# R&D Collaborations and Technology Transfer

Dr. iur. Alessandro L. Celli
Nicola Benz
Dr. iur. Roger Staub

FRORIEP RENGGLI
Rechtsanwälte
Attorneys at Law
Avocats

# R&D Collaborations and Technology Transfer

Dr. iur. Alessandro L. Celli
Nicola Benz
Dr. iur. Roger Staub

FRORIEP RENGGLI
Rechtsanwälte
Attorneys at Law
Avocats

# R&D Collaborations and Technology Transfer

# Table of contents

# I. Introduction

*Technology is dominated by two types of people: those who understand what they do not manage, and those who manage what they do not understand.*
Putt's Law (www.quotationspage.com)

The skills and resources to innovate, develop and exploit new technologies are not always available within an individual company. Working together with an external company, either a competitor or a company in a different line of business, can produce new ideas and ultimately new products that would not have been possible "in-house".

Collaborations between two or more parties in the field of research & development can take a number of forms. At its simplest, a collaboration may involve buying in research services in the same way as any other service is purchased. The more typical notion of a joint venture, however, involves each party carrying out a part of the research and agreeing to share the results. Alternatively, the parties may decide to set up a new company to carry out research and exploit the results. The collaborators may contribute financing and/or staff to the joint venture company. Each will then want a say in how the company is managed and run.

It is where both parties contribute IP and other resources to a research project that the most interesting issues arise and so the focus here is principally on such joint collaborations. The various stages in a technology development collaboration – from the very first steps towards a research partnership through to the commercial exploitation of the results – are discussed below. At each stage it is particularly important to agree who owns and who has the right to use the "background" and "foreground" intellectual property rights contributed to and created during the collaboration. These intellectual property rights may have enormous value but if the issues of ownership, licenses and protection are not considered, the worth of those rights may remain unrealised or be lost altogether.

# II. First Steps

## A. Finding a Collaborator and Looking for Funding

Once a lack in resources has been identified, or it has been decided that external collaboration is "a good thing", a collaborating partner needs to be found. In many instances, the choice of collaborator will be obvious. In other cases, some investigation will be needed to identify the best partner. Many companies use their contacts in the industry or with customers, suppliers or advisers in order to find a collaborator. Others may make use of on-line technology exchanges such as those hosted by OSEC Business Network Switzerland (www.osec.ch) or The Technology Exchange (www.uktech.net) to advertise their willingness to collaborate and to publicise the technology that they can bring to a research project. Of course, the possible ways to identify and approach a potential joint venture partner are limitless.

One of the parties may be involved for the sole purpose of providing funding. Even so, the funding party will almost certainly want to get involved in the contract negotiations and, unless their sole business is providing finance, they may want some right to the IP generated either by way of ownership or access licenses.

## B. Confidentiality Agreements

One of the most important steps that should be taken before discussions on any collaboration begin is the signing of a confidentiality agreement, often called a non-disclosure agreement (or NDA).

Some information can only be protected by confidentiality obligations, either because it does not meet the criteria for patenting or because its value would be lost if it were to be published. For this type of information, a confidentiality agreement is crucial. However, it is advisable to enter into a confidentiality agreement in any situation where sensitive information will be or is likely to be discussed. For example, if information is to be disclosed about inventions for which no patent application has been filed, a confidentiality agreement can be crucial. If there is no agreement in place, any information that is disclosed may be considered public information. Once sufficient information about an invention is public, the invention is no longer novel. As novelty is an essential precondition for obtaining a patent, once information about the invention has been disclosed the invention may no longer be patentable, at least in the vast majority of countries. One major exception to this rule is the USA, where inventors have one year from first disclosure or publication of their invention within which to file a patent

application with the US Patent Office. But filing in the USA will not cure the lack of novelty in the eyes of other national patent registries.

Obligations of confidentiality may arise automatically in certain situations, without the need for a written confidentiality agreement. For example, under Swiss law an employee owes a duty of confidentiality to his employer in respect of sensitive information that he receives in the course of his employment. However, such implied obligations of confidentiality may not exist in every country. Furthermore, a written confidentiality agreement can be much more detailed and gives much stronger protection than an implied obligation. It also makes the signatory aware of the confidential nature of the information he is receiving and so the risk of an unintended breach of confidentiality is reduced.

Confidentiality agreements can be one-way or mutual. If the agreement is one-way, only one party (the recipient) has an obligation not to disclose information. If the agreement is mutual, both parties are bound to the same obligations and have the same rights. For convenience, the parties are referred to here as "recipient" and "disclosing party" without distinction between one-way and mutual agreements. It should be borne in mind however that, if an agreement is mutual, the same party may be both a recipient and a disclosing party under the agreement.

A confidentiality agreement obliges the recipient of information not to disclose that information or make it available to any third party. If the recipient will need to disclose information to its employees or group companies, this should be specifically covered in the agreement. The disclosing party will then want to be sure that the employees and group companies are also obliged to keep the information confidential.

Many confidentiality agreements contain restrictions on use as well as disclosure. In these instances, use is allowed for a specific purpose only, e.g. to determine the feasibility of the collaboration. The recipient should check carefully that the defined purpose is wide enough to enable him to make proper use of the information. The disclosing party, on the other hand, will want to be sure that the purpose is not too wide.

The agreement should make clear which pieces of information are confidential and must not be disclosed or used outside the agreed purpose. It may be that all information disclosed in the course of discussions or negotiations on a particular project is to be kept confidential, or the obligations of confidentiality may be limited to information specifically marked or identified in writing as being confidential. In the latter case, the parties usually have a period of time, e.g. 30 days, after disclosing confidential information verbally to provide the recipient with a summary of the information in writing. Limiting protection to information marked as confidential makes it very clear for the recipient which pieces of information it is obliged to keep confidential. However, from the disclosing party's point of view, if only information identified as confidential is to be protected, all

employees who will be disclosing information under the agreement must be made aware of the need to identify that information as confidential.

Even if confidential information is widely defined, the agreement should provide for exceptional circumstances where information does not need to be kept confidential, e.g. information that the recipient already possessed before it was disclosed to him under the agreement or which he received from a third party under no obligation of confidentiality, information in the public domain, independently developed information or information which has to be disclosed as a matter of law are usually not covered by confidentiality obligations. Where the confidentiality agreement is interlinked with other confidentiality agreements, then these exceptions to confidentiality need to be thought through very carefully. As an example of the problems that can arise, imagine two collaborating parties (A and B) who have employed the services of a third party (X) to develop technology that both A and B will subsequently use. A and B enter into separate confidentiality agreements with X. X then misuses the information supplied under the confidentiality agreements. Both agreements state that the confidentiality obligations do not apply to information already in X's possession. This means that information first supplied by A is not covered by B's confidentiality agreement and information first supplied by B is not covered by A's confidentiality agreement. Only the party that first disclosed a piece of information can claim for a breach of confidentiality of that information. If A and B have disclosed similar information to X and then wish to take action against X for breach of confidentiality, they will first have to look very closely at what was disclosed by whom and in what order. This situation can be avoided if the exceptions to the confidentiality obligations are carefully worded. For example, the exception could be amended to read "information already in X's possession that X is free to disclose to third parties without any breach of a confidentiality undertaking". Alternatively, all parties (A, B and X) could sign just one agreement so that disclosures by both A and B would be covered by the same agreement.

## C. Due Diligence

The parties may agree on a formal exchange of information with written questions and answers or they may prefer a more informal approach to due diligence. In any event, the information that is provided by the parties to each other prior to entering into the collaboration needs to be examined carefully. Each party will want to make sure that the other is a suitable collaborator and is able to contribute to the project what is expected of it in terms of IP and other resources. The work that is done at this early stage in analysing the collaboration's chances of success can save a lot of time, money and effort later on.

Perhaps the most important point to verify is that the parties are able to use the relevant IP in the collaboration. This involves checking the ownership and license terms of the IP.

Ownership of IP can be particularly problematic if the IP was commissioned from a third party, created by an employee or academic or has changed hands since its creation. Although there are exceptions, in most cases where work is commissioned, the IP in the work belongs to the creator and the commissioner only has limited rights of use. In the absence of an agreement to transfer IP ownership from creator to commissioner, the commissioner may not be able to use the IP for the purposes of the collaboration. IP commissions conjure images of paintings or musical works but may equally well involve software development or contract research.

With regard to employee creations, the employer will usually own any IP rights created by his employees in the course of their employment activity. However, the law on employee inventions varies greatly from country to country. For example, under German law employees always own their inventions. The employer has four months from notice of an invention by one of his employees within which to make a claim to the invention. The employer is then obliged to pay compensation to the employee inventor for use of the invention. This compensation is paid in addition to the employee's salary. In the USA, inventions are always owned first by the inventor. If the inventor is an employee, any patent application must be filed in the name of the employee. The patent application can only be assigned to the employer once it has been filed. If this assignment has not taken place, the employer will not be the owner but may still have a royalty free license to use the patented invention.

If one of the parties to the collaboration is a university or academic institute, care is also needed. It may not be clear who owns IP which is in the hands of a university. Inventions by university employees do not always automatically belong to the university. And IP created by students is almost always the property of the individual student. The IP may already be licensed exclusively to industrial partners in some fields or tied up in other research projects so that it is not available for use or license into the collaboration.

Where the IP to be contributed to a joint venture is not owned by any of the joint venture partners but is used under license, the actual terms of the license will need to be checked. We have seen instances where the license terms do not allow any use of the IP other than to manufacture products in the ordinary course of the licensee's business. Sub-licensing to third parties, including joint venture partners, is then forbidden. In other instances, licensed IP may be used for research but not for commercial purposes. This can prevent the parties exploiting the results of their collaboration. Restrictions on use are not always fatal to the collaboration, however. In some cases, the IP owner may be willing to extend the terms of the license. Or an alternative technology may be available.

If the IP is of a type that needs to be registered, it is worth verifying that the filing has been properly made and any renewal fees have been paid. However, just because an IP right has been registered does not mean that it will be valid. Not all intellectual property offices carry out a review of the applications that they receive before they register the IP right. In these cases, there is no independent review of the applicant's entitlement to the right. Even where a review and search of existing rights has been carried out, the IP right in question may still be subject to a later challenge. For some crucial pieces of IP, therefore, it may be worth obtaining an expert's opinion on the validity of the right.

A party that is well-prepared for due diligence will create a very good impression towards potential collaborators. Being well-prepared means having records available showing, for example, the IP owned, contracts of employment for employees that have generated IP, license or assignment contracts where IP has been brought in from outside, the status of any patents and patent applications and when any renewal fees are due. If this information is available and is well-presented, it can significantly strengthen the disclosing party's negotiating position when agreeing the terms of the collaboration.

## D. Term Sheet

Before signing up to a collaboration or co-operation agreement, the parties may want to set down the broad outline of their agreement in heads of terms.

Heads of terms often provide for a period of exclusive negotiations during which neither party will talk to anyone else about the potential collaboration. Depending on the relative bargaining positions of the parties, one side may be able to insist that the other pays a one-off lump sum for the benefit of this period of exclusivity. Sometimes, but not in every case, these exclusivity provisions are agreed to be binding and enforceable in the event of breach. Obligations of confidentiality in heads of terms are also often binding. Typically the remaining terms of the agreement will not be binding, although they will give rise to expectations in later negotiations and they may create obligations of good faith between the parties which may be recognised by the courts.

If negotiations over heads of terms become protracted and difficult, it is advisable for the parties to move straight on to the main agreement rather than spending time on a non-binding document. In some cases, too many difficult discussions over the details of heads of terms may be an early indication that the collaboration itself will not work. It may be wise at this point to consider whether or not to proceed with such a collaboration partner.

## E. Government Funding and Research Projects

Where governments or non-governmental organisations are involved in the collaboration, perhaps as funders or research commissioners, they often prescribe fixed, non-negotiable terms. These funding terms and conditions should be considered carefully before the funding or research commission is accepted. They may not meet the parties' intentions or they may be impossible to fulfil. In some cases the terms prescribed may be so unacceptable that it is not worth entering into the collaboration at all.

For example, government-funded projects often require the parties to grant each other wide cross-licenses of background and foreground technology. A prime example of this is provided by projects financed under the European Union Framework Programme. This is the European Union's main instrument for funding research. The Fifth Framework Programme is about to give way to the Sixth Framework Programme which will run from 2003 to 2006. The contract terms for the Sixth Framework Programme are, at the time of writing, only in draft form. The draft terms oblige the parties to grant each other "access rights" (or licenses) to "pre-existing know-how" (which approximates to background technology brought to the project by a collaborator) and to "knowledge" (IP created in the course of the project). An IP owner must grant a license to its pre-existing know-how and knowledge to any other party to the project who needs such a license either (I) to carry out its own work under the project or (II) to use the IP that it generates itself in the course of the project. The only way to avoid the obligation to license pre-existing know-how is to reach agreement with all of the other parties before the main collaboration contract is signed. If the owner wishes to receive royalties for the license of pre-existing know-how needed to carry out work under the project, that must also be agreed on before the main contract is signed. Licenses of pre-existing know-how needed to enable a party to use the IP it generates are to be granted on fair and non-discriminatory terms. Knowledge, or foreground IP, must always be licensed to other collaborators royalty free.

The parties may not be able or willing to give these wide licenses. They may already have granted an exclusive license in the field or may consider the technology to be too valuable to license. If the current drafts are adopted in their present form, the parties will need to anticipate in advance which parts of their existing IP portfolio they wish to exclude from the reach of their fellow collaborators. They will then need to obtain agreement to that from all of the other collaborators before they sign the funding agreement. Only once the funding agreement is signed, will the European funding become available. Any party that wishes to keep its IP out of the licensing pool will have to remain very determined to obtain agreement from all of the parties. This is particularly so in the face of the likely pressure to sign from other collaborators who are keen to start receiving funds for their research as soon as possible. On the other hand, a party that needs funds quickly in order to finance its research could face a frustrating wait while licensing terms are negotiated.

Even where there are no prescribed terms and conditions, governmental organisations may propose contractual terms as part of a tender process. Part of the tactics for winning the tender will be deciding to what extent these terms can be negotiated or rejected altogether. Sometimes, the tender contract will contain terms that are completely unacceptable to a bidder. To give one example from our own experience, in a tender for a contract to supply fairly standard medical devices to a government body, the successful bidder was to grant the government body a world-wide, royalty free license to use, reproduce, adapt and sublicense all of its IP rights that would be used in connection with the manufacture and supply of the devices. The license was to be perpetual, although two years after termination of the supply contract the supplier would begin to receive royalty payments. The reason for the provision was presumably to enable the government body to guarantee supplies of the products by making the IP available to a third party if the successful bidder became unable to supply. That is perhaps reasonable, at least in situations where the customer is dependent on a single supplier. But in this case, the government was not setting up an exclusive supply arrangement. Instead, it was free to appoint other suppliers at any time and to pass on the successful bidder's IP directly to those other suppliers, who would most probably be the bidder's direct competitors. This is an extreme example in our experience. However, if they are accepted, provisions of this sort can end up costing the successful bidder more than the tender is worth.

## F. Framework and Project Agreements

The collaborating parties may plan to work together on research, development, manufacture or supply activities on a regular basis. Companies active in completely different technological fields, for example semiconductors and medical devices, might intend to co-operate on various projects for the development and manufacture of integrated circuits and chip sets for commercial use in medical devices and systems. If the collaboration is to be ongoing, then the parties may wish to set out the general terms and conditions of their co-operation in a framework agreement. The framework agreement can then be used for all co-operation activities between the parties. This approach can be very efficient for the parties: negotiations on the details of specific projects will be much quicker if the general terms are already agreed. For example, the parties will not need to re-negotiate the allocation of intellectual property rights for each individual project, as this will be governed by the framework agreement.

If this contract structure is chosen for ongoing collaborations, i.e. a framework agreement followed by specific project agreements, then the parties should agree how to deal with cases where the project agreements and the framework agreement contradict each other. The usual approach is that the framework agreement prevails over the project agreements in cases of inconsistency.

Once a framework structure for the collaboration is agreed, delegation of responsibilities among the individuals working on the collaboration becomes easier. A steering committee, for example, would only need to survey the most important activities and decisions made in the course of the collaboration, leaving project managers and their project teams to work on the project day-to-day. This works particularly well under a framework agreement because the project managers are not burdened with negotiating the legal terms and conditions applicable to each new piece of work. What is more, even if the people involved in the specific project forget to agree upon certain items, the framework agreement will apply. So the parties will not be left in a situation where they are working without an agreement. For example, if the engineers forget to sign a non-disclosure agreement, the clauses regarding the treatment of confidential information in the framework agreement will serve instead.

Furthermore, the framework agreement can be used as a management tool for the co-operation managers (or steering committee) when they are concluding individual project agreements either by themselves or through delegation to project managers. The framework agreement should, therefore, contain a list of the items which should be dealt with in each project agreement. This then serves as a guide or checklist for the co-operation manager or project manager, if he has been tasked with concluding the agreement. The list might look like this: (1) list of pre-existing technology being brought to the project; (2) specification of the product to be developed under the project; (3) qualification protocols; (4) project cost and payment schedule with incentives and penalties; (5) frequency of project review meetings; (6) time schedules in general; (7) definition of work packages; (8) commercial supply objectives; (9) licensing and cross-licensing particularities; (10) sealed packages containing information necessary to make use of the right of own manufacturing in case the other party is no longer able to fulfil its obligations; (11) ordering procedures; (12) rolling stock of product units; (13) packaging and product identification; (14) delivery schedules and handling of delays; (15) delivery conditions; (16) quality control issues; (17) corrective action issues; (18) product supply prices and incentives for cost reduction in the course of the supply.

The use of a framework agreement combined with specific project agreements is not only of interest from a legal point of view. It can also be an effective management tool for delegating responsibilities within the collaborating parties' corporate organisations, e.g. delegation to subsidiaries or affiliates that operate as separate legal entities. The framework agreement can be signed by the parent company. Provided it is drafted in such a way that all group companies are covered, individual subsidiaries working on particular projects can then conclude the relevant project agreements.

# III. Collaboration

## A. The Research

### 1. Who will do what?

At the outset, the parties will need to decide who will be responsible for which research tasks. It may be that one party will take the lead in the research and the other will come into its own once the results are ready to be exploited. Or it may be that each party contributes existing technology and know-how to the research project or to a joint venture company in roughly equal proportions. Even if research services are simply being bought in, there will need to be a clear understanding of the services to be provided.

### 2. Specifications

Legal clarity on the scope of any research and development work depends on having accurate and complete specifications. The agreed upon division of tasks must be written into the collaboration agreement (or in the project agreement if the collaboration is structured in separate framework and project agreements) in the form of a work program or specifications. The specifications are typically attached as schedules or exhibits to the agreement.

Specifications describe the objectives, functionality and/or performance of the contemplated project result. Functional specifications define and describe in detail the specific features, capabilities and performance characteristics that are to be developed. They describe the input and output requirements but not necessarily how the output results are to be achieved. Functional specifications may be supplemented with technical design and performance specifications. These should describe the estimated time and cost of the research as well as the facilities, equipment and staff involved. In every case, drawing up proper specifications will need input from both parties' technical experts.

When creating and drafting specifications the following points will need to be considered:

- Developing technologies is a dynamic process rather than a static one, hence details of specifications may change over time. The creation of specifications is a recurrent process during the life of a project. Therefore, parties should agree who will be responsible for specifying the project work on an ongoing basis.
- The specifications may need to be changed as the research progresses. Therefore, the parties should agree on an approval process for amendments. Both (or all) parties will want to have a say in the change and, if any party's costs are affected

by the change, the amount of funding or the way in which funds are allocated may need to be changed. This is often dealt with in the following way: the party wanting to change the specification draws up a written proposal. The other party or parties then have a certain time within which to say whether they agree and to advise of any knock-on changes (financial or otherwise) to the work program. The party requesting the change then indicates whether it accepts the knock-on changes. If the parties cannot agree among themselves, the contract may provide that the existing work program remains effective. Alternatively, there may be a dispute resolution mechanism for deciding the issue. In any case, the user, i.e. the party who will benefit from the development work, should retain the final right of approval over functional specifications.

- For the collaboration to work properly, it is important that the parties agree to keep each other informed and updated on progress. The party carrying out the development work is dependent on its collaboration partner(s) providing it with sufficient information. The information flow in the opposite direction, i.e. from developer to the other collaborators, is equally important. Without this information exchange, the parties will struggle to complete the project in an efficient way. The frequency of meetings and the level of detail of written reports should therefore be specified. Going further, it can be very helpful to specify the communication channels that are to be used and the procedures for conveying information (e.g. the parties may agree that they will each appoint one person responsible for all communications in relation to the project, or that all communications of a technical nature are to be copied to the project managers, or that decisions involving expenditure above a certain threshold may only be taken with reference to the parties' CFOs). The parties may also agree to specify response times (e.g. that all queries will be answered within twenty-four hours, or that a telephone hotline will be manned during normal business hours).

- In terms of quality control the specifications should lay down criteria to measure the reliability and quality standards of the project results, as well as error correction and recovery strategies. This may be combined with management controls during development and implementation. Staffing requirements and qualifications may also be set out.

- The specification should identify how successful completion of the project objectives will be assessed. This is usually by specifying the test and acceptance criteria which must be met. From a technical point of view, the mechanism for conducting such tests and acceptance work should also be described.

These are only examples. The list of items to be considered in the specification depends very much on the nature, length, size and economic value of the collaboration. These

factors, together with an evaluation of the risks involved, may form the basis for the parties to determine how detailed they want their specifications and agreements to be.

### 3. Access to background IP

Collaborators are usually chosen for their existing skills and knowledge in a particular field. That existing expertise will generally be protected by intellectual property rights or will be in the form of confidential trade secrets. The other party to the collaboration may need, and will probably want, access to at least some of this background intellectual property and information. Licenses of background IP will be an important feature of the collaboration agreement.

Care should be taken that any licenses of background to collaborators do not cut across other licenses that have already been granted to third parties. If a license has been granted to a third party in the same or a similar field to that of the collaboration, the license granted for the purposes of the collaboration will need to take account of that. If the third party license is exclusive in the field of the collaboration, the technology it covers will have to be excluded from the license granted under the collaboration agreement. In order to do this, either the technology covered by the third party license (provided the licensor is not restricted by confidentiality obligations in this respect) or the technology covered by the collaboration license will need to be identified clearly. If the third party license is non-exclusive, the license granted under the collaboration will also have to be non-exclusive. In fact, licenses of background technology are usually non-exclusive and royalty free, at least so long as the license is granted only for research purposes.

Background IP is often defined as everything in the field of the collaboration with the exception of foreground IP. Foreground IP is the intellectual property generated, created or developed in the course of the project in hand. Although this is a clean distinction in theory, in practice it can be very difficult to separate foreground from background. Ideally, the parties will specify in advance what they consider to be background. The work on the project should then be thoroughly documented so that any new intellectual property (foreground) can be easily identified.

### 4. Who owns the results?

There are many ways to allocate ownership of the project results. It may be agreed that one party will own all of the results, or that the parties will be joint owners of the results. Each party could retain ownership of the results that it creates. Alternatively, where the parties are not direct competitors, each party might acquire ownership of the results closest to its line of business.

Joint ownership might seem an elegant solution to the allocation of intellectual property rights. However, often joint owners do not have as many rights towards their property as a single owner would have. This is at least the case under Swiss law. Joint owners may each use the jointly owned property but they cannot license or sell their share without the consent of the other party. This is unlikely to be what the parties want or intend. If they do opt for joint ownership, they should consider regulating or removing these restrictions by entering into a co-ownership agreement.

Where ownership of results is to be transferred from one party to another, care is needed to make sure that the transfer is effective. Assignments of intellectual property must be in writing. The assignor must itself be the legal owner of the IP rights and must not be restricted from transferring those rights.

Establishing the true legal owner can give rise to particular difficulties where the research is carried out by employees. As noted above, in some countries the employer owns all IP rights created by employees in the course of their employment but in other countries the rights are owned by the employee. In each case, an assignee should take advice on local law before accepting an assignment of IP created by an employee. The assignee should also have the relevant employment contracts checked to ensure that they are not more favourable to the employee than the position at law. Where outside contractors work on the project, an assignment from those contractors to the party that commissioned their work is essential. The same applies if university academics or students are involved in the project.

An assignment of rights that have not yet been created is not always effective. Under Swiss law, future rights and claims can be assigned provided they can be identified. Under UK law on the other hand, the only IP rights that can be assigned before they are generated are copyrights. To be on the safe side, if one party agrees to assign future IP to another during or after the collaboration, the collaboration agreement should contain a clause of further assurance, i.e. the party who initially owns the IP undertakes to do everything necessary to ensure that the IP ownership will be transferred. This wording obliges each party to ensure that they have obtained the necessary IP assignments from contractors, consultants, students and academic staff.

## B. Protecting the Results

### 1. Methods of protection

#### a) Patent protection

Patents protect inventions. They give their holders a monopoly right, limited in time and geographical area, to manufacture and sell the patented product or to use the patented process and to stop all others from manufacturing and selling the same product or using the same process. This is the case even if the other has independently come up with an identical product or process. In return for this monopoly right, the patent holder consents to his invention being made public. This is done by publishing the invention in a register of patents. The justification for the patent monopoly is that information about inventions is then disseminated so that others are encouraged to invent, either to improve on existing inventions or to invent around the monopoly.

Inventions are patentable if they are (I) new, (II) involve an inventive step (in other words, they are not obvious to a person skilled in the field of the invention) and (III) are capable of industrial application. In addition, there are two categories of invention which are expressly excluded or restricted from patentability. They are (a) inventions, the publication or exploitation of which would be contrary to public order or good morals and (b) surgical, therapeutic and diagnostic procedures which are applied to humans or animals.

There is a great deal of debate in some industries as to what should or should not be patentable. For example, in the biotechnology sector, there are emotive arguments both for and against patenting “life”. The principle European guidance on biotechnology patents is found in the European Patent Convention (EPC). The EPC, which has been adopted in 24 European countries including Switzerland, excludes from patentability inventions which consist of methods of surgical or therapeutic treatment and of diagnosis applied to the human or animal body, new varieties of plants or breeds of animals and essentially biological processes for the production of plants or animals. However, microbiological processes and the products obtained from such processes are patentable.

This debate over biotechnology patents takes place against the background of a rapidly developing industry where high levels of investment require adequate protection and legal certainty. The USA places virtually no restrictions on patenting biotech inventions. As a result, European biotech companies have argued that they are at a disadvantage in the market place. In part to address this discrimination and to clarify the law, the European Union adopted additional legislation on this topic in the form of a 1998 Directive on the legal protection of biotechnological inventions. The Directive does not allow patents to be granted for pure discoveries unless they are applied for a new purpose. For example, the discovery of a new DNA sequence will not be patentable. However, if a new,

inventive and industrially applicable product or process is developed using the DNA sequence, the product or process will be patentable. The Directive also tackles the ethical issues of biotechnology patents. Processes for cloning human beings or modifying their genetic identity, use of human embryos for industrial purposes and processes for modifying the genetic identity of animals which may cause them suffering without substantial medical benefits are all automatically excluded from patentability on ethical grounds.

In the computer industry, where software is currently protected by copyright, there is a strong lobby for the extension of patent protection to cover computer programs. In Switzerland and other European countries, computer programs "as such" are not patentable. However, an exception has been developed through judicial decisions and guidance from registry offices so that software which makes a "technical contribution" to the state of the art can be patented. This requirement of a technical contribution has long been acknowledged as ambiguous. The European Patent Office has issued guidance explaining that the technical contribution may be external to the computer, for example it may be made through a software-controlled machine or manufacturing process, or it may be internal, for example where computer processing speeds or the size of computer memory are improved as a result of the invention. The European Commission has published a proposal for a Directive on the patentability of computer related inventions with the intention of harmonising the treatment of software patent applications across the European Union.

In the USA, a different test is applied. Computer programs that produce a "useful, concrete and tangible result" are given patent protection. These generous criteria, together with a lack of resources at the US Patent Office, have led to thousands of software patents being granted, in some cases for software applications of business methods which would otherwise be unpatentable "as such". The patent granted to Amazon for its "one-click" method of buying goods on the Internet is perhaps the most famous example. Where a patent filing claims a software application of a business method, it can be very difficult for patent offices to find prior art to knock down the filing. Descriptions of known business methods do not generally appear on patent registers, precisely because business methods as such are not patentable. Therefore, examiners have to look to other sources when searching for prior art. The Japanese Patent Office is compiling a database of non-patent literature on business methods and software applications to help them with this type of prior art search. US examiners are also being encouraged to search non-patent literature more thoroughly and to reject weak patents at the application stage. The US Patent Office recently recruited many more patent examiners to review applications for software patents and the number of US patents granted in this field has now dropped. However, the law on patenting computer programs has not kept up with the pace of change in information technology and the legal position on software patents remains unclear.

### b) Design Rights

Design registration protects the shape and appearance of an article. Registration is optional in some countries, mandatory in others, in order to obtain protection. Where registration is optional, unregistered designs are usually protected for a shorter period than registered designs. In addition, registered rights create a monopoly over the design even against the same design which has been independently created, whereas unregistered rights typically only protect against copying.

A new and improved law on registered designs has recently entered into force in Switzerland replacing a law which had been in force for more than one hundred years and giving better protection to right-holders than was previously the case. Protection is now given to features that are characterised by a configuration of lines, surfaces, outlines or colours of an article or by the materials of the article itself. This is a broad definition and there is no requirement that the design has aesthetic appeal. To be registered in Switzerland, the design must be new and have individual character. It must not be illegal or offensive to public taste. Production processes, utility features and technical functions are also expressly excluded from protection. Once registered, the design may be protected for up to 25 years as opposed to the previous maximum of 15 years.

### c) Copyright

Copyright protects literary and artistic works and performances, as well as software programs. This protection covers technical drawings, scientific reports and laboratory notes, to give just a few examples. The right is granted automatically, in most cases to the creator of the work, and there is no register nor application process involved. The protection given is only against copying (including performing, broadcasting or adapting) the whole or a substantial part of the copyright work. It does not prevent someone else from creating exactly the same work independently.

### d) Confidential information

As noted above, where information cannot be patented or where the party possessing the information does not want it to be published, that information can be protected by keeping it confidential. This is probably the weakest and most risky form of protection. It relies on contractual obligations of confidentiality, not on any statutory right. Secrecy equals value of information. The value will be lost if the confidentiality obligations are breached or if the information becomes public. However, as with copyright, there is nothing to stop a third party developing the information independently.

### e) Other IP rights

There are other types of IP protection which may be useful in the context of a particular project. For example, database rights give protection to independent works, data or other materials arranged in a systematic way and individually accessible. Trade marks may protect the commercial names and branding of the results of the research once they come to be exploited. More specialist rights such as plant breeder variety rights and semiconductor topography rights may also be relevant in some cases.

## 2. Maintaining and defending IP

Even if one party may have sole ownership of the IP created in the course of the research collaboration, both parties will have an interest in making sure that IP protection is maintained and that infringers are punished. To this end, the agreement between the parties should cover responsibilities for filing applications for e.g. patents or design rights and maintaining granted IP rights, including responsibility for paying filing and renewal fees. Even where an invention or design is jointly owned, it is common to give responsibility for filing patents or designs to just one party. The corollary of this is that the responsible party should only act in consultation with the other party.

The difficulty with allocating responsibility for maintaining registered IP rights to just one party is that, if that party wishes to abandon a registered IP right or to withdraw an application for registration, the other party may be left without the benefit of IP protection. To avoid this situation, many contracts provide that the party with responsibility will give a reasonable period of notice to the other party if it wishes to abandon a registered IP right. The other party may then elect to become owner of the right by way of an assignment and to take over its protection.

A collaboration agreement may also give responsibility for prosecuting IP infringements to just one party. That party may be able to recover some or all of the costs of prosecuting infringers from the other party, in which case any award of damages will probably also be shared. Alternatively, the party with responsibility for prosecutions may be solely liable for all costs.

Regardless of who is responsible for filing patent applications, maintaining patents or bringing court actions against infringers, the agreement will probably oblige the parties to let each other know as soon as possible if any IP infringements come to light.

## C. Regulatory Issues

Where the subject matter of the research collaboration involves medical devices, pharmaceutical products or biotechnology inventions or has an actual or potential impact on the environment, the parties may need to seek regulatory approvals for the development, testing and marketing of the results of the research. A detailed account of regulatory requirements is beyond the scope of this study and specialist advice should be taken in each instance. However, the parties may wish to allocate responsibility for regulatory reporting and filings within the framework of their collaboration agreement.

# IV. Exploitation

## A. How to Exploit?

The way in which the results of research are exploited can vary substantially in scope and form. For example, the parties may set up a jointly controlled company to carry out production, marketing and/or distribution, even if they did not create a joint company to carry out the actual research activities. Alternatively, they may decide to exploit the results through a joint venture arrangement without setting up a new company or to enter into a specialisation agreement whereby one party is given an exclusive right to exploit the research in some or all fields and the other party agrees to buy exclusively from the exploiting party. Finally, the exploitation of results may be sub-contracted to a third party.

## B. Access to Foreground IP

Once the research has been completed, the parties may agree to assign IP rights to each other, thereby transferring ownership outright, or they may agree to a more limited permission to use the rights in the form of a license. For example, one party may own the results and be responsible for exploiting those results in a certain field. The other party may have the right or responsibility to exploit the results in another field, in which case a license will be needed. Alternatively, the party that does not own and is not exploiting results may wish to carry out further research using the results. This will be the case particularly where the non-owning party is a university or academic institute.

### 1. Scope of the license

The scope of the license will need to be carefully described in the collaboration or production agreement. A license to use technology may be granted for limited purposes only, e.g. for research or manufacturing only, or for all purposes. Use may be limited to certain technical fields or may be allowed in all fields. The territory in which use is permitted may be limited or the licensee may be given the right to use the technology anywhere in the world. The rights may be exercisable only by the licensee or he may be entitled to grant sub-licenses. If the licensee is to be allowed to grant sub-licenses, this has to be stated in the contract.

The license that is granted may be exclusive, in which case the licensee alone has the right to use the results within the scope of the license, or it may be non-exclusive, in which case the licensor may grant the same rights to third parties and use the results

itself. If the licensor wishes to retain rights but it is agreed that third parties should not be able to access the technology, the license will be a sole license. If a sole license is to be granted, it is advisable to state specifically in the agreement that the licensor retains the right to exploit the licensed technology.

If the parties intend to continue developing the technology, there will probably be improvements over time. The question then arises as to whether these improvements should also be included in the license. Resolving this issue is complicated by the fact that the value of potential improvements cannot be assessed in advance. Many collaborators prefer to deal with individual improvements as they arise so that financial and other terms can be negotiated once the nature of the improvement is clear. However, in some instances, technology is licensed along with all subsequent improvements. As a compromise position, the parties may agree that any improvements which are not separately patentable are included in the license, but improvements which could form the subject matter of a new patent application would need to be licensed separately.

The licensed foreground IP may only be useable along with some parts of the licensor's background IP. This is dealt with in the model contract terms of the European Union Framework Programme, as described above, by the inclusion of an obligation on all of the collaborators to grant non-exclusive licenses of background IP needed to exploit foreground IP. As an alternative to an automatic license, some collaboration agreements give the parties an option to acquire a license to background IP necessary for the purpose of exploiting foreground IP. The option must be exercised within a certain time frame. If the option is exercised, there can then be a further time limit set for the parties to reach agreement on the terms of the license.

## 2. Payment mechanisms

The parties may agree that some payment is due from the licensee to the licensor in return for the right to use and exploit the research results. Money may already have changed hands in respect of the development work, either in the form of agreed lump sum payments or reimbursement of expenses actually incurred. In addition to that, the licensor may receive a lump sum payment in return for granting the license, or payment may be in the form of royalties, i.e. a percentage of income derived by the licensee from exploitation of the research results. If the license fee is based on the licensee's income, the licensor may wish to include provisions obliging the licensee to use reasonable or best endeavours to exploit the technology to the fullest extent possible. The licensor will also want the right to inspect the licensee's sales and financial records in order to be sure that the licensee is properly reporting its income. For its part, the licensee will want to be sure that all the expenses of exploitation are deducted before the percentage due to the licensor is calculated.

## 3. Warranties

A license agreement will usually contain warranties from the licensor. In particular, the licensor is generally expected to warrant (I) that it owns the licensed IP rights and is not aware of any claim that may affect ownership, (II) it has the right to grant the license and (III) it has not entered into any conflicting agreement that would adversely affect the licensee's ability to make use of the IP. Depending on the respective bargaining positions of the parties, the licensor may also have to agree to warrant that it is not aware of any IP rights that infringe the licensed IP, or of any rights that would be infringed by the licensed IP.

In a situation where the parties have worked together closely on the research itself, it may not be appropriate for the licensor to give any warranties to the licensee.

The party giving a warranty is guaranteeing a certain state of affairs. If in fact the position is different from that warranted, the agreement is breached and the other party may claim monetary damages.

## 4. Guaranteeing supplies

The parties to a collaboration may agree that rather than sharing access to the IP, one of them will manufacture and supply products or components to the other. If one party is to be an exclusive supplier to the other, the party that is the customer risks becoming dependent on its collaboration partner. If the product or component being supplied is important to the customer, this dependency on the supplier can carry big risks. The supplier may at some point be unable to meet demand, or may become bankrupt or be bought by a competitor of the customer so that it is no longer willing or able to supply products to the customer. These risks can be tackled, at least to some extent, by giving the customer what can be termed a "right of own manufacture" of the products or components. This right of own manufacture is a right to step into the supplier's role, or to appoint a third person to do so, and to commence manufacture of the products. The right consists of access to the technical know-how that is necessary to manufacture the products and a license of the relevant IP so that the know-how can be used.

A right of own manufacture will only be of use if the customer has the ability and resources to manufacture the products or can identify a third party with those resources. Where the products are unique or highly specialised, it may not be possible for anyone else to manufacture them. However, even in this scenario, the customer will be in a stronger position if it has the necessary rights and know-how to be able to set-up an alternative source of supply. Although there may be no obvious alternative manufacturer at the time the agreement is signed, the position may have altered at the point when supplies dry up.

The right of own manufacture is more likely to be accepted by a supplier if there are clear restrictions on its use and strong safeguards against its misuse. For example, it should only come into effect on the happening of an event that leads to the supplier being unable to supply. Even then, the supplier could be given the opportunity to draw up a recovery plan. However, a recovery plan will not always be practical, or the parties may not be able to agree on a plan that will work. At that point, the real right of own manufacture kicks in. The supplier is obliged to sign a license of the necessary IP and to provide access to the know-how and technical assistance required by the customer. If the parties cannot or will not sign a license agreement, the customer will need a back-up guarantee. This can be provided by putting the relevant technical information in escrow.

Escrow arrangements may take the form of an official deposit with a recognised escrow agent. The agent will only release the information to the customer if all of the prior stages in the right of own manufacture process have been gone through and still the customer is not receiving supplies. Formal arrangements of this sort are particularly common where the collaboration involves the development of software. The software source code is typically put on escrow so that the developed computer system can be fixed and maintained even if the developer becomes insolvent. However, escrow arrangements do not have to be so formal. They might consist of nothing more than a sealed package containing all of the relevant information and deposited with a third party who has the trust of both customer and supplier. The package remains unopened by the customer until it is needed, although an exception could be made to allow an independent third party to examine the contents in order to verify that they are sufficient to enable the customer to start manufacture.

To further protect the supplier, the agreement might also state that the licensed IP and the technical information can only be used to secure the supply of the products to the customer. And finally, if the supplier becomes able to supply products again, the right of own manufacture can be terminated or at least reduced to providing a percentage of the customer's requirements.

## C. Using IP to Obtain Financing

In addition to exploiting the results of research through production and sales, one or both parties may wish to use the results as a basis for raising finance. The intellectual property they generate may have value which can be leveraged as security for debt finance or as an additional or alternative basis for raising equity finance. However, the party that is not using the research results for the purposes of raising finance will want to be sure that its rights to those results are not restricted by the way in which security is given and, furthermore, will not be restricted in the event that the party obtaining financing defaults on any repayment terms.

The traditional method of obtaining financing through IP is a formal transfer of ownership from the borrower to the lender and an exclusive license back to the borrower. The lender must also enter into a contractual undertaking to assign the IP back to the borrower once the debt has been repaid. Of course, not all borrowers are willing to swap ownership of IP for a purely contractual right. This may be particularly problematic in the context of a collaboration, where the other collaborators may need access to the IP. If the IP is jointly owned, the party wishing to borrow money on the strength of its share will need the consent of the other party before it can transfer that share to the lender. Even if the IP is owned solely by the party seeking finance, the access rights of the other collaborators will need to be secured and that may involve obtaining their consent to the assignment of any licenses.

If the IP is of a type that can be registered, for example a patent, trade mark or registered design, a charge can be created over the IP in the same way as over a tangible asset. The lender then holds a security interest in the IP which appears on the appropriate register. However, this method of giving security is not available for unregistered rights such as copyright and trade secrets.

In the last few years it has become increasingly popular to securitise income from IP rights. For example, David Bowie raised approximately US$ 55 million in 1997 by securitising his future royalty stream. He sold rights to his future earnings in the form of bonds and received an upfront payment in return.

There are a number of risks for lenders who agree to lend money in return for security over IP. The principle difficulty is knowing what the IP is worth. The lender will want to carry out proper due diligence, to be clear as to who really owns the IP, whether the IP infringes anyone else's rights and so on. He may also want to take advice from an independent expert as to the economic value of the IP. The borrower can do a lot to assist the lender by preparing in advance for the lender's due diligence enquiries. As with the exchange of information and negotiations before the collaboration begins, well-kept, up-to-date records showing, for example, who created the IP and how it was transferred to the borrower or when any renewal fees are due can help enormously in negotiating financing. If the borrower is well organised, the prospect of taking security over his IP will be much more attractive to lenders.

Once the value of the IP has been established, the lender will want to make sure that that value is preserved. He will probably insist on safeguards being built into the financing contract. For example, the lender may oblige the borrower to take prompt action against IP infringers. However, the lender should not interfere too much in the running of the borrower's business. The borrower will know best how to use the IP to best effect. Furthermore, if the lender is too involved or has too much control and the borrower then runs into financial difficulties, e.g. bankruptcy, the lender may be implicated. A balance between freedom and control needs to be struck in each case.

## D. Liability Issues

### 1. Among collaborators

As between the parties, where one collaborator does not perform its contractual obligations, the other may have a claim for breach of contract. Under Swiss law, the non-performing party must first be given a chance to rectify the problem. If he does not manage this, the other party may claim damages. However, if the non-performing party is not at fault in any way, no damages will be due. For example, if one party is unable to perform due to natural flooding at its research laboratories, it will not have to pay damages for its failure to carry out the research.

The amount of damages payable for non-performance or breach of contract can be agreed upon in the agreement itself. The parties may want to set fixed penalties for non-performance or to exclude liability altogether. Particularly where one party carries out the research for the other party to exploit, the research party may be unwilling to take on responsibility for the use made of the results. In these circumstances, the research party may insist that liability is excluded altogether. However, the parties do not have complete freedom of contract in this respect. Swiss law provides, for example, that liability for unlawful intent or gross negligence cannot be excluded. This means that where the non-performing party causes loss on purpose or with reckless disregard to the consequences of his actions, he cannot avoid liability. Any contract clause that purports to exclude liability in these circumstances will be null and void. If one party nonetheless wishes to exclude liability, it will have to accept and the contract will have to state that the exclusion does not apply to unlawful intent or gross negligence. If the parties wish to fix the amount that has to be paid as a penalty for non-performance, they may do so. This saves having to prove the size or extent of the loss caused by the non-performance. However, the Swiss courts will allow the aggrieved party to recover more if he can prove that his actual loss was greater than the penalty amount. Likewise, excessive penalty amounts may be reduced by the courts.

### 2. Towards third parties

With regard to third party liability, setting up a joint venture company has a distinct advantage over collaborating on a purely contractual basis. If a company is formed, the liability of the collaborators is limited to the amount that they invest in the company as shareholders. However, if they do not pay the full value of their shares at the outset, they may be asked to contribute the rest later or if they put in more than the value of their shares, they may not recover the full amount. Otherwise, in theory, the sum paid for the shares is all that they will lose if the joint venture does not succeed. In practice, however, the collaborators will probably have financed the joint venture with loans in addition to

their equity investment. The money invested through loans will almost certainly be lost if the collaboration is unsuccessful.

If no company is formed, the liability of the collaborators for debts incurred through the joint venture is unlimited. If one party has successfully excluded liability, however, it will be the other party who is responsible towards third parties for all of the liabilities connected with the collaboration.

## E. "Classification" of the Contract

Lawyers are divided by different legal methods and rules and by different legal languages. One of the big divergences is between the legal method and language of the civil law countries (such as Switzerland, Germany, France and Italy) and that of countries which have a common law system (for example, the USA, England and Australia). The civil law tradition is based on codified rules such as the Swiss Code of Obligations. The Code of Obligations includes a section setting out general rules applicable to all contracts. In a country with a code of this sort, it is less important to deal with every eventuality in a written contract than it is in common law countries. A codified system of contract law will insert or amend what the parties forget or choose not to stipulate. The common law, on the other hand, will rarely supplement what is written in the parties' contract.

In civil law countries, the content of the statutory law depends on the classification of the particular contract. To continue with the example of Swiss law, the Swiss Code of Obligations contains provisions of contract law applicable to all contracts. These are supplemented by provisions on individual types of contracts. For example, the Code lays down specific rules for purchase agreements, rental agreements, employment contracts, work contracts, mandates (agency agreements) and simple partnerships. However, not all contracts fit neatly within one of the specified categories. Most research collaborations, containing as they do technology transfer undertakings, cannot be classified under any of the individual contract type headings in the Code. As a consequence, it can be difficult to know how such agreements will be dealt with in the absence of concrete clauses in the agreement itself and it may be unclear as to what extent the provisions of statutory law will apply. For example, a court might interpret the contract or parts thereof as being sui generis, i.e. in its own class, in which case rules of trade usage and existing case law will be applied. Alternatively the research work part of a collaboration might be classified as a mandate. This may be the case where one party is commissioned or "mandated" to do certain work. In these circumstances, the provisions of the Code of Obligations relevant to mandates will apply.

One such provision relevant to mandates is Art. 404 paragraph 1. This article provides that a mandate may be terminated at any time by either party revoking the agreement

or giving notice. This means that if the parties do not stipulate precise rules about termination in their contract (e.g. termination upon 6 month's prior written notice) the party that wants to escape from the mandate may legitimately revoke the contract and stop performance of its research work or funding obligations with immediate effect at any time. This example shows that under civil law and the Swiss legal framework, the parties to a collaboration always need to be aware of the provisions of the general law, in particular the Code of Obligations.

However, parties to a research agreement should not rely solely on the provisions of the Code. Certain areas, namely those that are most likely to cause disputes between the parties, need to be dealt with in a contract. The exact scope of performance and related duties, allocation of intellectual property, effectiveness, duration and termination of the collaboration and the effect of termination or expiry of the collaboration all fall into this category. To a certain extent, therefore, the process of concluding a collaboration agreement under civil law is not that different to what happens under common law. This is also the reason why R&D collaboration agreements tend to look very similar regardless of whether they are governed by Swiss law or US/English law.

## F. Competition Law

### 1. Swiss competition law

Competition law issues need to be considered at an early stage in the planning of a research collaboration. This will probably become even more important in Switzerland in the near future, as the stakes for breaching competition law are about to be raised. Until now, the authorities' only sanction for a first competition law "offence" has been to warn those involved not to do the same again. If the competition law breach continues, the parties can then be fined. The one exception is the immediate penalty for failing to inform the authorities of a notifiable merger. However, the Swiss legislature is now discussing the introduction of immediately applicable fines where competitors enter agreements that breach competition law. The political will to introduce direct sanctions appears to be strong but the necessary amendments to the Swiss Cartel Act are still being debated in the Swiss Parliament.

Research and development collaborations, particularly between competitors, will certainly restrict competition to some extent. Under Swiss law, agreements or arrangements which have the effect of considerably restricting or preventing effective competition are generally unlawful. However, provided they do not eliminate competition altogether, such arrangements can be justified on grounds of economic efficiency.

The traditional view is that joint research and development collaborations are justifiable if they make projects possible that would have been impossible for a single company

acting alone. For example, the necessary investment in equipment and other resources needed to develop a new drug may be too big for a single company. If two companies are involved, they can share the cost and risk. Arguments of economies of scale or scope, the advantages of specialisation and the prospect of product improvements can also be used to justify a joint venture on the basis of economic efficiency. On the other hand, restrictions on the collaborators' ability to continue their own independent research in the field and restrictions that flow over into the production and marketing phase of the project (for example, restrictions on quantity, price and geographical or customer markets) will rarely be justifiable from an economic efficiency point of view.

As noted above, even an agreement that is economically efficient will be unlawful if it enables the parties to eliminate competition altogether. For example, if the parties to a research collaboration successfully develop a new product that they could not have produced alone, the restriction on competition caused by their collaboration is justifiable. But that new product may in the future come to compete with the existing products of one or both collaborators. If the collaborators then try to control sales of the new product so that it is not able to enter into direct competition with their existing products, effective competition is eliminated and the agreement may be unlawful. This example raises one of the most difficult questions for the competition authorities in assessing research collaborations. The effect of a research collaboration will not be felt immediately. It may be many years before a product is even brought to market. It is not possible to assess how the relevant market will have developed in the meantime and so the competition authorities must make forecasts based on the current market conditions and existing information.

There may be advantages from a competition law perspective in structuring the joint venture as a concentration rather than a collaboration. A concentration involves the collaborators transferring the entire responsibility for producing and marketing products in a particular market to the joint venture vehicle, typically a new company. The collaborators must then withdraw completely from direct participation in that market. If the collaborators have joint control (i.e. if they each have power to block strategic decisions concerning the activities of the joint venture company), the joint venture will then fall within the definition of a merger and will benefit from the high notification thresholds set out below. Even if the collaborators do not have joint control, by withdrawing from the marketplace they are reducing the risk of collusion and so will be better placed to argue that the joint venture is economically justified.

Mergers must be notified to the competition authorities if the turnover of the enterprises involved is above a certain threshold or if a legally enforceable decision made under the Swiss Cartel Act has established that one of the parties involved in the joint venture is in a dominant position in a particular market in Switzerland and the joint venture relates

to that particular market or up- or downstream or neighbouring markets. The thresholds for notification of mergers are as follows:

(I) the enterprises involved must have a combined aggregate turnover of more than CHF 2 billion world-wide or at least two of them must have combined aggregate turnover in Switzerland of more than CHF 500 million during the last business year; and

(II) the individual turnover in Switzerland of at least two of the enterprises involved must be more than CHF 100 million for the last business year.

Turnover is calculated on a consolidated basis, i.e. it includes the turnover of all group companies, but does not include intra-group business. All reductions on earnings such as discounts, rebates, value-added tax and other taxes directly allocated on the turnover are deducted from proceeds earned in order to arrive at the turnover figure.

If the joint venture has to be notified, it cannot be put into effect until it has been approved by the competition authorities. If the joint venture is a merger which does not meet the notification criteria or, if it is a co-operative joint venture, it may be put into effect immediately.

## 2. EU competition law

If the collaborating parties are active on the European market, European competition law may also have an impact on their joint venture. If the joint venture could appreciably affect trade between EU Member States, Article 81 of the EC Treaty will apply. Article 81 prohibits agreements, decisions and concerted practices which have as their object or effect the prevention, restriction or distortion of competition within the common market. Agreements that are prohibited under Article 81 are automatically void. However, Article 81 may be declared inapplicable in the case of agreements which contribute to improving the production or distribution of goods or to promoting technical or economic progress, while allowing consumers a fair share of the resulting benefit, and which do not (I) impose restrictions which are not indispensable to attaining these objectives or (II) give the companies involved the possibility to eliminate competition in respect of a substantial part of the products in question.

If the agreement is between relatively small companies in the European market place, competition concerns are less likely to arise. The European Commission “de minimus” notice of December 2001 explains that agreements between competitors will not have an appreciable effect on trade if the combined market share of the parties is below 10%. This threshold is raised to 15% for agreements between non-competitors. However, even below the thresholds, certain “hard core” restrictions such as price fixing and the territorial division of markets will be subject to Article 81.

Small and medium size enterprises (SMEs) will not be caught by Article 81, even if they have a market share above these thresholds, provided the relevant agreement does not significantly impede competition in a substantial part of the relevant market. If, however, competition in the relevant market is restricted by a network of similar agreements, the agreement may be prohibited by Article 81 after all. To qualify as an SME, a company must currently have (I) fewer than 250 employees, (II) an annual turnover not exceeding Euro 40 million or an annual balance sheet total not exceeding Euro 27 million and (III) not be owned or controlled as to 25% or more by undertakings that are not SMEs. The EU is preparing to issue a new definition of SMEs with increased thresholds. It is envisaged that the turnover threshold will be increased from Euro 40 million to Euro 50 million and that the annual balance sheet total will be increased from Euro 27 million to Euro 43 million.

For companies that exceed the "de minimus" thresholds and are not within the definition of SMEs, the European Commission has issued guidance, in a notice published in January 2001, on the application of Article 81 to joint ventures and co-operations. The Commission guidance explains that (I) co-operations between non-competitors and (II) co-operations between competitors that could not independently carry out the project or activity covered by the co-operation, will not fall within the scope of Article 81 EC. In relation to point (II), the financial resources available to the parties are of primary importance in analysing whether they would have been able to carry out the project independently.

If the collaboration agreement does fall within the scope of Article 81 EC it may still be exempted from European competition law under the block exemption for research and development agreements. The block exemption covers joint research and development and joint exploitation of the results of that research and development. Provided the collaborating parties are not competitors, the block exemption allows restrictions on exploitation of research to continue for seven years after the results of the research are first put on the market. If the parties are competitors, and also for non-competitors after the initial seven years, the block exemption only applies if the combined market share of the participants is 25% or less of the market for products capable of being improved or replaced by the research results. There are a number of other stipulations attached to the block exemption. To give just a few examples, all parties must have access to the results of the research for the purposes of further research and exploitation (or in the case of academic institutions, just for further research), the parties are not allowed to fix the price at which they will sell the results of the research to third parties and the parties must be free to sell in all territories and to all customers in the European Union after the first seven years.

At an EU level, a joint venture may be subject to merger control if it performs on a lasting basis all of the functions of an autonomous economic entity. To do this, it must have its own management dedicated to the day-to-day running of the company and access to

sufficient resources including staff, finance and assets. A joint venture company that takes over only one aspect of the collaborating parties' business, e.g. research and development or production functions only, without itself having access to the market, will not be an autonomous economic entity.

Only mergers with a Community dimension require notification to the European authorities. Whether or not a merger has a Community dimension depends on the turnover of the parties involved, both world-wide and in the EU. The turnover thresholds are as follows:

(I) all involved parties must have a combined world-wide turnover of more than Euro 5000 million and at least two of the involved parties must each have a Community-wide turnover of more than Euro 250 million, unless each of the involved parties achieves more than two-thirds of its Community-wide turnover in a single EU Member State in which case that Member State will have jurisdiction, or

(II) all involved parties must have a combined world-wide turnover of more than Euro 2500 million and a combined turnover in each of at least three Member States of more than Euro 100 million and at least two of the involved parties must each have a Community-wide turnover of more than Euro 100 million and a turnover in each of at least three Member States of Euro 25 million, again unless each of the involved parties achieves more than two-thirds of its Community-wide turnover in a single EU Member State.

If the thresholds are met, the EU merger task force must decide whether the joint venture is compatible with the common market. Only joint ventures that are compatible will be approved. The task force is particularly concerned to make sure that there will continue to be effective competition in the relevant market following the setting up of the joint venture.

If a joint venture does need to be notified, the notification must be filed within one week of the agreements being signed. It cannot be put into effect until the European competition authorities have given their approval.

Where a joint venture needs to be notified in both Brussels (for the EU) and Berne (for Switzerland), the same information can be used for both filings. In general the only additional information needed for the Swiss notification is the parties' turnover in Switzerland. The Swiss filing can be done after the filing in Brussels as the one week deadline does not apply in Switzerland.

## 3. US antitrust law

The US authorities analyse all agreements in one of two ways. If the effect of the agreement is principally the raising of prices or the reduction of output, the agreement will usually be judged unlawful "per se" and no further investigation will be carried out.

Price-fixing agreements and those that divide or share markets are commonly found to be unlawful "per se". The per se approach is rarely used with respect to collaboration agreements. The other approach involves weighing up the pro-competitive benefits of an agreement against the anti-competitive harm that it might cause in order to establish its overall competitive effect. This is known as a "rule of reason" analysis.

The US antitrust authorities (the Federal Trade Commission and the US Department of Justice) issued guidelines on collaborations among competitors in spring 2000. The collaboration guidelines apply where two or more parties combine substantial capital, technology or other comparable assets in the integration of one or more economic activities. Their collaboration must be designed to have a pro-competitive benefit and the collaborators may be required to show that their agreement leads to real efficiencies. The agreement that they enter into should be reasonably necessary for achieving, but does not have to be essential to, the pro-competitive benefit.

Having established that the integration has a pro-competitive side, the US authorities will then analyse the anti-competitive harm. There are broadly six factors that will be used to decide whether the collaborators are still able to compete in the market place independently from each other despite their integration. Those factors are (1) the exclusive/non-exclusive nature of the collaboration, i.e. are the parties contractually allowed to compete with each other, (2) do they retain independent control of their assets, (3) the size of the financial interest that they have in the collaboration, (4) the degree of control over competitively significant decision-making, (5) the extent to which they share information, particularly on prices, costs, output and strategy and (6) the duration of the collaboration.

As in the EU, certain categories of agreements are recognised as being unproblematic even though they are entered into between competitors. These agreements do not need to be analysed under the rule of reason: they benefit from "safety zones". Of course, an agreement that does not come under a safety zone will not be automatically anti-competitive. There are two safety zones described in the guidelines. One protects collaborations where the combined market share of the parties is less than 20%. The other covers agreements where the collaboration takes place on an "innovation market" (i.e. an R&D collaboration which is directed to developing new or improved goods or processes). For an R&D collaboration to benefit from the safety zone, there must be at least three or more other (independently controlled) research efforts engaged in research which is a close substitute for the collaboration R&D. All of these independent research efforts must have sufficient assets and incentive to produce substitutable results.

The safety zones will not apply to agreements that are unlawful per se, to agreements that are classified as mergers or to agreements that would be challenged by the anti-trust authorities without any analysis of the relevant market. As explained above, an

agreement is unlawful per se if it will always tend to raise prices or reduce output. An agreement will be challenged without any analysis of the relevant market if it is evident from the nature of the agreement itself that it will cause anti-competitive harm or, where the agreement is already in operation, if anti-competitive harm has already resulted and the agreement brings no overriding pro-competitive benefits. Finally, an agreement is classified as a merger if it eliminates all competition between the collaboration participants and it does not terminate in a sufficiently limited period (in general, ten years is the threshold for a collaboration to be considered a merger).

If a joint venture is classified as a merger, it will then be subject to analysis based on the three US merger control tests. These are (I) the "in commerce" test, i.e. the collaborators or joint enterprise must be engaged in interstate commerce in the US, (II) the "size of transaction" test, i.e. collaborators must have a total amount of shares or assets in the joint enterprise in excess of US$ 50 million (approximately CHF 75 million), and (III) the "size of person" test, i.e. if the transaction is valued at between US$ 50 and 200 million (approximately CHF 75 and 300 million), either the collaborators or the joint enterprise must have annual net sales or total assets of US$ 100 million (approximately CHF 150 million) or more and the other party or parties must have annual net sales or total assets of US$ 10 million (approximately CHF 15 million) or more. There are a number of exemptions which apply where the transaction in question involves non-US companies. In particular, acquisition by a non-US company of assets located outside the US is exempt, as is an acquisition by a non-US company of a non-controlling interest in another non-US company.

## 4. Guidelines on cross-licensing and patent pools

Very often within the context of a collaboration, the parties agree to grant each other cross licenses of intellectual property. This may lead to lower costs and new products, both of which are beneficial to competition and so to consumers. Such licenses may also encourage R&D by generating greater returns on intellectual property than could be obtained by companies working in isolation. These benefits are generally recognised by competition authorities.

However, the results of cross-licenses are not all positive, especially where the parties would otherwise be competitors in the marketplace.

The US anti-trust authorities have issued guidance on the licensing of IP (in the form of guidelines published in 1995 and subsequent business review letters) explaining how the general principles of competition law are applicable to patent pools and cross-licensing arrangements. According to the guidelines, the following practices should be observed in order to keep the anti-competitive effects of patent pooling to a minimum:

- **Patent pools should be limited to "essential" patents**

  All of the patents in the pool must be valid and, in the absence of licenses, infringed by the other pool participants. Pool participants should not be required to take a license of patents that they are not in fact infringing. The authorities do recognise that licensing a bundle of patents can save administration costs. However, each pool participant must be free to weigh up this administrative cost saving against the cost of paying royalties for unneeded patents before deciding whether to participate in the entire pool or only part.

  Pools of "blocking" patents (i.e. patents which cannot be practised without infringing another patent) are generally acceptable from an competition point of view. Pools of "competing" patents (i.e. patents covering alternative technologies) or "complementary" patents (i.e. patents that cover technologies which may be, but do not have to be, used together) are more likely to be anti-competitive.

  Whether a patent is essential to the pool or not should be judged by an independent expert, not by the pool participants themselves. If the expert is paid from contributions by the participants, there may be doubts as to whether he is truly independent.

- **Each patent holder must be free to license its patents outside the pool**

  If patent holders are bound to license only within the framework of the pool, pool members might work together to exclude competitors from access to the pooled technology. To avoid this, licenses to the pool must be non-exclusive and potential third-party licensees must be able to enter into separate licenses with individual participants in the pool.

- **Licenses must be granted on a non-discriminatory basis**

  This is not to say that all licensees must be granted licenses on exactly the same terms. "Most favoured nation" clauses for members of the pool are probably acceptable. Furthermore, licensees competing in different markets may be treated differently. For example, the US authorities regard producers of DVD machines for use with television sets as operating in a different market from producers of DVDs and, therefore, the license terms offered to one set of producers may be different from those given to the other.

  Membership of the pool must be open to any interested party if access to the pooled technology is necessary in order to compete in the relevant market or if the pool participants have substantial market power. Otherwise, legitimate reasons for excluding a would-be participant from the pool will generally be accepted by the anti-trust authorities.

- **Royalties must be small in comparison to the cost of manufacturing end-products**

  One of the justifications for approving patent pooling agreements is that consumers have access to new technologies at reduced costs. However, if the royalty charged for access to the pool is too high, the cost to end-users will also be high. Unfortunately, the available guidance does not assist in determining what a "reasonable" royalty rate would be.

  Note that a royalty set at a rate of x cents per unit may be small initially but, as manufacturing costs fall, the royalty may grow to be a significant cost. Therefore, it is preferable to fix royalties as a percentage of sales prices, or at very least impose a percentage cap on the cents per unit rate.

- **The pool participants should not share competitively sensitive information with each other unless absolutely necessary**

- **The patent pool must not discourage innovation**

  There is a danger in a patent pooling situation that the incentive to innovate is removed either through economic penalties, an obligation to license all improvements to the pool or outright prohibition of development work. This is regarded as anti-competitive. Pool participants must remain free to develop rival technologies.

  In the course of development work, one of the participants may improve upon the standard adopted by the pool. It then seems unreasonable for that participant to be able to take advantage of the low-cost licenses from the pool but exploit its improvement purely for its own commercial gain. In these circumstances, an automatic license may be appropriate. However, if there are obligations on the participants to license new inventions or improvements to the pool, these licenses must be non-exclusive and granted in return for a reasonable royalty.

Patent pooling arrangements have to be approached with care. They can keep costs down and promote innovation. On the other hand, they may be restrictive of competition and leave the participants exposed to competition sanctions. If considering entering into a cross-licensing arrangement, the above guidance should be kept in mind.

## G. Resolving Disputes

### 1. Escalation procedures

If a dispute arises which the project managers engaged directly on the collaboration are not able to resolve, there is no need to go straight to court or arbitration. Many collaboration agreements provide for a staged process for escalating disputes which, if it works,

saves the parties time and costs and allows them to preserve good relations. For example, a dispute that the project managers have not been able to resolve may be referred up to the steering committee for the project. From there it might be passed up to the finance directors and then the managing directors of the respective companies. At each stage, a time limit will be fixed within which the dispute must be resolved or escalated.

This internal dispute resolution procedure alone will often put sufficient pressure on project managers to encourage them to find a solution. However, some disputes cannot be settled internally and so the next stage is to ask an independent expert for a decision. The parties should decide on a neutral body to appoint the independent expert in the event that they cannot agree on who it should be. The decision of the expert can be final and binding on the parties if they agree to that in advance. Alternatively, there may be a right of appeal to arbitration or to the courts, either on matters of law only or on the full substance of the dispute.

## 2. Arbitration

In many cases, arbitration is the ideal forum for deciding disputes arising from a research collaboration. Where intellectual property rights are at stake, protection may be sought or need to be enforced in several countries. Rather than taking the dispute through the individual national courts it can be much more efficient for the right-holder to bring his case in one neutral forum. Furthermore, such disputes can be highly technical and require a great deal of expert knowledge. Disputes over pharmaceutical or biotechnology patents or protection of computer software demand a good understanding of the scientific background on the part of the judge. Arbitration proceedings are flexible enough to allow an expert to give his independent opinion to the arbitrator(s) or even to decide the dispute. An arbitrator also has enough flexibility to come up with a unique remedy suited to the particular case, which may be very useful in fast-developing areas of the law. Arbitration proceedings typically only give limited discovery rights and limited rights of appeal from the arbitration decision. As a result, arbitration can be a faster way of resolving disputes than bringing proceedings through the courts. Finally, unlike proceedings in national courts, arbitration cases can be kept confidential. For all of these reasons, it is common to find arbitration clauses applying to technology transfer agreements and research collaborations.

The WIPO Arbitration and Mediation Center, set up under the auspices of the World Intellectual Property Organisation, which itself comes under the umbrella of the United Nations, adopted its own arbitration rules in 1994 (arbiter.wipo.int). These rules have recently begun to be applied to actual disputes. One arbitration has already been completed and five are in progress at the time of writing. It seems likely that this trend will continue in the future. The WIPO rules contain special provisions dealing with confiden-

tiality, technical and scientific evidence, interim remedies and expedited proceedings that are designed to make them particularly useful for intellectual property disputes, although they may be used in any dispute regardless of the subject matter. More recently, the American Arbitration Association (AAA) has followed suit by adopting its own patent arbitration rules (www.adr.org). Both organisations, WIPO and AAA, suggest specific wording for inclusion in agreements where the parties wish to provide for arbitration using their rules.

Of course, there are arguments favouring proceedings in national courts. Not every case is suitable for arbitration. An intellectual property right-holder may want the publicity that he will get from bringing a case in the national courts, particularly where he is trying to enforce his rights against an infringer. He will hope that the publicity will have a deterrent effect on other would-be infringers. Furthermore, arbitrations are no longer seen as a cheap, quick way to resolve a dispute and can be just as long and expensive, if not more so, than a court case. On top of that, the enforceability of an award made by an arbitral tribunal, particularly where it concerns intellectual property rights, is limited and uncertain in some countries. This problem of "arbitrability" is discussed further below. And finally, several jurisdictions have now set up specialist intellectual property courts with the necessary knowledge and expertise to decide intellectual property disputes, making it unnecessary to bring in an independent expert to assist with the decision-making process.

## 3. Arbitrability

Intellectual property disputes are capable of being decided by arbitral tribunals; former arguments about the arbitrability of intellectual property disputes per se appear to have been resolved, at least in most jurisdictions. Nowadays only a few countries take the view that arbitral tribunal decisions on intellectual property matters are other than final and binding. To give an example, until recently Brazil refused to recognise arbitration judgements that referred to a public register. This meant that decisions on patent infringement or royalty disputes under trademark licenses could not be arbitrated. Since 1996, such matters have been arbitrable in Brazil. But there are other countries that still do not recognise the arbitrability of intellectual property disputes.

Where parties do face problems with the arbitrability of intellectual property, it will generally be for one of the following reasons. Firstly, arbitrability of intellectual property may be restricted as a matter of national public policy. In South Korea, for example, only commercial matters may be arbitrated. Intellectual property is not considered to be a commercial matter and therefore intellectual property disputes cannot usually be taken to arbitration. Secondly, national courts or intellectual property offices may reserve to themselves exclusive jurisdiction for deciding disputes over the validity of intellectual

property. In territories where this approach is taken, registered intellectual property rights such as patents and trademarks are often dealt with in a different way from intellectual property rights that arise automatically, such as copyright. For example, in South Africa, only the "Commissioner" can decide on disputes relating to patents, whereas copyright disputes may be taken to arbitration. Thirdly, a dispute may be deemed arbitrable only where the parties are free to dispose of their rights and therefore free to give the arbitral tribunal power to compel them to take certain actions. In instances where parties are not free to dispose of their rights, for example, where the dispute can only be resolved by cancellation or alteration of a right granted or registered by a public authority, the dispute will not be arbitrable. This is the case in Germany and Japan. Finally, in some territories, Israel for example, arbitration awards are only given effect between the parties to the arbitration and cannot be used to enforce a right against any third party. All of these examples create uncertainty about whether there is absolute arbitrability of intellectual property disputes.

However, arbitration of intellectual property disputes does not always give rise to such difficulties. For example in Switzerland, where all pecuniary claims can be submitted to arbitration, virtually every intellectual property dispute can be decided by an arbitral tribunal and the decisions of arbitral tribunals are given full force. The only exceptions are for (I) disputes over registration processes which are administrative processes run by the State, (II) disputes over compulsory licenses and (III) disputes concerning the expropriation of intellectual property rights by the State. Otherwise, the Eidgenössisches Institut für Geistiges Eigentum (the Swiss Federal Institute for Intellectual Property), which is responsible for all intellectual property matters in Switzerland, will amend the patents, trade mark or design right register in accordance with decisions of an arbitral tribunal regardless of whether the arbitration took place in Switzerland or elsewhere. This can be compared with the position in Germany where the law on arbitrability is expressed using the same wording as in Switzerland. However, as noted above, only those disputes concerning rights which the parties are free to dispose of are considered to be arbitrable under German law.

How does the arbitral tribunal decide whether a dispute is arbitrable? Current thinking is that if a tribunal has competence to decide a dispute, it no longer matters where the tribunal is located. Therefore the law of the place of arbitration is not the decisive factor in determining arbitrability. This will generally accord with the intention of the parties who most probably chose the location of the tribunal without regard to the laws that apply in that place.

The most important law for determining arbitrability is generally agreed to be the law of the arbitration agreement, i.e. the law that the parties have chosen to govern their agreement to submit their disputes to arbitration. Often, however, the parties do not

expressly state which law is to apply to their arbitration agreement. In this case, an arbitral tribunal will usually apply the law that governs the main agreement between the parties.

Issues of arbitrability are not, however, settled by the arbitration tribunal alone. The decision of the tribunal may be valid according to the law of the arbitration agreement but may not be recognised in the place where the award is to be enforced. Where this happens, the party who wins the arbitration will receive an unenforceable award. The 1958 New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards, which has now been adopted in more than 125 countries, does make the enforcement of foreign arbitral awards easier. However, in approximately 10% of cases under the New York Convention, enforcement of an award is still refused. Less dramatic but no less important are the opportunities that national courts have to rule a dispute inarbitrable when they are asked at the start of arbitration proceedings either (I) to rule on the jurisdiction of the arbitration tribunal or (II) to compel the defendant to submit to arbitration.

## 4. Court proceedings

As noted above, in some instances a dispute will be better heard in national courts rather than by an arbitration tribunal. And in cases where there is no agreement between the parties to go to arbitration, the dispute will have to be decided by national courts.

Where there is a written contract in place, the parties will usually have agreed the law that is to apply and the courts that will have jurisdiction over their dispute. Where there is no contract or no applicable law is specified, the court will apply conflict of law rules to arrive at the appropriate choice of law.

The Swiss Code on Private International Law (CPIL) contains the Swiss conflict of law rules. These rules enable the Swiss courts to determine the law "most closely connected" to a particular dispute. In the case of an intellectual property license contract, for example, Article 122 of CPIL provides that, unless the parties have agreed on a choice of law, a license contract will be governed by the law of the state in which the transferor or licensor of the intellectual property has his habitual place of residence. The internationally accepted view, on the other hand, is that the characteristic part of performance of a license contract is carried out by the licensee. If the characteristic part of performance is made by the licensee, the most closely connected law should be that of the place of residence of the licensee. This is the opposite conclusion to that reached when an ordinary Swiss court applies Swiss conflict of law rules.

A Swiss court cannot refuse jurisdiction where the parties have specifically agreed that Swiss law must decide their dispute, even if neither party has any connection to Switzerland. However, when a Swiss court accepts jurisdiction, that does not mean that the case

will necessarily be governed by Swiss law. It may well be that Swiss law is applied, but it could also be that a foreign law either alone or in conjunction with Swiss law or other foreign laws is used to decide the dispute. Where there is no contract between the parties and they are disputing an intellectual property right, Article 110 of CPIL refers the court to the law of the state for which protection of the intellectual property is sought. This means that the law of each country for which protection of intellectual property is sought can be applied. For example, a right holder claiming infringement of a Swiss and a French patent would be seeking protection for Switzerland and for France. In this case, the Swiss court could apply Swiss law to decide upon the case for the Swiss patent and French law to reach a decision on the French patent.

# V. Epilogue

There are many things to think about once the decision to collaborate has been made - ownership of intellectual property rights, licenses, confidentiality, intellectual property protection, competition issues... the list goes on. And that is before the research has even generated any results. However, a successful collaboration can have huge benefits for a business and for the general public. For example, Novartis, one of the world's largest pharmaceutical companies, has been working for the past two years on a multi-million dollar collaboration with Compugen, a technology company involved in the development of computational technologies in the fields of biology, chemistry and medicine. The goal of the collaboration for Novartis is to achieve accelerated identification and validation of drug targets. For Compugen, the collaboration involves the development of a computational platform for RNA interference, involving the silencing or "knockdown" of genes in a sequence specific manner, which in turn allows much faster validation of drug targets. Compugen will own and be able to license the platform to other pharmaceutical companies in addition to Novartis. For both companies, the potential financial returns on this project are large because of their collaboration.

To take another example, Nestlé and L'Oréal are stakeholders in a joint venture to develop and market nutritional supplements for cosmetic purposes. They each contribute know-how from their own field of expertise, nutritional research from Nestlé and dermatological research from L'Oréal, to create products for a market in which neither of them have previously operated. If the collaboration is a success, they will have opened up a new market and a new source of profit.

By way of further illustration, this time from the medical devices industry: Phonak and Siemens, companies that are both active in this field, are working together to develop a technology for the automated manufacture of shells of in-the-ear hearing instruments (rapid shell making or "RSM"). This collaboration should lead to a significant reduction in production costs which will benefit not only the companies themselves but also the general public.

As a final piece of advice, we urge you to choose your collaborators wisely. If a research partner is well chosen, the issues explained in this account can be tackled to everyone's satisfaction without much difficulty. A good spirit of co-operation will often be more important than the precise terms of the parties' agreement. It is usually only when things do not go well and relations between collaborators deteriorate that the contract terms become crucial. At that point, however, what is written in the contract can be of great importance.

Alessandro Celli, Nicola Benz and Roger Staub are all members of the Intellectual Property and Competition Law Practice Group of Froriep Renggli and work in the firm's Zurich office. The Group advises a range of domestic and international clients in the private and public sectors on their research and development projects and has particular experience in the health, medical equipment, pharmaceutical, entertainment and IT industries. Where appropriate, the Group works in close collaboration with experienced patent and trade mark advisors and lawyers in other jurisdictions with a view to providing comprehensive advice on such matters as protection of intellectual property rights, licensing, joint ventures, international arbitration, litigation, international trade, venture capital and financing.

Contact:


**Froriep Renggli Zurich**
Bellerivestrasse 201
CH-8034 Zurich
Tel: +41 1 386 60 00
Fax: +41 1 383 60 50
zurich@froriep.com

Alessandro Celli: acelli@froriep.ch
Nicola Benz: nbenz@froriep.ch
Roger Staub: rstaub@froriep.ch

**Froriep Renggli Geneva**
4, rue Charles-Bonnet
CH-1211 Geneva 12
Tel: +41 22 839 63 00
Fax: +41 22 347 71 59
geneva@froriep.com

**Froriep Renggli Zug**
Baarerstrasse 37
CH-6304 Zug
Tel: +41 41 710 60 00
Fax: +41 41 710 60 01
zug@froriep.com

**Froriep Renggli London**
1 Knightrider Court
London EC4V 5JP
Tel: +44 20 7236 60 00
Fax: +44 20 7248 02 09
london@froriep.com

# FRORIEP RENGGLI

Seit 1966 erbringt Froriep Renggli für Unternehmen und Privatpersonen des In- und Auslandes Dienstleistungen zu einer Vielzahl von Rechtsgebieten. In verschiedener Hinsicht ist unsere Anwaltskanzlei führend tätig.

Das wirtschaftliche und geschäftliche Umfeld verändert sich laufend, so auch der Markt für anwaltliche Dienstleistungen, der mit stetig zunehmenden Regulierungen und Erwartungen der Klienten konfrontiert ist. Wir vertiefen unablässig unsere Fachkenntnisse, verbreitern unser Dienstleistungsangebot und eignen uns auch auf neuen Rechtsgebieten grundlegendes Wissen an.

Wir sind überzeugt, dass Froriep Renggli mit seinem Engagement für die Klienten, dem Teamwork und seiner Kreativität weiterhin die Herausforderungen meistern wird. Mit unseren hervorragenden Mitarbeitern, besten Klienten und einem effizienten Support sind wir sehr optimistisch, als starke und unabhängige Schweizer Anwaltskanzlei mit einem ausgeprägten internationalen Flair auch in der Zukunft erfolgreich für unsere Klienten tätig zu sein.

Since 1966, Froriep Renggli has provided corporations and individuals, domestic and international, with a broad range of legal services. The firm has been a leader in several respects.

The economic and business environment is being impacted by many changes, and so is the legal market, faced with ever growing regulations and clients' expectations. We are expanding the breadth and depth of our expertise, the scope of our delivery, and we are developing skills in many new areas.

We are confident that with our emphasis on commitment to clients, teamwork and creativity, Froriep Renggli will continue to meet the challenges head on. With outstanding people, best clients and efficient supports, we have never been more optimistic about our success as a strong independent Swiss law firm with a distinct international flair.

Depuis 1966, Froriep Renggli a fourni une vaste gamme de services juridiques à des sociétés ainsi qu'à des personnes physiques, tant en Suisse qu'à l'étranger. L'Etude a occupé une position de leader dans plusieurs domaines.

Les changements importants intervenus ces dernières années dans le domaine de l'économie et dans le monde des affaires ont imposé à l'activité juridique de faire face à un nombre grandissant de règles de toutes sortes, ainsi qu'à une clientèle de plus en plus exigeante. Dans un processus continu, nous étendons le champs de nos compétences et la variété de notre gamme de services, et développons ainsi nos connaissances dans de nombreux domaines nouveaux.

Nous sommes certains que son engagement envers les clients, sa créativité et l'esprit d'équipe qui l'anime conduiront Froriep Renggli à remporter les nouveaux challenges la tête haute. Grâce à des collaborateurs hors pair, à des clients de grande valeur et à des moyens efficaces, nous n'avons jamais été plus optimistes au sujet de notre succès en tant qu'Etude d'avocats suisse indépendante à l'accent international bien établi.

www.froriep.com