and research institutions, whereby not half a day but a full day of assisted searches is subsidised). The service targets the early stage of an innovation process with relation to IPR issues and the process of development and/or registration. As the service is solely offered at the IPI headquarters in Berne, interested parties are requested to make an appointment for an Assisted Patent Search with the IPI.

The Assisted Patent Search is provided solely by experienced in-house staff at the IPI, recruited from the divisions who regularly search for and review patent applications. If further assistance is needed, other IPI experts with special industrial background are available to support the SMEs. For accounting reasons, the IPI staff is required to record their time spent accurately and make a clear cut between commercial services, mandatory functions and subsidised services. No external personnel are involved in the

training. The budget available for the Assisted Patent Search service amounts to more than CHF 200,000.- per year.

The Assisted Patent Search service is part of a portfolio of search services offered by the IPI which includes, amongst others, patent register[31] searches, prior art research[32] or the commercial "IP Search" service for IP professionals.

Modes of operation

During a half-day session (full day for researchers), general questions about IPR and patents are answered, methods of conducting patent research are explained and a database search is performed. The search is executed by an employee of the IPI together with the client in a dedicated room. During the available time, the IPI employee teaches the SME how to use the search possibilities effectively. It is important to note that the search only addresses public patent databases, and not trademark or design searches.

After the search has been carried out successfully, the IPI expert and the client discuss the results. As part of the quality assurance, some search results, randomly selected, are also cross-checked by a second person employed at the IPI (principle of "four-eyes"). At the end, the client is allowed to take a sample of his research findings along.

The Assisted Patent Search service is, as stated, subsidised: The in-house costs for an assisted patent search amount to approx. CHF 790.-, of which CHF 290.- (37 %) were subsidised between 2005 and 2006. In 2007, the subsidy level has been adjusted and covers now CHF 490.- (62 %) of the total costs. As a result, the subsidised rate for SMEs amounts to CHF 300.-.

Regarding marketing activities, the service is promoted by using several channels. The website of the IPI offers a first overview about the available patent and trademark search services. Presentations, mostly held at universities, promote the Assisted Patent Search offering as part of the overall service portfolio at the IPI. In addition, multipliers and networks act also as important channels for disseminating information about the search services. These multipliers and networks consist primarily of patent attorneys. Despite of the fact that there are attempts to market the service intensively, interviewed experts and IPI officials alike stated that the visibility of the service in the target group of the SMEs is an area for improvement.

[31] Standardised patent register searches are offered on a low-cost basis with results normally available within a short period of time. This service delivers information about the validity of Swiss patents (CH Legal Status Search), a list of Swiss patents belonging to one owner or inventor (CH Name Search), Swiss patents based on the priority number from any other country (CH Priority Search) or offers information whether a supplementary protection certificate for a Swiss patent in pharmaceuticals or pesticides has been applied for (SPC Search). Results are billed at CHF 90.- for the first hour; additional hours are charged at CHF 180.-

[32] Prior art researches are recommended for national patent applications to determine whether the invention is novel and contains an inventive step. Due to the extensive investigation which has to be carried out for such a research, a prior art search may take longer to process and incurs more expense. The price for such a search is s at around CHF 500.-.

Evaluation and performance

The Assisted Patent Search service has not been subjected to a formal evaluation so far. Quality assurance is performed by checking for customer satisfaction at the end of the session and by means of accountancy checks. At the end of each event, the users are invited to fill in a feedback form. The form asks about an overall rating of the service and some qualitative response, such as improvement suggestions, wishes, and additional comments. Between mid 2005 and early 2008, 151 clients were asked by the IPI about their experiences with the service. The main results are outlined below:

- Almost 70 % assessed the overall service quality as “very good” (5), on a scale from 5 (very good) to 1 (very poor). 29 % rated the quality of the service as “fairly good” (4).
- The competence of the person who delivered the training was rated “very good” (5) by 94 % of the service users and “fairly good” (4) by the remaining 6 %.
- 66 % considered the cost/benefit ratio of the Assisted Patent Search as “very good” (5), 32 % as “fairly good” (4).

In 2007, 245 assisted patent searches were carried out at the IPI (2006: 154; 2005: 134). The IPI assumes to reach the number of 300 accompanied searches by the end of 2008. While the absolute number of provided patent searches increased continuously and SME users almost doubled between 2005 and 2007, the ratio of the number of SMEs to all other users (i.e., research institutions) decreased slightly. By the end of 2005, 54 SMEs (40.3 % of the total users) used an accompanied patent search, followed by 61 (39.6 %) in 2006 and 93 (38 %) in 2007.

Table 11 Total number of Assisted Patent Searches users, 2005 - 2007

Year	Total	SME user*	*(% of total)*	Others	*(% of total)*
2005	**134**	54	*40,3*	80	*59,7*
2006	**154**	61	*39,6*	93	*60,4*
2007	**245**	93	*38,0*	152	*62,0*

Source: IPI 2008

*) According to IPI specifications

The website (www.ipi.ch) of the service achieved a hit rate of 1,400 hits between October and December 2007 (an average of around 480 hits per month). The service introductory document has been downloaded 800 times in the same time period.

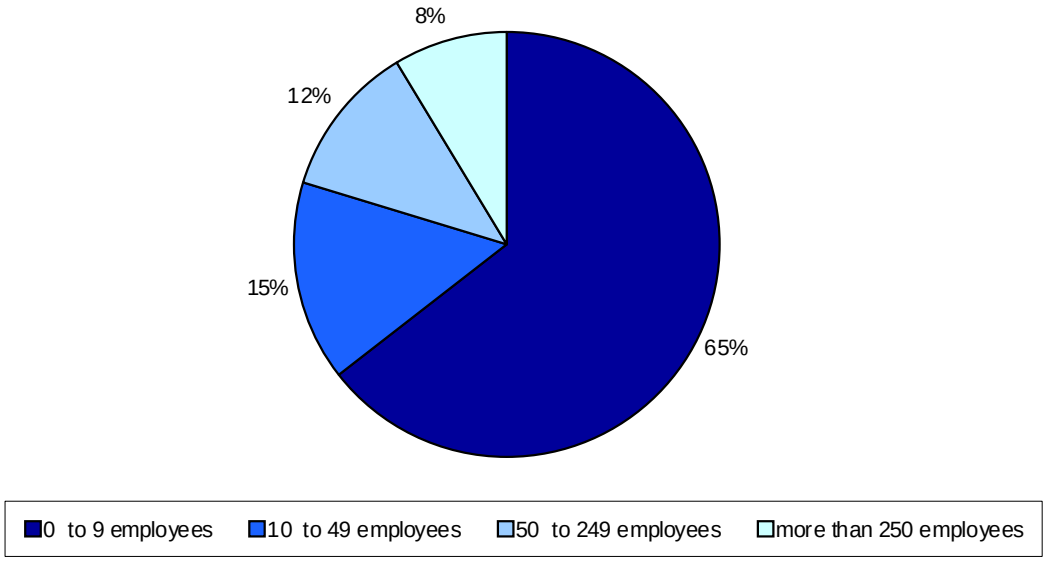
3.2 The user's view

In order to get an idea on how the service is perceived by its users and customers, a user survey was carried out in the scope of the underlying study, the results of which are presented below.

Characteristics of the user group

The study team has been provided with a list of 171 companies who took advantage of the Assisted Patent Search service: Out of this address base, 61 companies were reached and asked about their experiences. The distribution of the user sample confirmed the service specific focus on SMEs: 65 % of the interviewed companies employ not more than 9 persons, 15 % have 10 to 49 employees and 12 % have 50 to 249 employees. The service attracted also five companies (8 %) which employ more than 250 employees (see graph 33). Noteworthy seems also that the SME users of this service are on average larger than those of the other services scrutinised (mostly because not only start-ups, but also established firms may utilise the offering).

Graph 33 Company size distribution in interview sample, Asssited Patent Search users, 2007



Source: User Survey, n = 61

From the 61 companies, 25 % were founded between 2004 and 2008, 25 % between 1997 and 2003 and 25 % between 1996 and 1979. All others started their business before 1979. In fact, one company already existed in the 19th century. The median value for the year of foundation is 1997.

The surveyed companies operate in a variety of different industries and sectors, as for example in electronics (seven companies), information and communication technologies (ICT; five), energy technology, materials engineering (both four) and life sciences (three). The high-tech focus prevalent with the other scrutinised services was (unsurprisingly for the service setup) not visible to the same extent in the case of the IPI Assisted Patent Search service:

- Around 15 companies (25 % of the sampled users) may be considered to be "low and/or medium tech (LMT)[33]" companies, as they pursue their business in the field of gardening, accessories, interior decoration, catering, tourism and the overall service sector and thus sectors to be generally known to display rather small R&D intensities. A handful of companies are engaged in retailing (e.g. office equipment, household appliances, construction material, drive systems and components, etc). Three companies reported to work in the textile, the leather and the packaging materials industry – as the company representatives did not provide more background information about their actual fields of work, these companies may be assumed, based on experience and common R&D intensities in these industries, to be low/medium-tech, too.

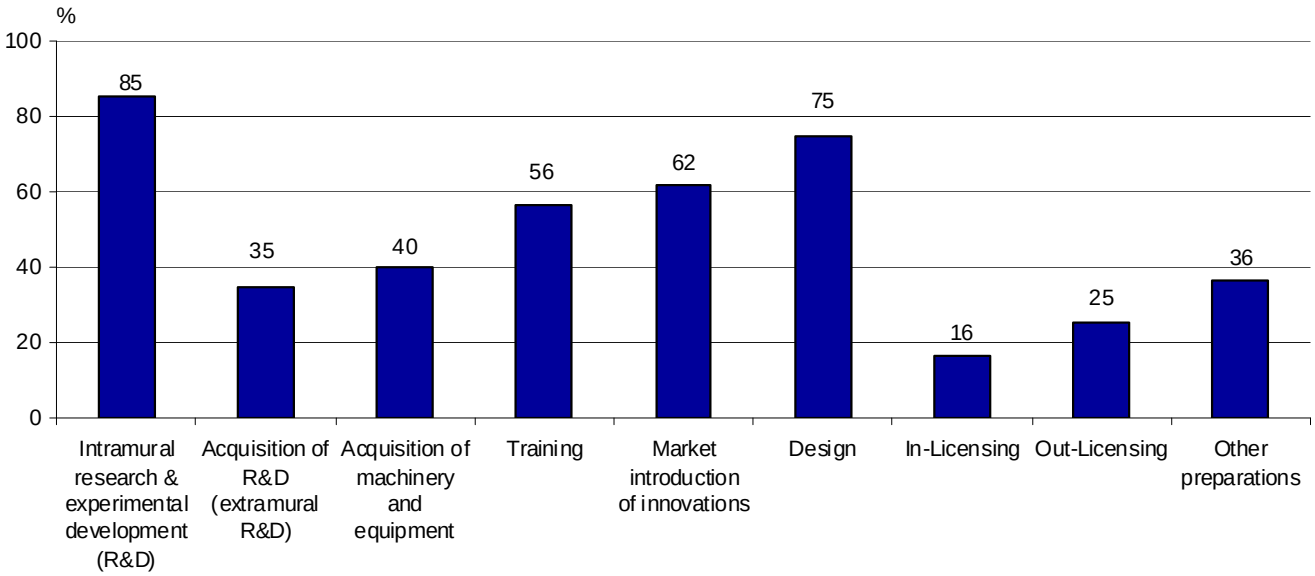
- Another 18 companies operate in areas such as the food sector, water treatment, construction, building services engineering, product development and industrial design, security and business consulting. Three companies reported to have an industrial background without naming the respective sector; one company operates in the sweets industry.

Interestingly, some of the interviewees noted that they used the Assisted Patent Search service to scan for patents in other areas or fields as they are currently working, business-wise, in.

Considering the heterogeneous sample, the analysed companies have been very innovative between 2005 and 2007: Around 55 % introduced product innovations (new or significantly improved products), 32 % were able to introduce process innovations in the same time period. As concerns R&D, almost 85 % conducted intramural R&D; 75 % were engaged in innovation activities related to design, and 62 % in the market introduction of innovations.

[33] According to the OECD, a company (or an industry) can be said to be High-Tech, if the R&D expenditures (in the case of an industry, on average) exceed 3 % of the turnover. Low and Medium-Tech (LMT) companies are consequently those with, on average, an R&D intensity of less than 3 %. (see OECD, 1994; OECD, 2002) Sectors such as gardening, catering, tourism, etc. are hence low-tech industries, as they usually show R&D intensities of less than 3 %. However, one has to note that the usage of this classification is, especially at firm level, not undisputed – innovative and strongly R&D driven frims may exist also in LMT industries (a case in point could be, for example, producers and developers of high-tech textiles with special characteristics (like being inflammable)). For a more comprehensive discussion of the issue readers may refer to, for example, Radauer & Streicher (2006).

Graph 34 **Innovation activities in interview sample, Asssited Patent Search users in %, 2005 - 2007 *)**

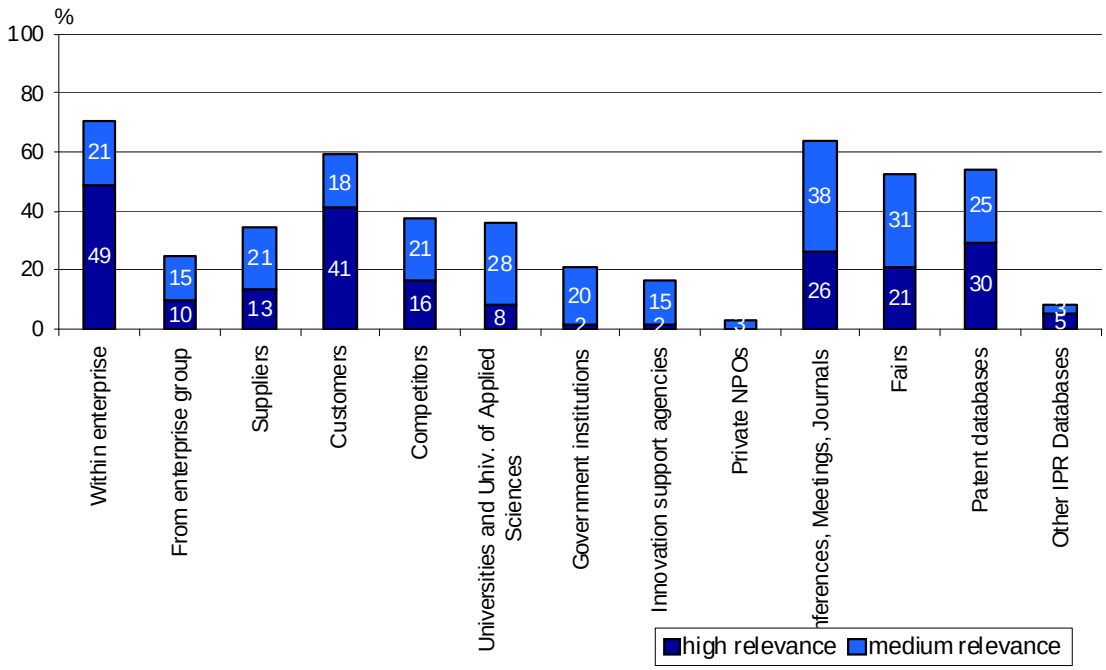


*) multiple answers allowed

Source: User Survey, n = 61

Sources within the enterprise, information from clients or customers and professional conferences, meetings and journals are seen as highly important for suggesting new innovation projects among the surveyed enterprises (see graph 35). Unsurprisingly, the companies highlight also the role of patent databases as an important information source, most likely also triggered by the patent search training they received at the IPI.

Graph 35 **Sources of information for new innovation projects, Assisted Patent Search users in %, 2005 - 2007 *)**

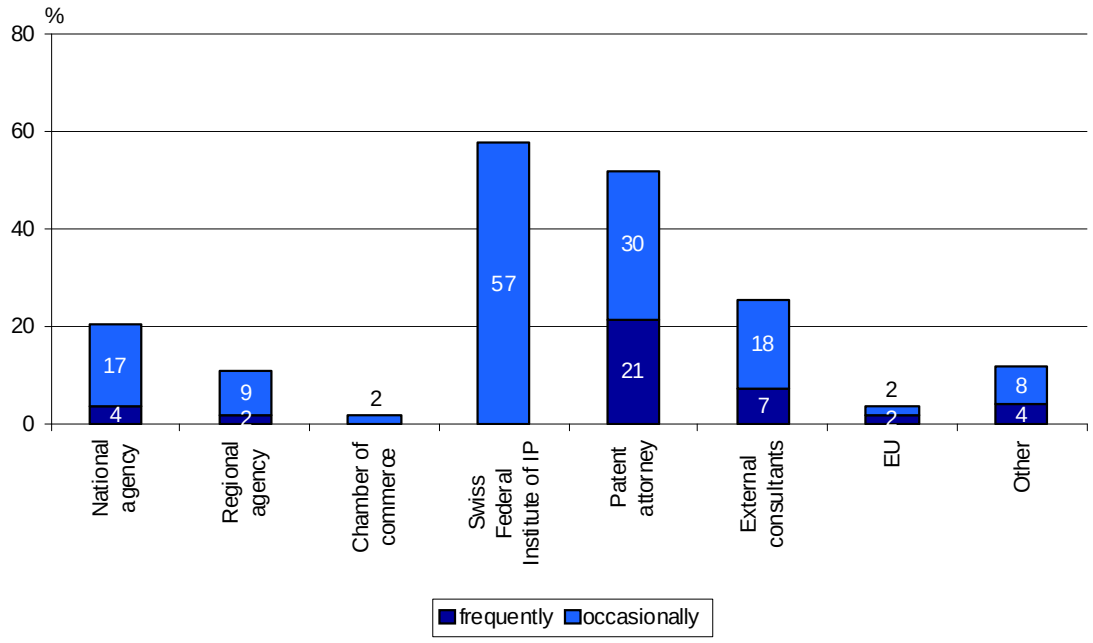


*) multiple answers allowed

Source: User Survey, n = 61

The service users most frequently took advantage of the service offerings of patent attorneys (see graph 36), which is in line with the findings from other services. External consultants are also playing a certain role in supporting the respective companies.

Graph 36 Usage of different service providers, Assisted Patent Search users in % *)

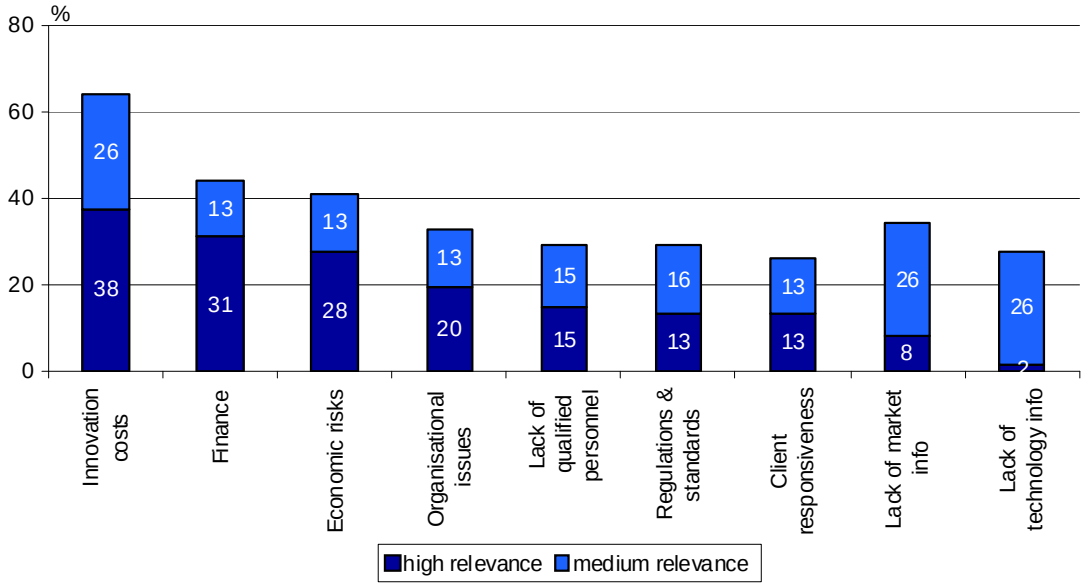


*) multiple answers allowed

Source: User Survey, n = 61

Between 2005 and 2007, a considerable share of service users experienced hampering factors for innovations. Companies complained mostly about high innovation costs (for 38 % of high and 26 % of medium relevance), financial matters (for 31 % of high and 13% of medium relevance) and economic risks (for 28 % of high and for further 13 % of medium relevance; see graph 37). The lack of information on technologies and market information are reported to be of less critical nature.

Graph 37 Hampering factors for innovations, 2005 to 2007, Assisted Patent Search users in % *)

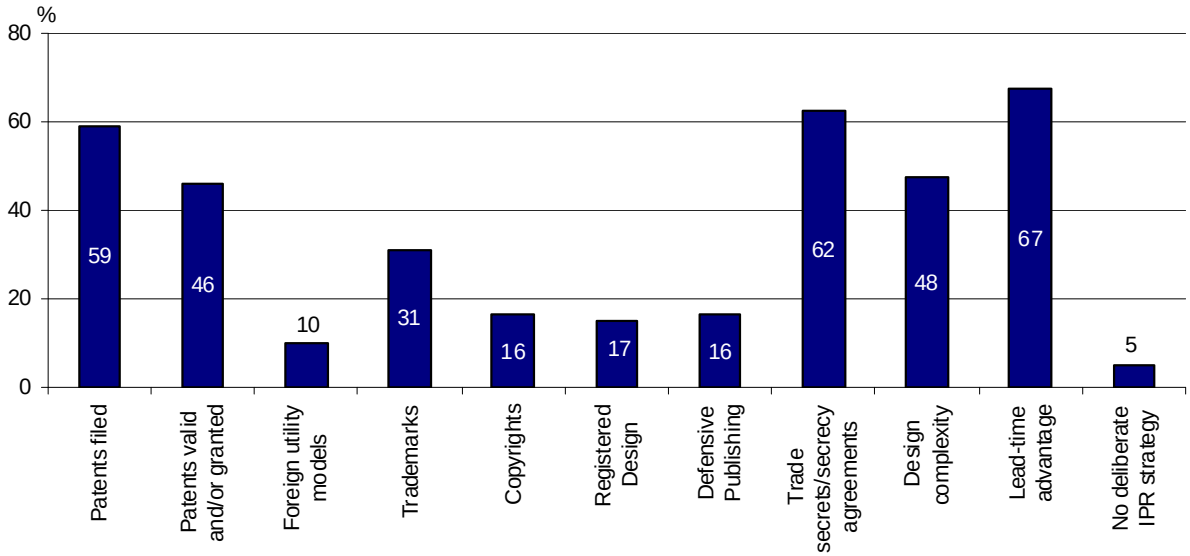


*) multiple answers allowed

Source: User Survey, n = 61

Regarding the methods of IPR-protection, 59 % of the service users filed for a patent between 2005 and 2007, 46 % already had a patent granted or valid in that time period (graph 38). Trademarks have been registered by 31 %. A high number of users employed also informal protection methods, i.e. they tried to maintain a lead time advantage over competitors (67 %), relied on trade secrets (62 %) or used design patterns (48 %).

Graph 38 IP protection methods employed by Assisted Patent Search users, 2005 to 2007 *)

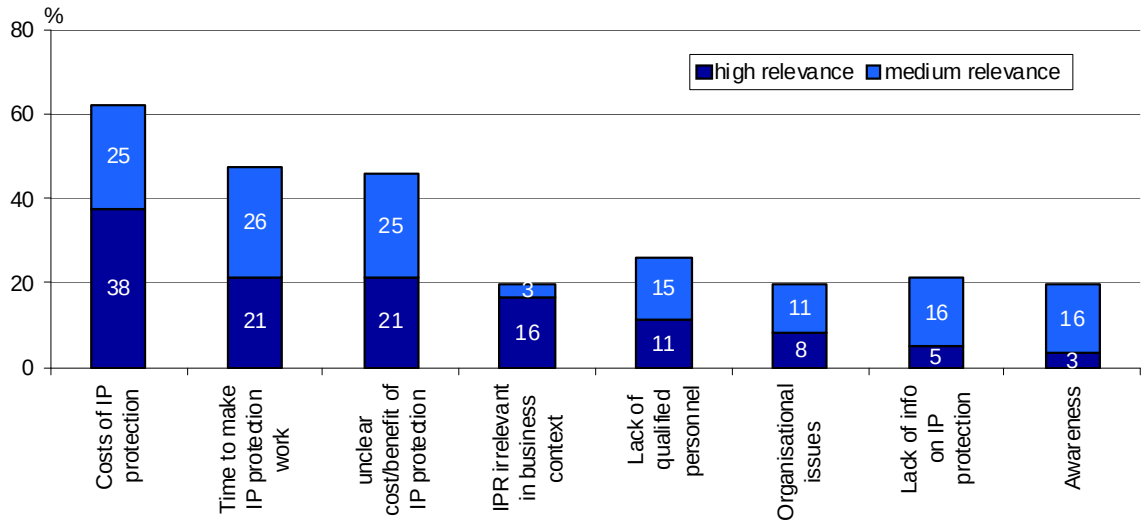


*) multiple answers allowed

Source: User Survey, n = 61

The costs of IP protection (for 38 % of high and for another 25 % of medium relevance) are the main barrier perceived for using IPR. Time issues and unclear costs/benefits of IP protection (both for 21 % of high and for 26 % and 25 % of medium relevance) play important roles, too. On the other hand, awareness towards IPR issues and related information seems not to be too much of a problem to the SMEs as it is, by a considerable share, considered less relevant.

Graph 39 (Internal) barriers to using IP protection mechanisms, Assisted Patent Search users in % *)

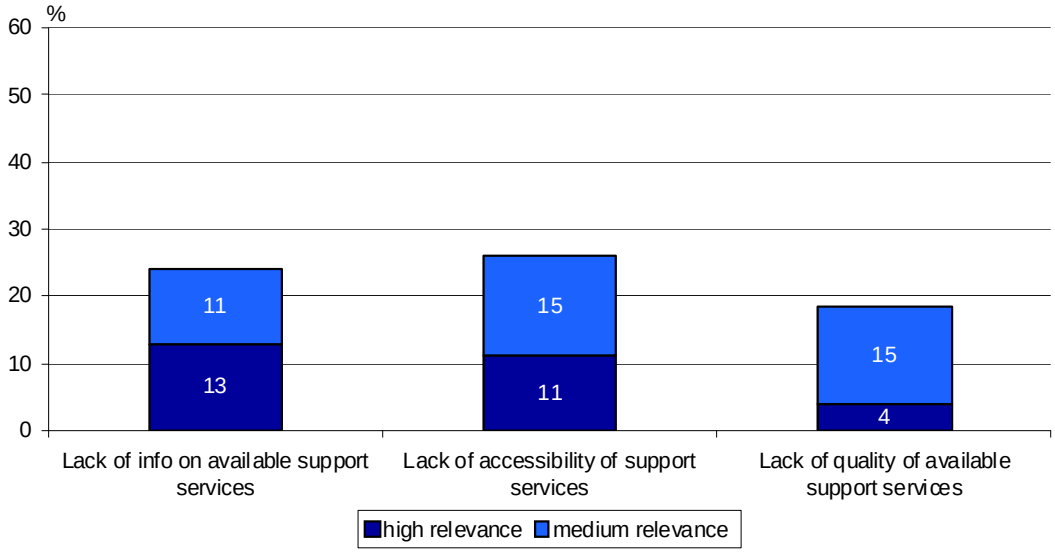


*) multiple answers allowed

Source: User Survey, n = 61

External barriers towards the availability of support services are perceived to be less severe obstacles for the service users: The lack of information (high relevance for 13 %, medium for 11 %), the lack of accessibility (for 11 % of high and 15 % of medium relevance), and the lack of quality of available external support services (for 4 % of high and 15 % of medium relevance) received relatively low relevance ratings.

Graph 40 (External) barriers to using IP protection mechanisms, Assisted Patent Search users in % *)



*) multiple answers allowed

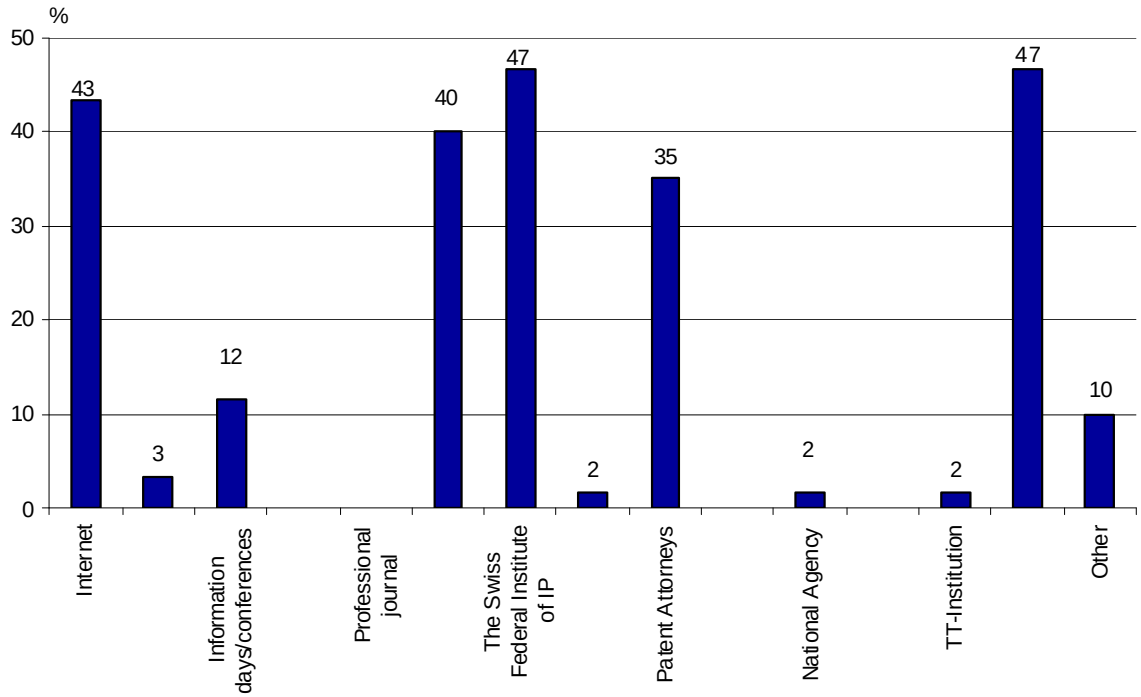
Source: User Survey, n = 61

User outreach and satisfaction levels

Almost 50 % of the users heard about the service from the service providing institution, the IPI, itself (see graph 41). In addition, many users learned about the Assisted Patent Search service through information on the internet (43 %) and personal recommend-dations (40 %). National and regional agencies, technology transfer offices, advertise-ments in classical media and professional journals are not significant carriers of information on the Assisted Patent Search offering. "Other sources" consist mostly of private contacts and clients; one user noted that *"it is quite obvious were to go when a patent database search is needed"* (Assisted Patent Search user, No. 1).

The fact that 35 % of the service users got to know about the service through patent attorneys would at first sight cause surprise. But as IPI officials point out, patent attorneys are considered to be an important part of the information distribution network and act very often as multipliers to inform interested parties about IPI services, activities or up-coming events. An interesting observation was the statement of one interviewed expert who stated that he, as a patent attorney, would refer some of his "first-time" clients to the IPI, where a first check-up in patent databases on the idea presented to the patent attorney is performed. One may call this a "win-win" situation (at least for the SME and the attorney): The SME can learn how to handle some IPR issues (patent searches) on its own and can save time and money (with the patent attorney), if i.e. the research shows that a protection is not necessary or possible. On the other hand, patent attorneys can revert to "IPI pre-filtered" cases and continue their work based on the existing patent information researched by the IPI; thus, the patent attorney saves also time and avoids, sometimes, fruitless efforts (if the idea researched is not worth patenting).

Graph 41 Information channels, by which users of the Assisted Patent Search Service got to know about the service *)



*) multiple answers allowed

Source: User Survey, n = 61

Assisted Patent Search service users are, on average, very satisfied with the service. All aspects (delivery time, the competence of staff, the relevance of the provided information, etc.) are graded with “1.5” or better, on a scale from 1 (very satisfied) to 4 (unsatisfied; see graph 42). The competence of staff and the delivery time have received one of the highest ratings among Swiss based IPR support services (1.3, respectively). User satisfaction with delivery time is likely to reflect the fact that users are allowed to take a sample of the result along, at the end of the training on the same day. The high user satisfaction is also underpinned by the following selected statements (which illustrate the benefits experienced):

> *“Within a short time period, you get the information if an invention or idea has already been protected.”* (Assisted Patent Search user, No. 3).
>
> *“Fast, non-bureaucratic, competent, good quality service”.* (Assisted Patent Search user, No. 9)
>
> *„I liked most that the patent search was so interactive. It was possible to influence the whole search process right from the beginning*.” (Assisted Patent Search user, No. 10)
>
> *„...it was also possible to discuss company specific and industry related questions”.* (Assisted Patent Search user, No. 6)

> *"A big plus was that I realized that I do not need a patent attorney – because the product I was looking for has already been patented in Japan."* (Assisted Patent Search user, No. 8)

On few occasions, issues have been brought up in the user statements, mostly complaining about the (large) amount of patent information given without extra time to go into details. It appears that a few questions from these service users were not dealt with in a satisfying manner. In the words of one SME, which are in line with some statements from other users: *„I have been left on my own to cope with all the data".* (Assisted Patent Search user, No. 13). This may be seen in connection with the available time to treat the topic. Some users argued that the patent scans are in itself such a complex topic that it cannot be explained and discussed within a 4-hour timeframe. As s service user put it: *"Not being an engineer makes it difficult to understand how patents work at all. What I learned for myself is that I know nothing about patents; without involving a patent attorney, you can do virtually nothing."* (Assisted Patent Search user, No. 14).

91 % of the users are satisfied with the extent of the service, only 5 % think it's too narrow/superficial – the latter group favour extending the scope of the service and/or to develop "follow-up" sessions. But even in the group of users of satisfied users with the service there were some SMEs which favoured an extension of the offering – the satisfaction expressed was in these (few) cases linked to the service objective of providing a "first time look into the subject". While service goals and performance match up in terms of providing comprehensive information within a short period of time (thus giving a strategic overview on patent information, and certainly a service strength), the IPI could still look into the possibilities of extending the scope of the service to a full day's search (like in the case of researchers as customers); alternatively, a follow-up service could be also contemplated.

Finally worth noting, with respect to user satisfaction, are the following points:

- 70 % consider the administrative burdens as quite low, 27 % believe they are at least acceptable:

  > *„The administrative burdens of a patent search are very low – which is a big advantage for us small companies."* (Assisted Patent Search user, No. 8)

- Although the patent search training is offered at the IPI headquarter in Berne only, spatial distance seems not to be a problem for the service users (for 44 % a very low-level barrier and for another 56 % a factor considered to be at least acceptable). Only one user noted that *"the journey to the IPI"* (Assisted Patent Search user, No. 16) can be seen as disadvantage of the service.

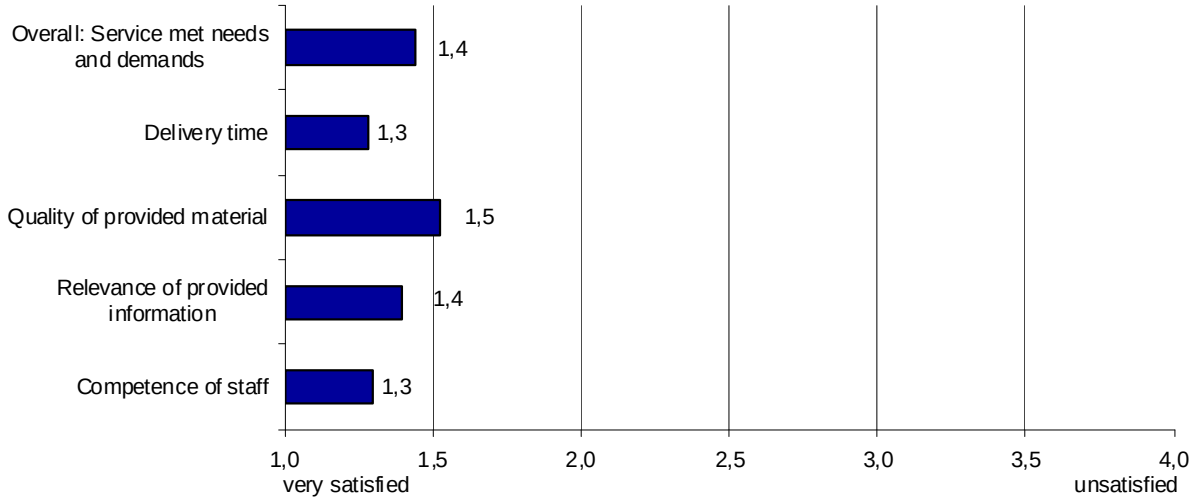
- Around 72 % of the service users were referred to or informed about other services offered by the IPI; 37 % have been given information about external service providers. The costs of using the service are acceptable for 61 % of the user; 37 % think that the costs are actually quite low:

  > *"Fast information for cheap money. I almost assembled my first prototypes; luckily, a friend told me about the IPI and the service just in time. After I got the results from the patent search, I realised that I could not go any further.* (Assisted Patent Search user, No. 4)

„The cost issue was important for us. Some of the tasks previously outsourced to our patent attorney are now being performed by us." (Assisted Patent Search user, No. 13)

- Overall, 43 % of the service users think that the benefits of using this service clearly outweigh the efforts; 48 % state that the benefits are adequate to efforts. Around 91 % would recommend the service to other enterprises.

Graph 42 Satisfaction levels with different aspects of service provision, Assisted Patent Search service, arithmetic means



Source: User Survey, n = 61

Additionality of the service

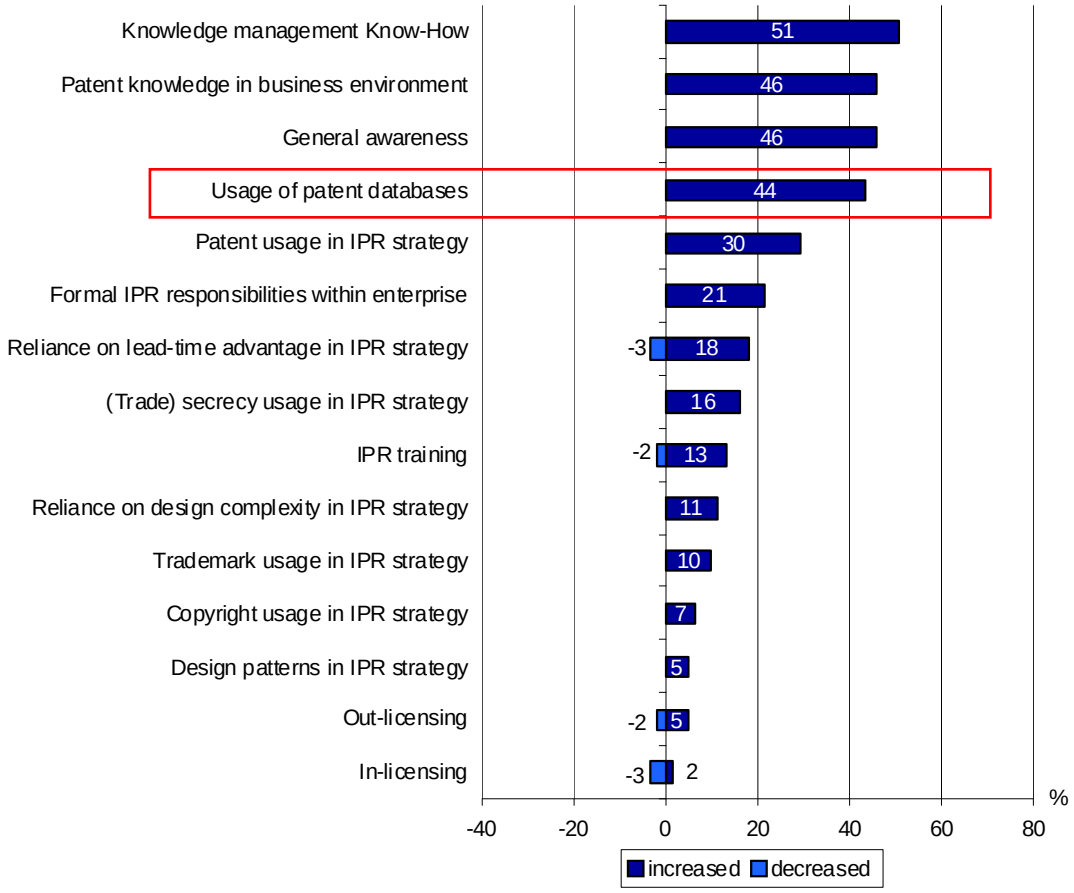
In order to answer the question whether a support service works or does not work, one should also inquire into the added value of the service – i.e., what would have happened in case the service were absent. This is done in order to isolate a "net effect" as opposed to things which would have happened anyway, despite of the service. Similarly, also other type of changes incurred within the enterprise, as a result of using the service, are to be recorded (these changes are referred to as "behavioural additionality").

Recalling the overall aim of the Assisted Patent Search offering, namely to offer a strategic insight on the importance of patent information and to provide training on how to find and use the respective information, it seems that the service is not just able to provoke changes in attitudes towards the usage of patents but also in attitudes towards the overall usage of the IPR system and other means to appropriate IP. The most prominent changes concern general knowledge of management know-how (increased for 51 % of the users), as well as patent knowledge in the business environment and general IPR awareness (increased for 46 %, respectively).

The surveyed users have been also questioned whether there were any changes in their attitude towards the usage of patent databases. The Assisted Patent Search service has produced strong behavioural changes in this regard: 44 % of the service users think that the training has sensibilised the clients for the importance of patent databases and led to higher use of patent data.

Interestingly, the attention level towards informal methods augmented, too, as a result of using the service, albeit to a lesser extent. The reliance on lead time advantage (increased for 18 %; decreased for 3 %) and trade secrecy (increased for 16 %) are the most visible cases in point. Out-licensing and in-licensing have received, by contrast, only low changed attention levels.

Graph 43 Behavioural additionality of the Assisted Patent Search service*)



*) multiple answers allowed

Source: User Survey, n = 61

Nearly all service users underline the importance of the competence of staff (high relevance for 87 %, medium relevance for 7 %) as crucial for a service comparable to the Assisted Patent Search offering (see graph 44). The ease of access and identification, timely delivery, individual contact and low administrative efforts are also considered to be important key factors. According to the service users, matters of costs seem not to be a primary factor contributing to the success of the service. Spatial distance, referral to internal and external service received the lowest relevance numbers. The general view is also reflected in the following statements:

> *"You get the possibility to talk to experts and get advice what to do."* (Assisted Patent Search user, No. 11)

> *"The biggest advantage for us was the whole process: what it means to develop a product, to visit the IPI and get everything explained. The research outcome is very helpful for the further development of an idea."* (Assisted Patent Search user, No. 15)

> *„The information we received had direct impact on our development costs."* (Assisted Patent Search user, No. 19)

> *"The know-how, especially the technical knowledge, increases fast with the usage of such a patent search."* (Assisted.Patent Search user, No. 17)

> *"Besides the technical know-how, social skills are also very important when offering such a service*." (Assisted.Patent Search user, No. 20)

> *"The individual contact can be seen as very important. Very good service. We will use it more often."* (Assisted.Patent Search user, No.2)

> *„Our company philosophy has not changed, but our awareness level towards IPR has greatly increased."* (Assisted.Patent Search user, No. 21)

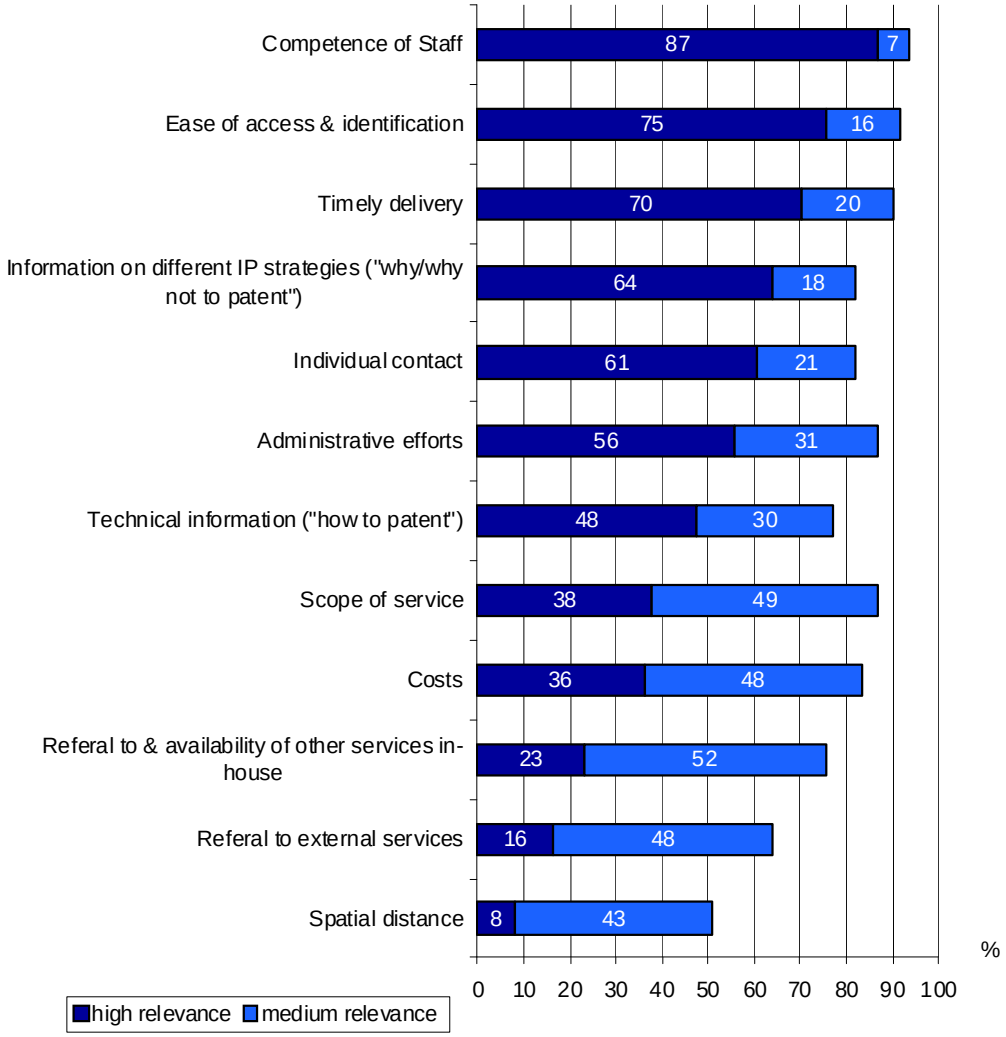
Somewhat surprisingly, the users gauge information on different IP strategies ("why or why not to patent") as an important key quality factor for a patent search training like the offering under scrutiny. As this topic is not (explicitly) addressed by the offered service (with its clear cut focus on patent information), one may assume that some of the service users found themselves in a situation trying to figure out what to do with the results at hand. Some SMEs (mostly coinciding with those dissatisfied with the scope of the service) felt left alone, as evidenced by the below statements:

> *"The IPI could not have done more for me. You are looking for what already exists – but you are not going into details …"* (Assisted.Patent Search user, No. 35)

> *„We will not use this service again in the future. […] … we are looking for a more personal assistance."* (Assisted.Patent Search user, No. 22)

It has to be noted, though, that only selected issues can be discussed with the IPI expert in the course of this service. Weighing up the pros and cons of patenting compared to other protection methods is (i) likely not possible due to time constraints but, more importantly, (ii) not part of the service goals (although the IPI might consider follow-ups which look into that issue).

Graph 44 Key quality factors for a service such as the Assisted Patent Search service, SMEs in % *)



*) multiple answers allowed

Source: User Survey, n = 61

3.3 Elements of good practice

The service exhibits the following strengths (respectively “elements of good practice”):

- *Highly personalised and customer tailored approach.* Each user receives individual treatment concerning his/her patent search. Qualified IPI experts assist and guide the user during the whole process. IPI staff with special industrial background is available to assist with particular questions.
- *The service is operated by well-trained and skilled staff;* the administration is considered to be very unbureaucratic. According to expert interviews, the service is also well-spoken of by stake holders.

- *A good monitoring system.* User feedback is collected and discussed within the IPI to improve the overall service quality. In this light, both the feedback given to the IPI and the information gathered from the surveyed companies in this study show high satisfaction rates.
- *As has been shown by the user survey analysis, the background of the surveyed users is quite diverse:* The service attracts companies of various backgrounds and industries. “Low/medium-tech” (LMT) companies can be found quite often among service users.

The following challenges seemingly remain:

- *According to expert interviews, the visibility of the service with SMEs appears to be rather low.* This can partly be explained by the current marketing strategy with no distinct approaches for each of the IPI services. The main reason, however, can be seen in the institutional set-up of the IPI and the fact, that the IPI is not visible (enough) as vital player in the national innovation system (see section 5.3.1 of the main report). Still, many SMEs found their way to the IPI – this is partly due to the high usage of patent attorneys who act as information carriers for the IPI offering.
- *The regular conduct of evaluations through external parties with the aim to get to know SMEs and their needs and expectations better is advisable.* Evaluations would complement the quality assurance mechanisms already in place in a meaningful manner.
- *The IPI may find itself in a position of conflict of interest by offering at the same time subsidised patent scans (like the one reviewed) and search products from the “commercial services section”* (e.g., by promoting the commercial service in the course of the subsidised one). Care must be taken (respectively, maintained) that these two elements stay strictly apart.

The IPI may build on the success of the current service set-up and consider the following anchor points for developing the offering further (and/or for implementing new complementary offerings):

- Increased cooperation with other innovation-support offering organisations may be aimed for, in order to achieve (i) better visibility of the service and (ii) be able to offer assisted searches at exactly those points in innovation support programmes (offered by the other service providers) where they are needed. Some form of “embedding” patent scans in other non-IPI service portfolios could be thus envisaged.
- The focus on patents is an integral part of the service. However, as can be seen from the user survey, some questions were raised why other protection mechanisms did not receive more room during the patent search training. Again, this specific type of service cannot serve all kind of queries. The IPI may nonetheless consider developing similar offerings for other types of IPR (such as trademarks and designs).
- The IPI may, similarly, consider the introduction of a follow-up session for interested SMEs, where issues on how to further interpret patent information data may be discussed more thoroughly. Such follow-ups could also tackle issues on how to integrate patent information in an IP business strategy. Collaboration with and involvement of patent attorneys for such endeavours may prove beneficial. Again, this is not so much of a “challenge” but rather a means to enhance/complement an already good service.

4 ETH transfer – IP services for ETH Zurich spin-offs

Country:		Switzerland
Original title:		ETH transfer
Target group:		SMEs and start-ups
Coverage:		National
Category:		(Pro-active) awareness raising measure/Public Relations
	X	Information Provision Service
		Training
	X	Customized in-depth consulting and advisory service/point
		Financial Support & Measures within the legal framework

4.1 ETH transfer in a nutshell

Background

ETH transfer is the technology transfer office of the Swiss Federal Institute of Technology Zurich (ETH Zurich). ETH transfer supports all faculty members in i) industrial collaborations, ii) inventions, patents and licenses and iii) with spin-off support. The goals entail an SME supporting aspect: In the former case, if collaboration is to be effected between the university and one (or more) SMEs and in the latter case if commercialisation is being sought through the creation of spin-offs (which are explicitly supported by ETH transfer). There are a number of technology transfer organisations active at Swiss universities, all part of the Swiss Technology Transfer Association (swiTT, www.switt.ch) – ETH transfer was chosen as an example for such an organisation.

ETH transfer is the ETH Zurich´s equivalent to the abundant technology transfer or technology licensing offices (TTOs or TLOs) established at European universities in recent years, following their success in the United States as income generating units in and for Ivy League R&D organisations. In Japan, such organisations form the corner stone of a national IP (SME) strategy (Radauer et al., 2007, section 5.6.2); furthermore, the OECD sees technology transfer organisations (together with IP exploitation services) as one of five generic types of IPR services for SMEs (OECD, 2004). This prominent role given to TTOs in SME support policy (at least in terms of fostering IPR usage, but also with respect to start-up formation) deserves further attention. One should note that the goal of a TTO is to maximise the benefits for a university (and not necessarily for the SME) – correspondingly, SMEs are likely to benefit only to the extent that their business goals are in line with those of the research facility. The question regarding the extent to which such congruent goal systems exist in practice provides an additional incentive to study ETH transfer's IP services for SMEs (although the design of the user survey, as envisaged for the purpose of the benchmarking exercise, does not cater for this issue in greater detail).

In the following, the case study will look at the way SMEs are supported through ETH transfer in IP matters and what impacts are to be expected on SMEs from such service activities. The broader question, whether the TLO in question is run effectively and efficiently for achieving university-related goals (i.e., creating revenue through IP and licensing agreements) will not be gauged as this extends beyond the aim of the underlying study.

Modes of operation

TLOs have been implemented following the rationale that plenty of research and innovation activities are being carried out at universities, yet in the past only few of the inventions made at college/university level have been commercialised (and, further to that, created income for the incumbent research institutions). Part of this observation can be explained by the fact the way researchers handled their inventions vis-à-vis the university they worked. With the introduction of the Baye-Dole act in the U.S. in 1980, this situation changed significantly. This change in law provided the framework for establishing specialised units within the colleges with the task to seek for ways to create economic benefits from the invention.

As concerns ETH transfer, the service had a very similar genesis: Its incarnation process as a department of the ETH Zurich took place in the mid 1990s. At this point of time the role of the office was rather marginal, IPR tasks were handled by the "Präsidium für Forschung" ("Board for Research") which maintained the contacts to industry. In 2001, the law on Federal Institutes of Technology was enacted by the Swiss Federal government. It defined the ways how ETH institutions are to deal with inventions (and corresponding ownership rights) and, most importantly, it placed decision power and responsibilities regarding IPR in the hands of the research institutions. As can be thus seen, technology transfer services such as ETH transfer are in their present form rather young institutions.

As concerns IPR support extended to SMEs, the following service activities of ETH transfer can be distinguished:

- *Out-licensing and IP support to ETH spin-off companies:* ETH spin-offs may draw on basic patent search services and signposting activities to IP professionals. ETH transfer also aids in negotiations and in contracting between the spin-off and the university (i.e., license agreements). Usually the university remains the right holder, and the spin-off licenses the IPR from the university in. A sale of IPR rights is only envisaged in exceptional cases, as this may, according to ETH transfer, weaken the university's position.
- *Out-licensing to SMEs which are not ETH spin-offs:* In commercialising research results, SMEs which are not ETH start-ups and also other larger companies, may benefit from entering into licensing agreements with the university. Such SMEs would license technology from the university in and act in that way as outright "customers" of ETH Zurich. Further support to this type of companies is not extended.
- *R&D collaborations between SMEs and the ETH Zurich:* Other activities include the handling of research consortia involving the university and industry partners, when external (e.g., CTI) funds are to be used for this purpose. The extent to which ETH transfer supports SMEs in this area is limited – it is only checked if a consortium agreement will be signed (also by the SME who entered the agreement), and whether the interests of the university are met.

It has to be noted, though, that IP-related SME supporting activities constitute a part of the set of tasks of ETH transfer, which comprises, amongst others, the drafting of R&D collaboration contracts between the university research departments and industry partners (SMEs and corporate), providing support of inventions, as well as patenting and licensing activities and more general spin-off support.

ETH transfer has about 10 full time employees (head count: 11, as of June 2008) at its disposal, whereby all of them possess a university degree in the natural sciences, in engineering or in law. Some of the staff also enrolled in post-doc educational offerings in IP-related fields. The service is organised in one single unit within the university premises; in providing its services, ETH transfer also cooperates with a number of institutions (as stated, mainly by signposting to them) such as technology parks, IP Scouts, the Innovation Promotion Agency CTI, patent attorneys and patent exploitation companies. Cooperation with these institutions is for the most part rather informal and/or strategic in nature.

Evaluation and performance

ETH transfer has reported the following performance figures (respectively statements on performance):

- 21 spin-offs were created and supported by ETH transfer in 2007 (in 2006: 16 and in general about 10 – 15 spin-offs are founded each year). Since 1996, 148 ETH spin-offs have been founded and have used services of the technology transfer office.
- In terms of composition of the spin-offs, most are active in ICT (software), consulting and services, and in life sciences.
- The majority of ETH spin-offs are supported by ETH transfer in IPR-related services
- Around 120 inventions and software developments were registered in 2007 with ETH transfer. Patent applications were made for 80 of these inventions (ETH Zurich 2007)**.**
- According to ETH transfer, only a small number of the filed patents generate monetary income through licensing agreements. In addition there is revenue stemming from out-licensing software developed at the ETH (software is “as such” by definition not patentable in Europe).
- ETH transfer has a five-year track record with more than 1,200 new research agreements, over 400 new patent applications and 69 new spin-offs (see ETH Zurich 2007, p. 41)
- According to ETH transfer officials, *“most”* of the licenses involve the ETH and large enterprises or ETH spin-offs, only *“a small number”* of technologies are out-licensed to non-ETH SMEs**.**
- It may be noteworthy to know that ETH transfer activities lead also to the registration of *“several”* (quote: ETH transfer officials) trademarks per year.

4.2 The user’s view

In order to get an idea on how ETH transfer’s service is perceived by its spin-offs, a user survey was carried out in the scope of the underlying study, the results of which are presented below.

Characteristics of the user group

Due to a series of prior surveys addressing ETH spin-off companies in early 2008, the study team found it difficult to identify companies willing to participate in this benchmarking study. At the end, 24 companies (out of a total of 176 which were listed on the

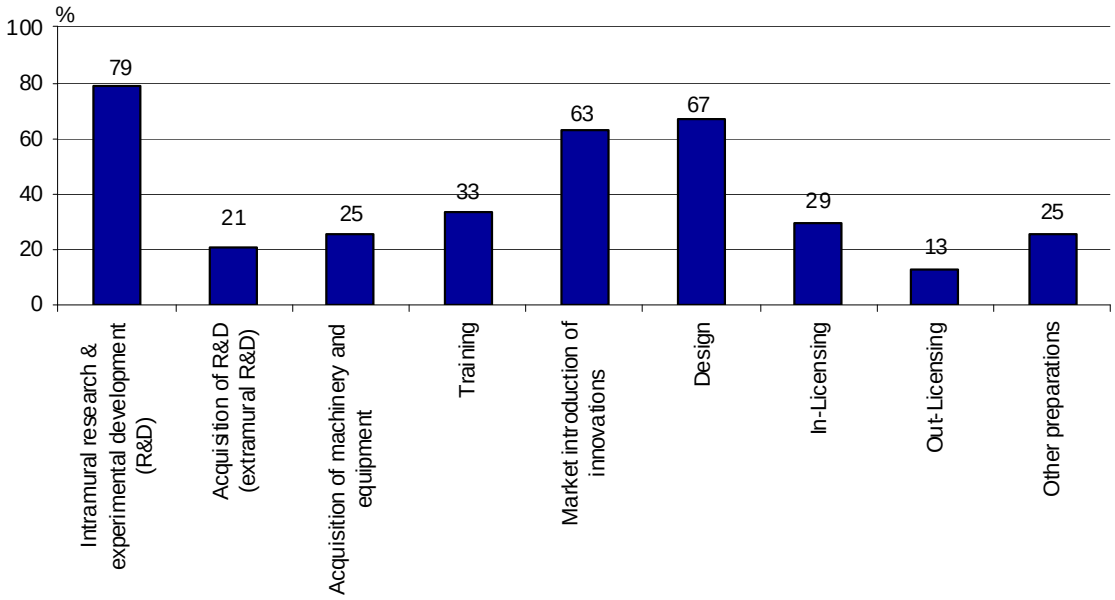
spin-off website of ETH transfer and subsequently contacted) which stated to have received an IPR-related service (counselling/consulting) from ETH transfer have been successfully interviewed. Considering the small sample size, some care has to be taken when interpreting the results.

The sample of interviewed SMEs showed the following (structural) characteristics:

- Unsurprisingly, almost all spin-offs in the user sample are micro-companies: 23 out of 24 have at most nine employees; one company employs 16 persons.
- Although the study team attempted to contact ETH spin-offs of every age, mostly young companies could be reached and were subsequently asked about their experience: Seven of the interviewed firms were founded in 2007, another seven in 2008. Six were set-up between 2001 and 2003, four between 1990 and 1997. The median value for the year of foundation is 2006.
- The majority of the companies operate in high-technology sectors (which is unsurprising given that they are spin-offs of one of the most renowned technical universities in continental Europe): Six out of the 24 companies operate in the field of information and communications technology (ICT), four in the life science industry and three in the production technology sector. The other companies carry out their activities in the field of nano-technology, electronics, optical technologies and materials engineering. Two companies state to have an industrial background, one operates in the automotive sector.

Between 2005 and 2007, around 50 % of the companies introduced new or significantly improved products onto the market; only 13 % (corresponding to three firms) came up with process innovations. Around 80 % of the user companies conducted intramural R&D, 67 % were engaged in design activities and 63 % in the market introduction of innovations (see graph 45). 29 % stated to license technology in.

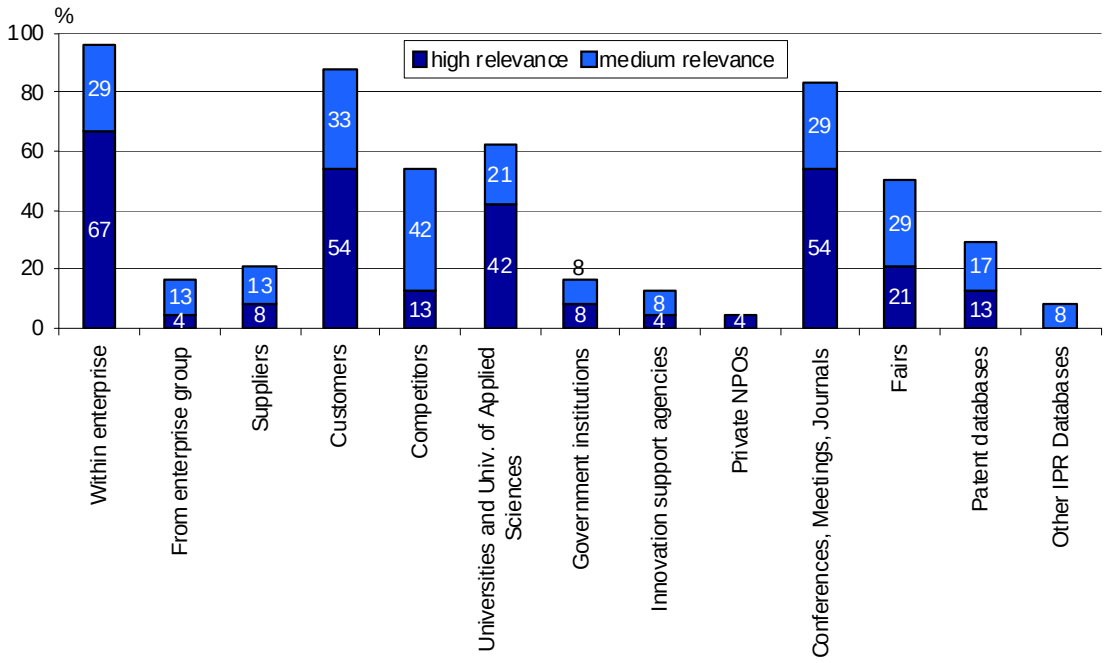
Graph 45 Innovation activities in interview sample, ETH transfer spin-off users, 2005 - 2007 *)



*) multiple answers allowed
Source: User Survey, n = 24

ETH spin-offs consider internal sources within the enterprise, information from customers and professional conferences, meetings and journals as, by comparison to other factors, the most important means for gathering information necessary for new innovation activities (see graph 46). Not surprisingly for university spin-offs, the companies underlined also the role of universities as important sources of information for new innovation projects (for 42 % of high and another 21 % of medium relevance). Interestingly, only a fifth of the firms valued patent databases as information sources of medium or high relevance.

Graph 46 Sources of information for new innovation projects, ETH transfer spin-off users, 2005 - 2007 *)

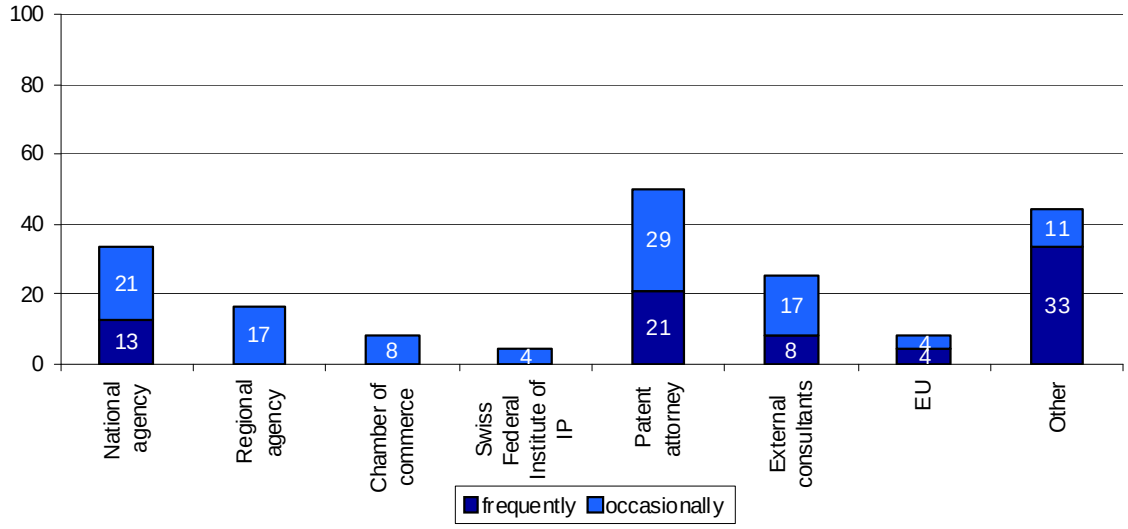


*) multiple answers allowed

Source: User Survey, n = 24

Between 2005 and 2007, the surveyed ETH spin offs utilised most frequently the services offered by service providers which have not been specifically named in the survey. Among them, five companies listed the ETH transfer Office as a service provider, one received assistance from a nearby university of applied sciences, one from a technology park and another one from a partner company. Patent attorneys seem to play also a significant role: 21 % made frequent use of patent attorneys, 21 % did so occasionally. The usage patterns of the national agency (about a third made use of CTI at least occasionally) is likely to be related to ties to the agency resulting from R&D grant support during the time the entrepreneurs were still employed by the university. Interestingly, only one company used the services of the the Swiss Federal Institute of Intellectual Property (IPI) occasionally.

Graph 47 Usage of different service providers, ETH transfer spin-off users in % *)

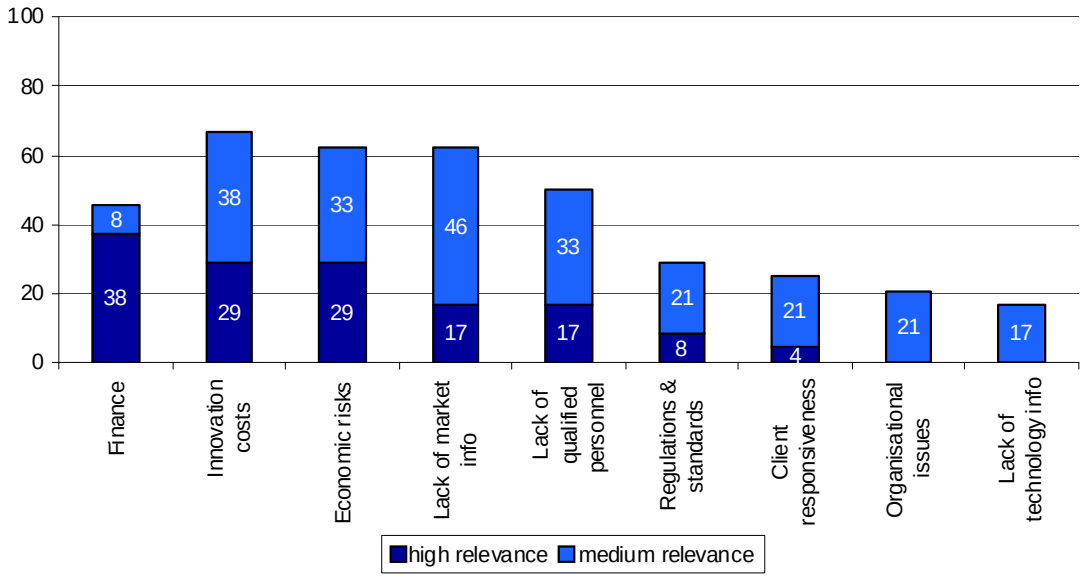


*) multiple answers allowed

Source: User Survey, n = 24

As regards factors hampering innovation activities, the sampled ETH spin-offs considered the lack of financial resources (for 38 % of high and for 8 % of medium relevance), high costs of innovations (for 29 % of high and further 38 % of medium relevance) and economic risks (29 % of high and 33 % of medium relevance) as important hindering factors (see graph 48). The lack of information on technologies and organisational issues are considered to be less important. These results are in line with the survey findings obtained for other offerings in Switzerland or in the EU.

Graph 48 Hampering factors for innovations, ETH transfer spin-off users, 2005 to 2007, in % *)

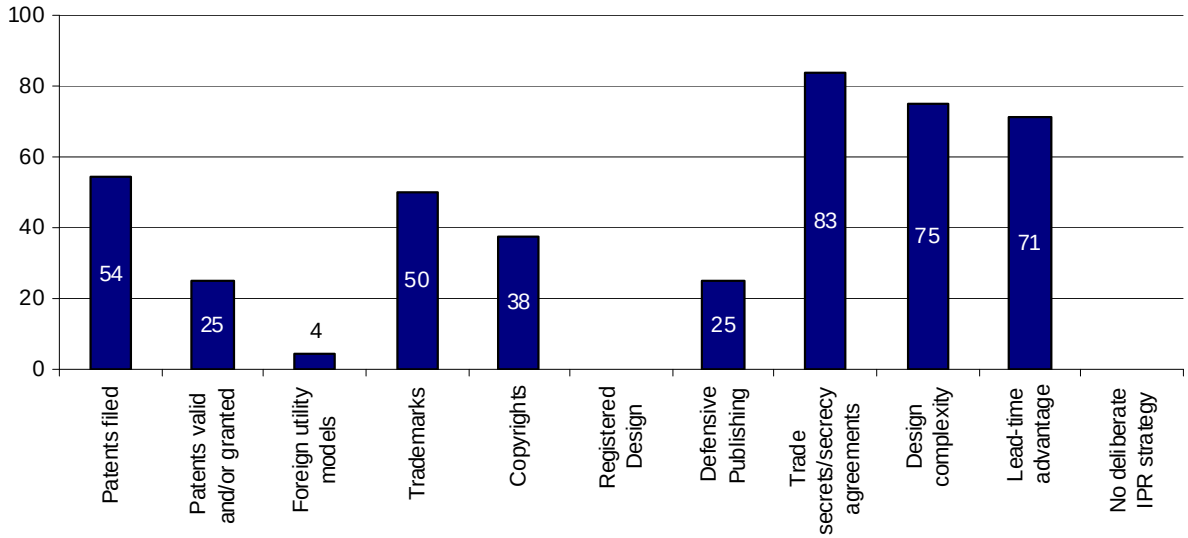


*) multiple answers allowed

Source: User Survey, n = 24

The surveyed spin-offs employed a range of formal IPR protection methods during 2005 and 2007 (see graph 49). 54 % stated that they filed for a patent; 25 % had a patent in that time period granted or valid. 50 % used trademarks to protect their IP – the fact that the sampled spin-offs use trademarks to a lesser extent than patents is notable (with other services, such as IPR Roadmap (see case study No. 1), for example, trademarks are the primary IPR instruments of choice). Consistent with other case study results though is the finding that informal IP protection mechanisms are used more often than formal ones, and that informal tools are used often concurrently with formal appropriation instruments. 83 % used trade secrets and/or secrecy agreements, 75 % relied on the complexity of design and 71 % tried to maintain a lead time advantage over competitors.

Graph 49 IP protection methods employed by ETH transfer spin-off users, 2005 to 2007 *)

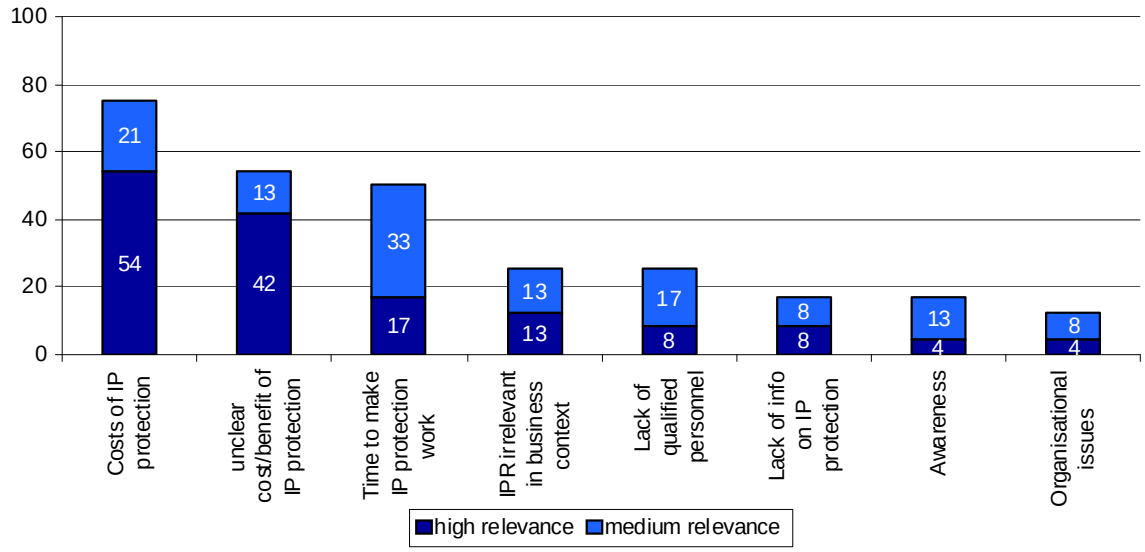


*) multiple answers allowed

Source: User Survey, n = 24

Financial issues (for 54 % of high and for another 21 % of medium relevance) and – most interestingly – unclear cost/benefits of IP protection (for 42 % of high and 13 % of medium relevance) are seen as the most important internal barriers which stand against a higher usage or IPR (see graph 50). The latter share indicates that considerable know-how deficits may exist with regard to IP management issues (in the sense as to why to chose a certain IP protection instrument in a particular situation). In line with other case study findings, general awareness is considered a less important barrier.

Graph 50 (Internal) barriers to using IP protection mechanisms, ETH transfer spin-off users in % *)

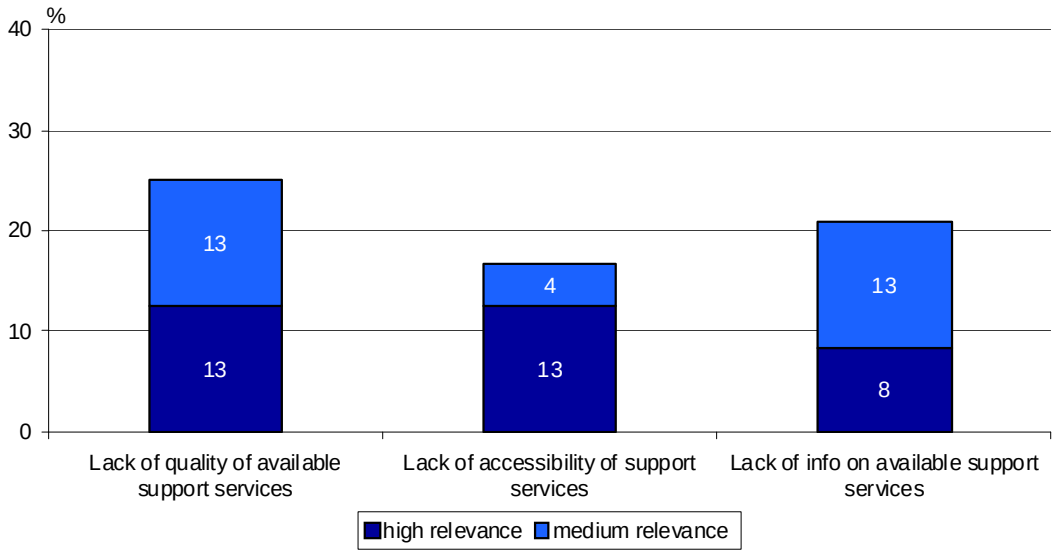


*) multiple answers allowed

Source: User Survey, n = 24

The lack of quality of available external support services (for 13 % (corresponding to 3 firms) of high and 13 % of medium relevance), the lack of accessibility (for 13 % of high and 4 % (one firm) of medium relevance), and the lack of information (high relevance for 8 % (two firms), medium for 13 %) may be – as external service-focussed aspects – considered as rather low priority topics for making use of IPR (see graph 51).

Graph 51 (External) barriers to using IP protection mechanisms, ETH transfer spin-off users in % *)



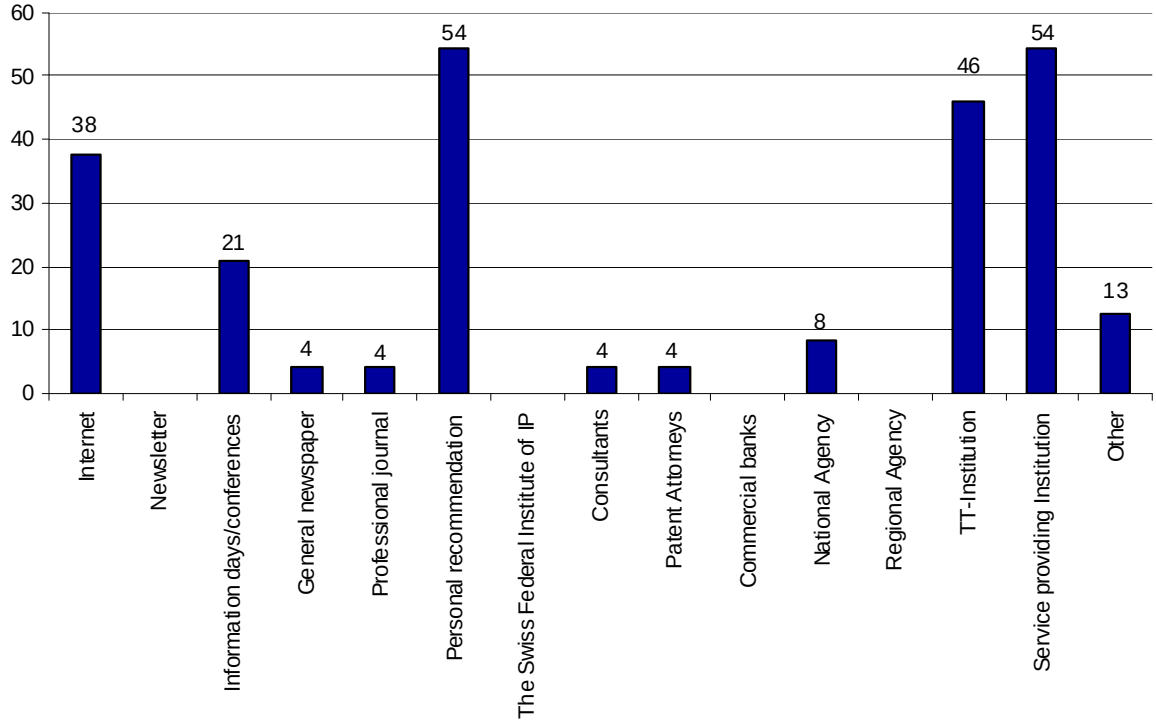
*) multiple answers allowed

Source: User Survey, n = 24

User outreach and satisfaction levels

As spin-offs from the ETH Zurich, it seems quite obvious that a high share of the companies heard about the service portfolio through ETH transfer itself (54 %), most likely through leaflets, brochures, information days, or simply by visiting the office on the campus (see graph 52) – or possibly by personnel recommendation from other university staff. In addition, the surveyed companies rated also technology transfer (TT) institutions (46 %) as important information channels. 38 % of the companies got to know about the services through information on the internet.

Graph 52 Information channels, by which ETH transfer spin-off users got to know about the service *)



*) multiple answers allowed

Source: User Survey, n = 24

The sampled spin-offs were, on average, satisfied with the service offered by ETH transfer (see graph 53). The competence of staff is graded on average with “1.5”, the quality and relevance of the provided information with “1.9” and “1.7” (on a scale from 1 (very satisfied) to 4 (unsatisfied)). The general user satisfaction is reflected in a number of statements:

> *„ETH transfer provides help and advice on a very early stage.”* (ETH transfer user, No. 7)

> *„Straightforward, fast, friendly; no initial investments, as the ETH bears the expenses”* (ETH transfer user, No. 11)

> *“Structured counselling. You get the impression that you are on the right way and nothing gets forgotten.”* (ETH transfer user, No. 17)

Among the different aspects, the delivery time was rated more heterogeneously by the users, with a relatively high share of rather unsatisfied start-ups (average grade: 2.3). Some of these users see the delivery time as the biggest downside of using the service (which would be also in line with statements from ETH transfer staff which state to bear a rather large work load)

With an overall grade of “1.8”, it seems, however, that the service has met the needs and demands for the larger part of the user companies. Furthermore, the service offerings are considered to be adequate in scope for around 78 % of the surveyed users. Those users who expressed wishes with regard to the scope of the service would like to anticipate service enhancement with regard to support in marketing and distribution as well as farther reaching support in IPR matters.

The fact that the ETH transfer has at its goal to maximise the benefits for the university is likely responsible for some few user statements which show dissatisfaction with the fact that their interests are not the sole subject of the activities of the technology transfer organisation:

> *“...one is always in some way associated with ETH and you never feel really free...it feels that in fact the ETH has itself nested into the company and you cannot get rid of them”* (ETH transfer user, No. 11)

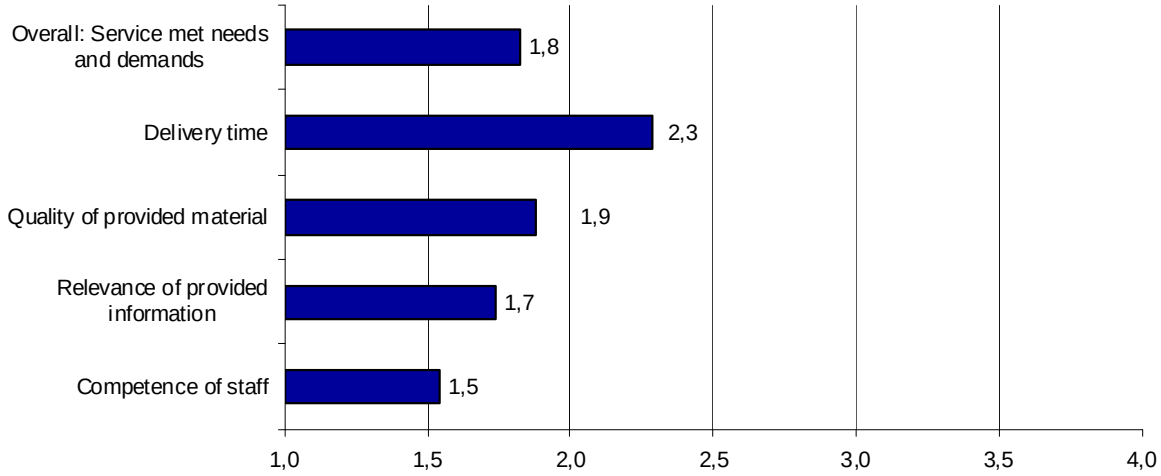
> *“we could not avoid them* [ETH transfer], *so we reached a “fair” contract””* (ETH transfer user, No. 5)

Despite of the results above and some anecdotal evidence there is little further data available in the user survey that would address the potential issue of goal conflicts (supporting SMEs on one side, and universities also on the other side) in a more thorough and differentiated manner (i.e. looking at the question whether spin-off activities are actually spurred through an institution like ETH transfer, or, through too binding contracts, hindered to some extent). More detailed research seems necessary in this context (though the lack of a higher share of complaints can be also interpreted as indication that this goal conflict may be only an issue for a minority of the supported start-ups).

Spatial distance seems not to be a problem. 29 % claim that administrative burdens are acceptable when using the service – 63 % think they are actually quite low. Overall, 61 % state that the benefits of using the service are adequate to efforts; 26 % think that the benefits clearly outweigh the efforts.

Around 73 % of the service users were referred to or informed about other services within ETH transfer; 59 % were referred to external service providers. 90 % would recommend the service to other enterprises.

Graph 53 Satisfaction levels with different aspects of service provision, arithmetic means, ETH transfer spin-off users



Source: User Survey, n = 24

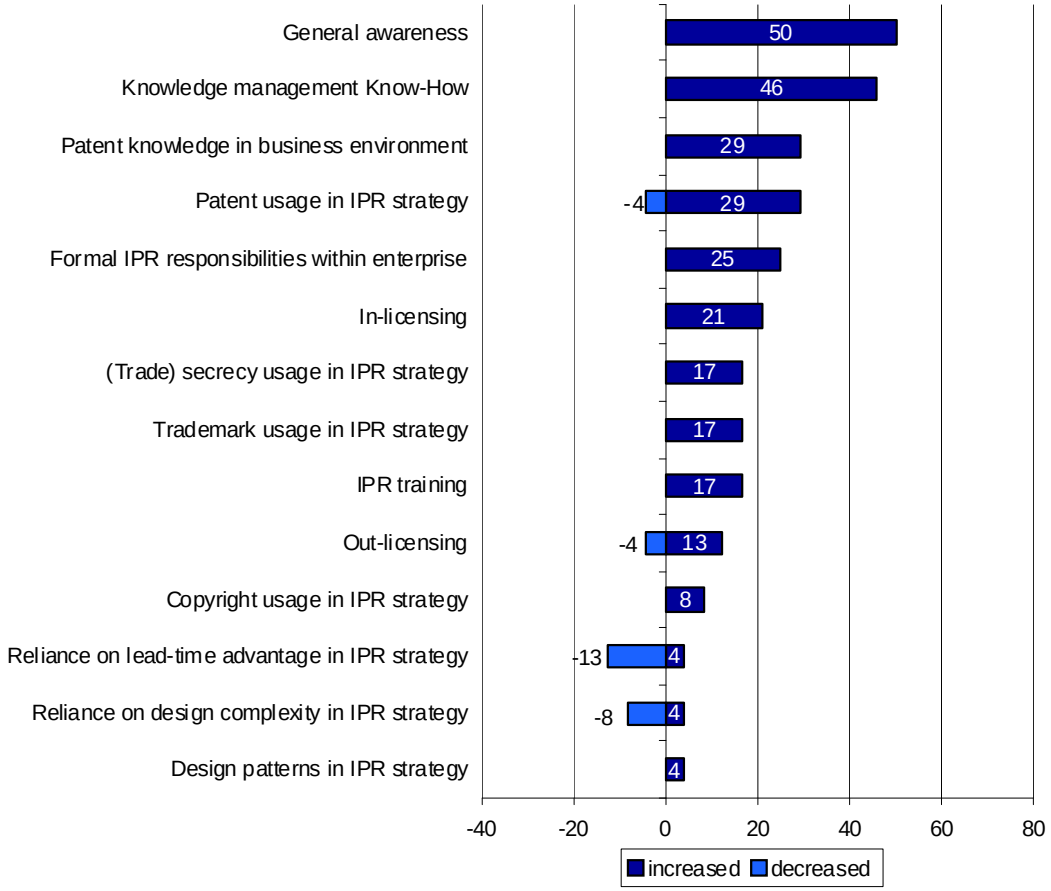
Additionality of the service

In order to answer the question whether a support service works or does not work, one should also inquire into the added value of the service – i.e., what would have happened in case the service were absent. This is done in order to isolate a "net effect" as opposed to things which would have happened anyway, despite of the service. Similarly, also other type of changes incurred within the enterprise, as a result of using the service, are to be recorded (these changes are referred to as "behavioural additionality").

The most prominent changes in attitudes towards IPR protection among the service users registered concern general IPR awareness, which increased for 50 %, and knowledge management know how (which increased for 46 % of the users). The awareness towards patent knowledge in the business environment as well as patent usage did also increase (for 29 %, respectively). As regards patent usage one company actually stated to pay less attention to patenting. A peculiarity is seen in terms of the rather large increase of in-licensing activities (+21 %), which is uncommon among the other surveyed IPR services. This increase is due to the very nature of the ETH transfer IPR services (and thus expectable): Because many start-ups are actually using R&D results developed (and subsequently owned) by the ETH, establishing the spin-off and making use of that knowledge requires mostly licensing that know-how in (as the university wants to create profit from its know-how). Such a process is at the very heart of the goals and activities of a university technology transfer organisation.

The attitudes towards rather informal protection methods have changed, too, but to a much lesser extent than seen with other services. Some informal methods show notable decreasing attention levels if compared to other services, as for example the reliance on lead-time advantage (increased for 4 % but decreased for 13 %) and the reliance on design complexity (increased for 4 %, decreased for 8 %). The picture obtained is thus to an extent different than that of other services as it shows a picture one would expect from a classical "pro-patent" service that would push the usage of IPR (and especially patents) at the expense of informal protection methods.

Graph 54 Behavioural additionality of the ETH transfer service, spin-offs in % *)

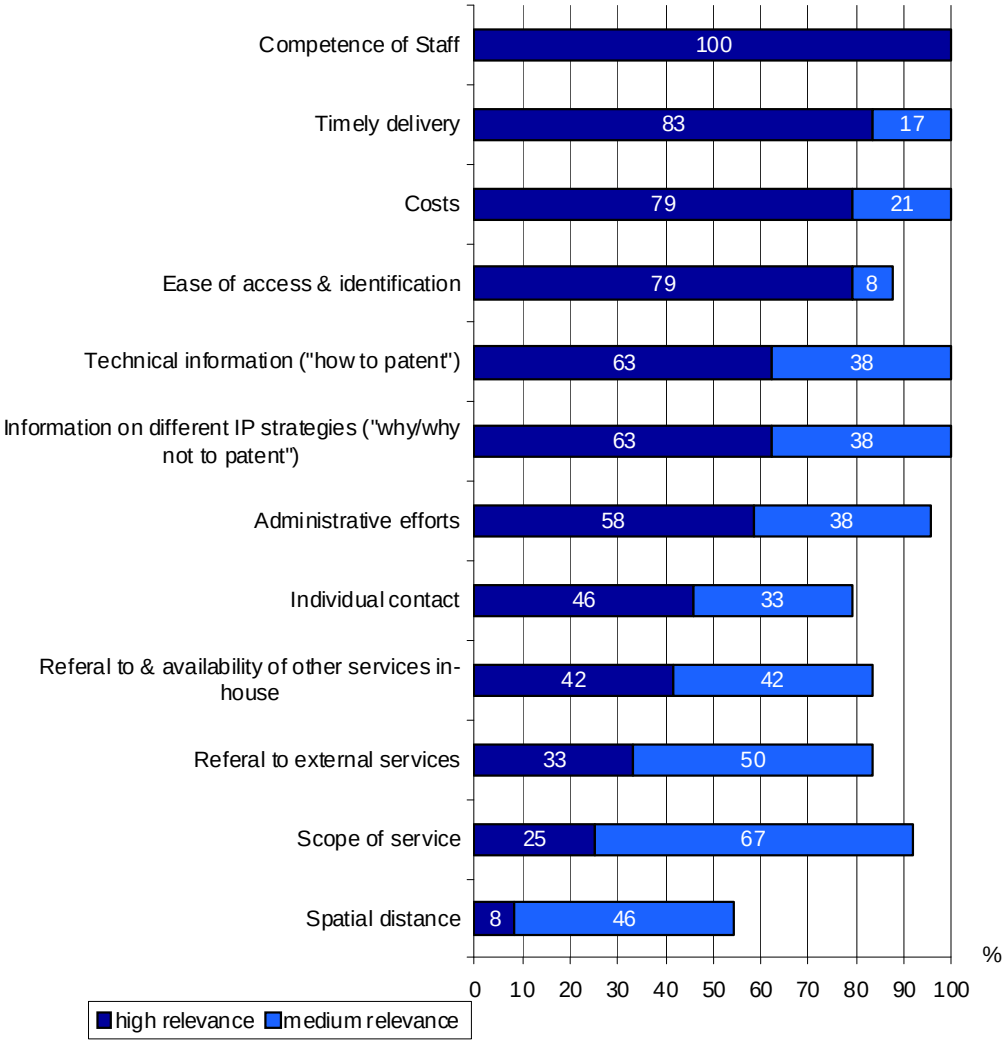


*) multiple answers allowed

Source: User Survey, n = 24

As concerns key quality factors for IP services rendered by technology transfer institutions such as ETH transfer, all surveyed users agreed that the competence of the staff involved is very important (see graph 55).

Graph 55 Key quality factors for a service such as ETH transfer, views expressed by ETH transfer spin-off users, ETH transfer spin-off users in %



*) multiple answers allowed

Source: User Survey, n = 24

In addition, timely delivery, costs and the ease of access and identification were also felt to be key factors. Interestingly, referral activities are considered to be of, by comparison, lower relevance (though this result is in line with those found for other services).

4.3 Elements of good practice

The service shows the following elements of good practice:

- *Qualified staff with relevant background in the natural sciences and engineering and IP know-how:* In line with the stated relevance of competent staff, the fact that the staffs employed have sensible educational backgrounds can be considered an element of good practice.

- *High flexibility:* The fact that ETH transfer can combine a set of measures (IP consulting, support to spin-offs, etc.), and may account for individual business contexts in the formulation of contracts, allows for some flexibility in the way start-ups are supported.

The service is likely to be faced with the following challenges:

- *Timely delivery may be an area for improvement:* As voiced by several users, the aspect of timely service delivery may need more attention; this aspect should be certainly addressed in possible future evaluation studies.

- *Execution of evaluations:* An evaluation is outstanding, which probably needs to look, among others, at potential institutional set-ups/policy constraints given.

5 Lecture activities on IPR by IPI personnel for SMEs

Country:		Switzerland
Original title:		*Title varying according to the types of seminars held and the organisations hosting the seminars*
Target group:		SMEs, enterprise starters and individual inventors
Coverage:		National
Category:		(Pro-active) awareness raising measure/Public Relations
		Information Provision Service
	X	Training
		Customized in-depth consulting and advisory service/point
		Financial Support & Measures within the legal framework

5.1 Lectures held by IPI personnel on IPR issues for SMEs

Background

Besides offering search services in IPR databases and executing the sovereign tasks of a public authority (i.e., operating the tasks of a traditional patent office), the IPI offers also a set of educational measures to various target groups, such as SMEs and universities. In terms of educational offerings extended to SMEs, IPI's participation in various modules of the venturelab programme is foremost notable (see respective case study No. 2). However, there are also a number of other seminar programmes where IPI personnel hold lectures on IPR issues; these seminars are for the most part organised by business support organisations other than the IPI and are usually smaller in scope than venturelab. Lecturing activities of the IPI of such type are, taken together, the subject of the underlying case study.

Lecturing activities of the IPI for SMEs take one of three generic forms:

- Lectures and lecture series which are held for a group of firm representatives and organised (respectively offered) by the IPI itself
- Lectures held by IPI staff in the course of seminar programmes designed and run by other business support organisations (such as institutions offering vocational training, technology parks, business associations or trade unions)
- Lectures held and organised for individual single firms (company-tailored trainings, offered within the "commercial services" section of the IPI and priced at market value)

First attempts by the IPI to boost educational activities for SMEs – along with other teaching activities for universities, high schools or in the framework of development aid – date back to the late 1990s. According to the IPI, however, the efforts to organise seminar series specifically for SMEs by and through the IPI proved to be eventually rather unsuccessful. Only few SMEs participated, despite considerable marketing activities and a substantial usage of direct postal mailings. In 2004, IPI´s own SME-specific courses were thus reduced to only few in numbers (announced at the training section of the website of the IPI) [34], and the possibility to utilise company

[34] See Website of the IPI, http://www.ipi.ch/training

specific seminars.[35] The study team found, however, that in the majority of the company-specific seminars customers are rather large non-SME companies or organisations.

In the meantime, IPI's strategy to reach SMEs then turned to modules and courses at non-legal faculties of universities and universities of advanced studies as well as to institutionalised suppliers of courses for continued (vocational) education (ZfU, Management Circle), where it is expected that current and future employees of SMEs are trained. This strategy turned out to be more successful, and trainers of the IPI are teaching at several of these institutions.

In 2007 a new effort (the seminar “A practical guide to IPR”) was launched by the IPI itself with the possibility to reach SMEs directly. However, seminar participation was not limited to SMEs alone.

Modes of operation

The seminar offerings scrutinised in this case study are very heterogeneous with respect to the type and extents certain IPR topics are treated. Consequently, there is no such thing as “the” IPR lecture offered by the IPI to either SMEs directly or in cooperation with external seminar organisers. Table 12 lists the titles of those seminars which were considered for the case study, together with the seminar organising institution and the number of interviews conducted.[36] Only seminars were considered, where the topic of IPR was treated to a minimum extent (half a day) and where there was a track record of participating SMEs.

Table 12 Seminar programmes with IPR treatment under scrutiny

Original title of seminar/Training	Seminar organiser/provider	Number of user interviews	Number of provider interviews
Patent Law and IP Management	ZfU (Zentrum für Unternehmensführung) International Business School	2	1
IPR and design	Comedia	2	1
Introduction to IPR	Innopark Winterthur	2	-
Patents and ideas in the internet	Patent attorney firm “Dr. Graf & Partner”	-	1
A practical guide to IPR	Swiss Federal Institute of Intellectual Property (IPI)	2	2
Individual seminar on IPR for a company	Swiss Federal Institute of Intellectual Property (IPI)	1	-
TOTAL		**9**	**5**

Source: IPI 2008 & Austrian Institute for SME Research

[35] http://www.ipi.ch/d/schulung/documents/s0102d.pdf

[36] There are a number of additional seminar series organised with an alleged SME audience and with participation of the IPI. However, solid information on the content and the actual composition of the target group was either not available or, alternatively, classified.

In the following, the seminar programmes listed in table 12 are described further:

- *"Patent Law and IP management"* is one of the seminars which offer a very thorough treatment of the subject of IPR. The seminar is organised by the ZfU (Zentrum für Unternehmensführung) International Business School in Thalwil, a public limited company which specialised on high level advanced vocational training for managers and executives. Within the scope of two days, a variety of lectures and presentations are offered covering aspects such as the specifics of the patenting process, the usage of patent information, utilisation of other IPR instruments such as trademarks, designs and copyrights, but also IP management issues, IPR enforcement or licensing/IP exploitation. A third day is separately bookable and concentrates on deepening the understanding of the taught information; it has a special focus on the way IPR should be dealt with in contracts. The target group are business owners, executive personnel and management staff from R&D and IP responsible departments. Notable is the fact that the IPI forms only part of the team of lecturers for this seminar. The ZfU draws also on patent attorneys, IP practitioners from IP departments of larger firms or IP consultants. The seminar costs CHF 2,780.- (€ 1,730.-) for the first two days and an optional CHF 1,390.- (€ 860.-) for the third day. Fee reductions are available for members of the ZfU, in case of a combined booking (i.e., if all three days are booked from the beginning) and in case several employees from the same company are attending.

- *"IPR and design"* is a seminar offered by comedia, a trade union for the media industry in Switzerland. The trade union services, in addition to its key clientele of persons in dependent employment contracts, also individual self-employed designers. These designers usually engage in contracting work for other companies and form the main target group of the *"IPR and design"* seminar. The rationale behind offering such a training course is, according to comedia, the largely visible lack of awareness on the side of the designers with respect to ways of securing the value of their intellectual work – this refers not necessarily only to the ways of dealing with the formal IPR instrument of the registered design, but (probably even more important) also to the handling of property rights and royalty agreements in contracts. "IPR and designs" lasts for half a day (one afternoon), with the IPI making a presentation on the basics of IPR instruments suitable for designers. Participation is free of charge.

- *"Patents and ideas in the internet"* is a seminar series with participation of the IPI which specifically targets SMEs. For the first time enacted in the year 2000 by the industry- and technology centre of Schaffhausen (together with the patent attorney firm "Dr. Graf & Partner"), the half-day seminar has two components: In the first part, essentials on patenting are presented – this is the part where the IPI holds a presentation on the basics of patents and patent databases. In the second part it is shown how to use IPR information resources which are available over the internet in order to harvest information for planned R&D and technology surveillance activities. Most notably, the usage possibilities of patent databases are demonstrated. The second part is conceived as a session with a clear practical focus, and participants are encouraged to try out searches themselves (under supervision of the seminar holders) with computers that are being made available and with already prepared case studies. The seminar is priced at CHF 290.- per person; it is now run and organised by the patent attorney firm "Dr. Graf & Partner" directly, with the last two seminars taking place in the premises of the TECHNOPARK Winterthur.

- *"A practical guide to IPR"* (Original title: "Immaterialgüterrechte: eine praxisorientierte Ausbildung") is a workshop which has been offered by the IPI for the first time in 2007. The 3.5 day workshop targets especially staff responsible for IP issues in industry, as well as paralegals and personnel working in patent and trademark attorney firms. Its aim is to provide practical knowledge on the subjects of filing, registering and transferring different forms of IP rights. The workshop is subdivided into four modules, an introductory/overview module and three modules, each dedicated to a specific IPR instrument (patents, trademarks and designs). The modular approach makes it possible for participants to attend selected parts of the workshop only. The workshop costs CHF 2,000.-(complete package), whereby individual modules are priced at CHF 350.- (introductory/ overview module) and CHF 650.- (for the individual modules on the IPR instruments). At the end of the workshop, participants should know the basics of the most important IPR instruments, be conscious about the most important milestones in the IPR registration processes, know some particulars on how to protect IP outside Switzerland and know also the measures needed to maintain and enforce IP rights.

- *"Introduction to IPR"* is an offering extended by the InnoPark Winterthur which addresses unemployed persons in former or expected future management positions. The measure has three distinctive goals: Improve employability by having unemployed managers participate in project work, extend qualification on a variety of topics and allow for practical work which can be used as a reference when applying for a job. One of the topics addressed (the subjects covered comprise, among others, project management skills or the drafting of business plans) concerns innovation management and the evaluation of inventions and innovations. For this purpose, the IPI is asked to hold presentations on IPR issues. Though not technically targeting SMEs, the seminar was considered for this case study as the measure addresses persons that either have an SME background from their previous occupation and/or are expected to work in a managerial position with an SME. Participation is contingent on free places as well as an admission process and is free of charge.

- Finally, *individual company seminars* are also offered by the IPI. In this case, an interested company can select from a variety of topics, such as IP management, contract law or trademark strategies. If a company is interested in a topic which extends beyond the available know-how at the IPI, external experts are invited to host the seminar and/or present specific lectures. For this service, the company is charged depending on the type and level of the course. It has to be pointed out that no individual company consulting, e.g. an in-depth analysis of a company's IP-portfolio or something similar is provided during a course, seminar or workshop offered by or in cooperation with the IPI.

External collaboration partners who organise seminars and ask for input from the IPI are usually only charged cost-covering fees. Also notable is the fact that the IPI lectures focus entirely on raising IPR awareness (i.e., the lectures do and should not extend into company-specific consultancy activities).

Evaluation and performance

Due to the heterogeneity of the seminars and workshops organised, no "aggregate" view on the performance can be given. Furthermore, the before-mentioned issue of data availability has to be again underlined. As concerns the governance of the ser-

vices, the interview results nonetheless suggest that all service providers usesome kind of quality management; at the very least user feedback forms are utilised.

With regard to usage statistics, (only) the following unclassified figures were provided:

- *"Patent law and IP management"* has been hosted three times by the ZfU. According to the ZfU, the three events attracted a total of 35 participants. The share of SMEs was not specified, but was noted to be rather low (the majority of attendants were representatives from larger companies; some of them were also well-known multinationals).
- The seminar *"IPR and design"* was started and organised two times in 2007. One such workshop was held with 8 participating designers in the German-speaking region of Switzerland, one other with 13 attending designers in the Italian-speaking Ticcino region.
- *"Patents and ideas in the internet"* has been organised 13 times since its inception. In each session there were 15 to 20 attending SMEs, mostly from the Schaffhausen/Zurich region.
- *"A practical guide to IPR"* has been for the first time and up till now only once offered in 2007 by the IPI. The IPI counted around 100 participants, of which 10 were actually SMEs.

5.2 User and expert views concerning the various seminar offerings

The case study describing the lecturing activities of the IPI is the first of two case studies (the other one being the case study on the IPI extended switchboard, see case study No. 6), where the structure of the write-up and the methodology applied deviates considerably from that of the other service cases presented. The reason for the change lies foremost in issues surrounding data availability: First, as the seminars are organised by various external partners, the IPI had no direct access to participation lists. Consequently, the study team and the IPI had to rely on the willingness of the lecture organisers to forward address material. Second, it turned out that many seminars – where one could have expected a significant share of SME users – were for the most part attended by representatives of large companies. Thirdly, the heterogeneity of the seminar structures and the attending audience has to be noted. The educational offerings under scrutiny have the topic of IPR covered in a scope ranging from several day courses to short 10 minute presentations (the latter in the frame of trainings which are otherwise unrelated to the topic of intellectual property). As a result, a situation ensued where (i) only little information could be gathered about individual seminar programmes (in terms of user views) and (ii) data obtained was referring to such different offerings that aggregating the answers to yield a "full" picture was not possible in a meaningful way.

Consequently, it was decided to take a more descriptive approach. The most significant seminar activities in terms of SME relevance and attendance are presented and some impressions with regard to the way they are operated have been collected; these observations are based on a small number of obtainable user views, and complemented with additional open interviews with a number of seminar organising institutions. The empirical limitations of this approach have to be clearly kept in mind when interpreting the results, especially with respect to the individual seminar level.

In total, 32[37] contact addresses of SMEs were provided for all seminars to the study team. Though all SMEs were contacted, only nine – distributed among all seminars under scrutiny – were willing to share their views on the offerings. In addition, five interviews with service providers were carried out. In the following, the impressions gathered from the interviews are summarised.

Characteristics of the interviewed SME users

The interviewed SMEs showed the following structural characteristics:

- Four out of the nine companies employ not more than nine persons, three have 10 to 49 employees and one has 60 employees. A single company employs slightly more than 250 people.
- Four companies were founded between 2001 and 2005, two in the 1990s and another two in the 1980s. One business started in 1970.
- The surveyed companies operate in different industries and sectors, as for example in information and communication technologies, energy technology, interior design, graphics and the overall service sector.

Satisfaction levels of users and seminar organisers

The overall impression gathered from the interviews conducted with the SMEs and the service organisers was that almost all seminars and workshops were received positively by the attending audience and fulfilled, with minor exceptions, to a large extent the expectations. This is reflected in user statements:

> *"I am very satisfied. I benefited a lot from the seminar: good overview, highly practicable, near by location, affordable costs. The documentation was appropriate and the lecturer was good at explaining the subject matter."* ("Introduction to IPR", user No. 1)
>
> *"I found a personal contact for the future, which I believe is very important. I know now who to contact if I need advice!"* ("A practical guide to IPR", user No. 2)
>
> *„The competence of the lecturer was good. Not every detail has been discussed; but I guess this is OK and understandable.* ("Patent law and IP management", user No. 2)
>
> *„Although it was a repetition of what I have already known, it helped me reduce my inhibitions towards the registration of patents*." ("IPR and design", user No. 1)

As in the case of venturelab offerings, the "general overview" function was in a positive manner underlined for all the seminars under scrutiny. The extent of each service is considered to be adequate; the administrative effort to use the service is seen as quite low or at least acceptable. The surveyed users declared for the most part that the benefits of using the respective service outweighed the efforts or were at least adequate to the efforts.

[37] Concerning this small number see the remarks in table 2.

Issues raised were mostly specific to the individual seminar or workshop (again, it should be underlined that these issues are individually expressed opinions and by no means statistically representative):

- As regards the "IPR and design" workshop the study team got the feedback that while the overall outline of the IPR issues in relation to designs was well presented, there was some dissatisfaction with a supposedly too low and not enough "down to earth" treatment of specific real life designer problems with IP; in particular, it was suggested to emphasise the topic of pitfalls in contract drafting more (i.e., consequences arising once IPR issues are not sufficiently/adequately touched in the contract and, hereafter, how to omit such problems). Interesting was also a statement that the IPI and its services are *"…in general barely known in the Ticcino region".*

- With respect to the IPI offering "A practical guide to IPR", the user opinions on a supposedly too heterogeneous composition of the audience group and suggestions for deepening the acquired knowledge are noticeable:

  > *"The majority of the participants were patent attorneys and lawyers who normally work with these issues. From the beginning, we haven't all been on the same level; everyone has had his/her own approach*." (A practical guide to IPR", user No. 2)
  >
  > *„A broader approach towards the transfer of IPR knowledge would have been better. One day is certainly not enough to transfer all available information* [of the day-specific topic]. *Interesting would be probably to have consecutive modules/seminars."* (A practical guide to IPR", user No. 1*)*

- Within the scope of the seminar "Patents and ideas in the internet" the well working collaboration with the IPI was specifically underlined by the service organiser. Interesting to note was the observation of the organiser on the evolution of the offering: At the beginning in the early 2000s, participants were for the most part larger enterprises; later on, the seminar was attended predominantly by smaller SMEs. The most recent seminars showed higher attendance rates from universities of applied sciences. Overall, there was also a continuous increase of existing prior know-how observable (questions asked now are said to be much more specific and advanced than they used to be eight years ago). However, it was also noted that the interest in the seminar topic seems to have been diminishing for some time now. The service organiser contemplates consequently to not offer this seminar further in the future and focus instead on new topics, such as "patents in China".

Effects on the attending SMEs

By attending the respective workshops offered by the IPI and its partnering institutions, considerable changes in the attitudes toward the usage of IP protection instruments were reported by the enterprises interviewed. The most prominent changes concern general IPR awareness and knowledge management know-how which increased for seven out of nine users, respectively. Attention to the degree of formal responsibility for IPR in the service user's company has increased for six out of nine users.

When setting up a comparable workshop to the ones used, the surveyed users stress especially the importance of the competence of staff (for eight out of nine users of high relevance) and the ease of access and identification (high relevance for six, medium for three users). Costs are also seen as important key factor (for six users of high and for two of medium relevance). Though the sample is very small, these results very much match those received for other scrutinised services.

5.3 Concluding remarks

Due to the very heterogeneous types of seminar offerings analysed and the low empirical base for each seminar, no “elements of good practice/strengths” or “challenges” can be presented at this point. The general impression the study team got was nonetheless that the seminars showed relatively high user satisfaction rates; some users seemed to have (for the most part only minor) issues that were specific to the particular way a workshop was offered and designed. The complaint on a too heterogeneous audience group in the IPI offering “A practical guide to IPR” is particularly interesting for the study team, as it is in line with (i) statements from other Swiss experts and (ii) a respective main finding of the Commission study, namely that user segmentation and clear target group orientation are important success factors for IPR seminars and trainings. Particularly noteworthy is also the observation that seminar offerings for SMEs organised by and/or with other business supporting institutions show on average rather satisfactory attendance rates, while the efforts of the IPI to conduct SME seminars on its own proved to be less successful in the past. This fact further nourishes the argument presented in the main text section of the study (see sections 5.3.1 and 6), namely that fostering cooperation activities with other actors of the business support and innovation system is a good means to reach SMEs.

Against this backdrop, the IPI should continue to collaborate with the various seminar providers and even improve on the existing cooperation structures. Furthermore, the results of the expert interviews suggest that there might be a considerable need for IPR trainings for SMEs which the IPI could address also itself. Past disappointment with the results of such activities should not discourage the IPI, but certain pitfalls need to be avoided: First, in marketing such IPI seminar offerings the IPI should ideally be able to draw on, as stated, further enhanced cooperation structures with the diverse actors of the innovation support system. Many of these organisations are much closer to SMEs than the IPI is at the moment. Second, the offerings have to be clear cut for the needs of specific groups of SMEs. In this context, they should also use the language and semantics of business owners (i.e., be practice and business oriented, rather than IPR registration and IP law focussed) and centre on IP management topics (i.e., work around cases why some IP strategy approaches are good for the business and others are not). An important success factor for marketing and training also seems to be the definition of an attractive business oriented topic which draws the attention of firms. Last but not least, the IPI might contemplate to look at other existing experiences of dedicated IPR trainings institutions for SMEs in the EU (e.g., the offerings of the Institut Européen Entreprise et Propriété Intellectuelle (IEEPI) in Strasbourg).

6 The extended switchboard of the IPI ("IPI helpline")

Country:		Switzerland
Original title:		*Extended telephone switchboard of the IPI +41 (0) 31 377 77 77*
Target group:		SMEs, enterprise starters and individual inventors
Coverage:		National
Category:		(Pro-active) awareness raising measure/Public Relations
	X	Information Provision Service
		Training
		Customized in-depth consulting and advisory service/point
		Financial Support & Measures within the legal framework

6.1 The extended switchboard of the IPI in a nutshell

Background

In essence, the IPI helpline is the telephone switchboard of the Swiss Federal Institute of Intellectual Property (IPI) – it is not a separate dedicated helpline (e.g., with its dedicated toll free number) for SMEs, but constitutes the operational infrastructure behind the regular IPI phone number +41 (0) 31 377 77 77. This is the number everybody who wants to get in touch with the IPI has to dial. The IPI extended switchboard can be considered to constitute a part of the baseline information services, which includes, amongst others, also the publication of brochures on different IPR instruments or the IPI website.

The telephone switchboard of the IPI has been implemented in a special fashion with the goal to minimise waiting times and the number of pass-troughs of the callers. The requirement was that questions on IPR should be dealt with as quickly as possible: Ideally, the first person answering the phone (e.g., the direct switchboard operators) should be able to answer as many of the potential questions as possible, with the exception of detailed enquiries which should be forwarded to the respective experts using the shortest path possible.

It has to be underlined that the "IPI helpline" is not marketed as such to outsiders. This means that nobody who calls the IPI is able to distinctly identify the helpline as a dedicated service offering; rather, calling the IPI is perceived just like calling any other organisation and their telephone/switchboard operators (i.e., it is not even perceived as a call centre). The switchboard operating staff sees itself, against this background, as an [quote] *"extended switchboard"*, and not as a "hotline", "helpline" or "call centre". Accordingly, one should note that the extended switchboard is thus not an example of a "classic" IPR support service as defined for the underlying Swiss review or for the Commission study (or with respect to services such as the IPR Roadmap offering).

Modes of operation

In order to achieve the above mentioned goals, the switchboard designers opted for a two-layered structure: The "front-desk" switchboard operating team (the first layer) answers incoming calls first. This team consists of four specially trained staff (one of which is responsible for the overall switchboard operation), all of which have also worked as examiners in the respective patent-/trademark divisions The qualification level of the "front end" personnel is thus, as a specific characteristic of the IPI helpline,

much higher than one would expect from a conventional switchboard. Only if this first layer is not able to answer a question on a specific subject (according to the IPI, this is usually the case when the caller has a question concerning a specific (i.e., his/her) patent or trademark file) the call will be forwarded to the second layer, the so-called "picket service" ("Pickett-Dienst").[38] The forwarding is performed according to a detailed decision flow chart (with the chart displaying whom to forward the call to in which thematic context). This helps to keep the number of referrals/pass-troughs as low as possible.

The picket service as the second layer can be best described as an "on duty" service within the respective patent, trademark, copyright and design divisions of the IPI. The patent and the trademark division have lists of selected personnel which are, on a rotational basis, responsible for enquiries that are forwarded to them from the first layer/primary switchboard operators. For trademark related questions, around 25 people are on constant rotation; four persons are available each day. International trademark issues are handled by a total of six persons which are available on selected days during the week. Due to the rather limited number of calls concerning designs and copyrights, on duty lists are not used in the design/copyright units. Personnel on duty for the "picket service", regardless of the division, continue with their "non-picket" daily tasks, as long as there is no incoming call with forwarded enquiries from the switch-board operators.

Evaluation and performance

The IPI switchboard team collects data which is usually compiled by call centres for monitoring purposes: the number of calls received in a certain period of time, the duration of the calls, waiting times or the number of pass-troughs/referrals. However, no data is, as stated, collected on the types of callers, i.e. whether they are SMEs, why they are calling or any further information to that end (such as contact details).

As a result, information on the usage of the helpline by SMEs is primarily based on estimates and experience of the switch board/picket service operating personnel:

- Interestingly, around 70 % of the calls are said to concern trademarks (approximately 15 % patents, 10 % designs and 5 % copyrights).
- Around 60 % of the calls are considered to stem from small firms (of which about two thirds are companies which never called before). This share seems to be higher with calls reaching the picket service for trademarks (share of small firms: 80 % of all incoming call).
- The IPI estimates, that one out of five calls by SMEs is forwarded to the picket service. A telephone call which is answered by the picket service lasts, on average, 10 minutes.
- In terms of topics covered, most calls concern registration procedures for the various IPR instruments. As concerns trademark enquires handled by the respecttive picket service, a larger share of calling SMEs raise questions on how to register trademarks themselves, without outside help. Some users are also interested in searches of already registered identical or similar trademarks; however, such a

[38] If the enquiry is very specific, layer one personnel can also bypass the picker service and connect directly to the respective expert within the IPI.

service is not offered by the IPI. People who are interested in registering a trademark are frequently advised by the IPI to have a search for prior trademark rights carried out before registering a trademark. SME enquiries which reach the picket service for patents frequently centre around a specific patent application or on the usage of patent information.

6.2 User and expert views concerning the operation of the IPI helpline

The write-up for this case study differs in several aspects from the way the other Swiss case study services (and those in the Commission study) are being presented. This is foremost due to the already mentioned fact that the IPI does not collect personal contact data on individual callers. Besides the result hereof that there was no pool of contact addresses which could be used beforehand for the survey, the study team anticipated especially that the calls likely vary in length, with many of the calls being rather short in duration (e.g., short information enquiries, for example on how to reach the IPI by car or by public transportation). There was thus a clear need to use a revised and simplified approach, and especially a simplified version of the user questionnaire.

In order to have a workable address pool, the IPI asked calling SMEs during the running time of the study whether they would be willing to participate in the analysis and be interviewed on their experiences with the helpline. Eventually, however, only 14 such addresses could be collected; furthermore, only five firm representatives from the 14 firms were actually reached for interviews. Though the study team has tried to compensate the low empirical base on the user side with three additional open interviews with members of the switchboard operating team, one should nonetheless keep the limitations of this case study (rooted in its low empirical base) in mind: As quantitative results (in the sense of statistically representative findings) can thus not be provided, the case study focuses on presenting observations made in a more quailtative manner.

The following observations were made with respect to user statements:

- Out of the 14 SMEs that the IPI provided contact details for, 10 called to inform themselves on procedures on how to register trademarks. This observation (i.e., about two thirds of the callers are interested in trademarks) is in line with estimates from the IPI itself concerning the share of callers interested in this specific IPR instrument.
- As expected, the interviewed callers were very heterogeneous in terms of the type of company they worked for, and also the function they carried out within the company. One caller was, for example, a self-employed copy writer and creates texts for advertisements and marketing departments of other firms; one employee called on behalf of her superior for a specific information, but has been with the company only for three months (so she was reluctant to answer some of the questions, as she had [quote] *"too little insight into company specifics"*) – she was working for a firm active in retailing. The other callers were a self-employed engineer, another firm from the retailing sector and a company active in the services industry. One company had 180 employees, one 25 and one 11 employees (the two sole proprietor firms were already mentioned).
- All five interviewed users reported to have used the extended switchboard for the first time and were for the most part satisfied or very satisfied with the service received. The availability of the staff, the overall waiting time, the friendliness and competence of the personnel as well as the quality of the information gathered

were all rated favourably. As concerns the ease of access, the interviewed callers got to know about the IPI through the internet or through information presented in professional journals.

- All five interviewed users deem the competence of the staff involved in a service similar to a telephone hotline on IPR issues as an outstandingly important quality factor. Not surprisingly, the ease of access and identification and timely delivery are also seen as essential for such a service.

The following impressions were gathered from the interviews with the switchboard operating staff and the people having worked in the picket services:

- There are indications that layer one (switchboard) and layer two (picket service) have to some extent different views on the necessary degree of "sales orientation". While the switchboard staff defines its role as rather neutral towards marketing individual IPI services (such as the various patent database search offerings), personnel at layer two would like to see the switchboard staff promote IPI measures more actively.
- Issues were raised with respect to resource endowment (i.e., whether the four staff working at layer one would suffice). In terms of layer two, there were unsurprisingly some indications that for many of the IPI personnel it would not be very attractive to be on duty for the picket service.

6.3 Concluding remarks with respect to the gathered impressions

No "elements of good practice/strengths" or "challenges" can be presented at this point, as the extended switchboard is not a "classic" example of an IPR support service. However, from what the study team has seen and observed, the impression prevailed that the extended switchboard is a well operated and thought through implementation of a telephone switchboard. Noteworthy is especially that the operational design accounts for the specifics of incoming calls with an IPR background.

The gathered evidence suffices to assume with considerable confidence that the switchboard excels in terms of timely delivery, a minimum amount of necessary call referrals and pass-troughs and it performs well in terms of the competence of the service operating staff. The presumably good performance of the service is attributable in large parts to the formalised layered approach. Success factors are likely the clear lines of responsibility, as indicated through the on-duty lists with the picket service and the decision flow chart which roots the incoming calls in a clearly defined manner according to the types of enquiries. However, further evidence and a stronger empirical base (i.e., more user views, for example by conducting occasional user satisfaction surveys) are necessary to substantiate these hypotheses derived from the observations.

Apart from the demand for more empirical data, there is also the question whether the extended switchboard can be actually considered as a true SME support service. There is one particular reason to believe that this is not the case: The switchboard is not marketed as a dedicated service offering, so SMEs (or other callers for that matter) are not aware that they are using a service specifically designed for them. It has the potential to become an SME service on its own, if it is marketed as such – examples to this end exist, for example, in the U.S. (the toll-free hotline of the stopfakes.gov initiative). Whether establishing such a SME-dedicated hotline is feasible, is subject to further analysis.

7 ANNEX II: List of interviewed experts

Table 13 Interview partners

	Name	Institution, Organisation
1	Amgwerd, Luc	Creaholic sa
2	Andreose, Marco	Swiss Federal Institute of Intellectual Property (IPI)
3	Bopp, Martin A.	Innovation Promotion Agency CTI (CTI)
4	Boutellier, Roman	ETH Zurich – Department of Management, Technology and Economics, Chair of Technology and Innovation Management (TIM)
5	Bütikofer, Anna-Maria	Swiss Federal Institute of Intellectual Property (IPI)
6	Claessen, Ulrich	Maxon Motor
7	Dalle Carbonare, Bruno H.	WTT- Office of technology transfer, University Basel; The Business Development Company
8	Dreier, Philipp	Licensing Executives Society (LES); EBD Rechtsanwälte Dreier & Bachmann
9	Fischer, Alban	Swiss Federal Institute of Intellectual Property (IPI)
10	Frei, Alexandra	Frei Patentanwaltsbüro
11	Frey, Eduard	ZfU International Business School
12	Gasser, Christoph	Institut für gewerblichen Rechtsschutz (INGRES); Staiger, Schwald & Partner AG
13	Graf, Werner	Dr. Graf & Partner - Intellectual Property
14	Henggeler, Wolfgang	UNITECTRA Zürich
15	Hölling, Matthias	ETH transfer
16	Kraus, Daniel	Swiss Federal Institute of Intellectual Property (IPI)
17	Küttel, Olivier	EUresearch Head Office
18	Melzani, Kathrin	comedia Mediengewerkschaft
19	Mock, Elmar	Creaholic sa
20	Müller, Christoph	Hepp Wenger Ryffel AG
21	Rohner, Christian	KRSW WEINMANN
22	Schär, Alexander	CAMLOG Biotechnologies AG
23	Schütz, Wolfgang	SAF AG Simulation, Analysis and Forecasting
24	Spenger MBA, Peter	Telsonic AG
25	Stauffer, Alfred	Jakob Müller AG
26	Stauffer, Thomas	Pevion Biotech Ltd
27	Sutter, Kurt	E. Blum & Co
28	Thumm, Nikolaus	European Patent Office (EPO)
29	Tschudin, Roland	Swiss Federal Institute of Intellectual Property (IPI)
30	Uhlmann, Ernst	FELA Management AG
31	Wasserfallen, Hans	Swiss Federal Institute of Intellectual Property (IPI)

ANNEX III: List of public bodies extending innovation support for SMEs in Switzerland at the regional level

Table 14 Swiss Regional Chambers of Commerce and Industry

	Canton	Website
Aargauische Industrie- und Handelskammer	Aargau	www.aihk.ch
Handelskammer beider Basel	Basel Land, Basel City	www.hkbb.ch
Handels- und Industrieverein des Kantons Bern	Berne	www.bern-cci.ch
Chambre fribourgeoise du commerce, de l'industrie et des services (CFCIS)	Fribourg	www.ccfribourg.ch
Chambre de commerce et d'industrie de Genève	Geneva	www.ccig.ch
Glarner Handelskammer	Glarus	www.glarusnet.ch
Handelskammer und Arbeitgeberverband Graubünden	Grisons	www.hkgr.ch
Chambre de commerce et d'industrie du Jura	Jura	www.ccij.ch
Zentralschweizerische Handelskammer	Lucerne	www.hkz.ch
Chambre Neuchâteloise du commerce et de l'industrie	Neuchâtel	www.cnci.ch
Solothurner Handelskammer	Solothurn	www.sohk.ch
Solothurner Handelskammer	Solothurn	www.sohk.ch
Industrie- und Handelskammer St.Gallen-Appenzell	St. Gall	www.ihk.ch
Industrie- und Handelskammer Thurgau	Thurgau	www.ihk-thurgau.ch
Camera di commercio dell' industria e dell'artigianato del cantone Ticino	Ticino	www.cciati.ch
Chambre Valaisanne de Commerce et de l'Industrie	Valais	www.cci-valais.ch
Chambre vaudoise du commerce et de l'industrie	Vaud	www.cvci.ch
Zuger Wirtschaftkammer	Zug	www.zwk.ch
Zürcher Handelskammer	Zurich	www.zurichcci.ch
Handelskammer und Arbeitgebervereinigung Winterthur	Zurich	www.haw.ch

Source: Austrian Institute for SME Research

Table 15 Swiss regional business development agencies

Canton	Website
Aargau	www.ag.ch/aargauservices/de/pub/portrait.php
Appenzell Outer Rhodes	www.wifoear.ch
Appenzell Inner Rhodes	www.ai.ch/de/gewerbe/gewerbefoerderung
Basel Land, Basel City	www.Baslearea.ch
Berne	www.wfb.ch
Fribourg	www.promfr.ch
Geneva	www.geneva.ch
Glarus	www.linthland.ch
Grisons	http://portal.gr.ch/d/unternehmen/Seiten/eCHThemen.aspx
Jura	www.jura.ch/eco
Lucerne	www.luzern-business.ch/
Neuchâtel	www.ne.ch/promeco
Nidwald	www.nwbusiness.ch
Obwald	www.iow.ch
Schaffhausen	www.economy.sh
Schwyz	www.schwyz-wirtschaft.ch
Solothurn	www.standortsolothurn.ch
St. Gall	www.standort.sg.ch
Thurgau	www.wifoe.tg.ch
Ticino	www.copernico.ch/deutsch/home.php
Uri	www.ur.ch/de/vd/awoev/wirtschaftsfoerderung-m1478/
Valais	www.business-valais.ch
Vaud	www.dev.ch; see also: www.vaud.ch
Zug	www.zug.ch/behoerden/volkswirtschaftsdirektion/kontaktstelle-wirtschaft
Zurich	www.standort.zh.ch/internet/vd/awa/standort/de/home.html

Source: Austrian Institute for SME Research

Table 16 Swiss business centres and technology parks

	Canton	Website
Technologie- und Gründerzentrum, Zurzibiet	Aargau	www.tg-zurzibiet.ch
Technopark Aargau	Aargau	www.technopark-aargau.ch
business parc Reinach	Basel Land	www.businessparc.ch
Tenum Liestal	Basel Land	www.tenum.ch
Innovationszentrum Nordwestschweiz, Allschwil	Basel Land	www.innovationszentrum.ch
GründerZentrum Bern	Berne	www.innobe.ch
Berner Technopark	Berne	www.bernertechnopark.ch
innoBE	Berne	www.innobe.ch
Neuunternehmer-Zentrum ZUT Thun	Berne	www.zut.ch
e.Tower Thun	Berne	www.e-towers.ch
Fri Up	Fribourg	www.friup.ch
BioAlps, Genf	Geneva	www.bioalps.ch
Eclosion SA, Plan-les-Ouates GE	Geneva	www.eclosion.ch
Fongit, Geneva Incubator, Plan-les-Ouates GE	Geneva	www.fongit.ch
Technologiezentrum Linth, Ziegelbrücke	Glarus	www.technologiezentrum.ch
E-Tower, Chur	Grisons	www.e-towerchur.ch
Innozet, Grüsch GR	Grisons	www.initial-gr.ch
Coaching service du Jura bernois Bévilard	Jura	www.cep.ch/coachin
Technopark Luzern	Lucerne	www.technopark-luzern.ch
e-Park, Sursee	Lucerne	www.computervalley.ch
InnovationsTransfer Zentralschweiz, Horw	Lucerne	www.itz.ch
Neode, La Chaux-de Fonds/Neuchâtel	Neuchâtel	www.neode.ch
areal#1 Unternehmerzentrum Nidwalden, Stansstad	Nidwald	www.areal-nw.ch
mccs – Micro Center, Central-Switzerland AG, Sarnen	Obwald	www.mccs.ch
ITS Industrie- und Technozentrum, Schaffhausen	Schaffhausen	www.its.sh.ch
Technologiezentrum Steinen SZ	Schwyz	www.tzl.ch
Gründerzentrum Solothurn, Balsthal	Solothurn	www.gzs.ch
Technologiezentrum Witterswil	Solothurn	www.tzw-witterswil.ch
Stiftung Futur, Rapperswil	St. Gall	www.futur.ch
Technologiezentrum Jona	St. Gall	www.technologiezentrum.ch
Technologiezentrum Sargans	St. Gall	www.technologiezentrum.ch
Tedizentrum Wil	St. Gall	www.tedizentrum.ch
Gründerzentrum Hipomat, Schwarzenbach	St. Gall	-
tebo, St. Gallen	St. Gall	www.tebo.ch
Centro Promozione Start-up e Acceleratore d'impresa	Ticino	www.cpstartup.ch
Tecnopolo Ticino, Lugano	Ticino	www.tecnopolo-ticino.ch
Galleria High-Tech-Center, Manno	Ticino	www.galleria.ch

	Canton	Website
START! Gründungszentrum, Frauenfeld	Thurgau	www.gruendungszentrum.ch
HTC High-Tech-Center AG, Tägerwilen TG	Thurgau	www.high-tech-center.ch
Spider Town, Tägerwilen TG	Thurgau	www.spidertown.ch
Parc scientifique PSE, Lausanne	Vaud	www.parc-scientifique.ch
Biomedizinischer Technopark	Vaud	www.biopole.ch
Y-Parc AG, Yverdon	Vaud	www.y-parc.ch
BioArk, Monthey	Valais	www.bioark.ch
IdeArk, Martigny	Valais	www.ideark.ch
PhytoArk, Sion	Valais	www.phytoark.ch
TechnoArk, Sierre	Valais	www.technoark.ch
TZO Techno- und Transferzentrum Oberwallis AG	Valais	www.tzo.ch
Sodeval SA, Natters	Valais	www.ccf-valais.ch
Businesspark Zug	Zug	www.businessparkzug.ch
START Unternehmenszentrum Zürich	Zurich	www.startzentrum.ch
Technopark Zürich	Zurich	www.technopark.ch
Biotop Life Science Inkubator, Schlieren	Zurich	www.biotop-inkubator.ch
grow Gründerorganisation Wädenswil	Zurich	www.grow-waedenswil.ch
Technopark Winterthur	Zurich	www.tpw.ch
Innopark Winterthur	Zurich	www.innopark.ch
Source: www.gruenden.ch: Gründen – Broschüre; Adressen- und Serviceteil		