

#### 3.5.1 First Step: Deciding On What Should Be In The Collaboration Agreement?

## SECTION 1: DECIDING OWNERSHIP OF THE INTELLECTUAL PROPERTY RIGHTS

1. Is the Industry partner paying all the costs<sup>40</sup> plus some element of profit to the public research organisation?
2. Has the Project been proposed by the Industry partner?
3. Is the Project critical to the Industry partner's technology acquisition and/or development strategy?
4. Does the Project rely substantially on the Industry partner's own materials and/or Background IP from the Industry partner?
5. Would the Project be easy to carry out without privileged access to the PRO's own materials or Background IP?
6. Is the focus of the Project the testing or analysis of the Industry partner's own materials, or research based around the Industry partner's own materials or Background IP?
7. Has the Industry partner taken the lead in designing the work for the Project?
8. Is the Industry partner managing the project e.g. setting deliverables, targets and/or milestones for the Project?
9. Can the Project be kept separate from the other activities of the PRO researcher?
10. If the Industry partner has ownership of the IP resulting from the project will this have little or no effect on the future research of the PRO or individual researcher(s) (i.e. there will be no knock-on effect on the professor's other research or related IP rights)?



### SUITABLE OWNERSHIP POSITION (SEE DETAILS ON PAGE 44)

#### 0 - 4 "Yes" answers

Please go to Section 3

#### 5 "Yes" answers

Go to the Section 5: Additional Questions section.

#### 6 - 10 "Yes" answers

The Industry partner should own the IP obtained from the Results, and you should consider whether the Public research organisation needs to use the Results for academic purposes. Please go to Section 2

<sup>40</sup> All costs include those of staff, equipment, pension costs, etc.





## Section 2: INFLUENCE OF CONFIDENTIALITY & PUBLICATION

1. Will the academics or other researchers from the public research organisation need to publish the Results of the Project?
2. Is the Industry partner willing to approve publication of the Results?
3. Is the PRO charging only project costs with no element of profit (including for the IP developed)?
4. If students or others working towards a qualification are involved, will they need to submit the Results of the Project to obtain this academic qualification, for example a masters or doctoral degree?



### SUITABLE OWNERSHIP POSITION (see details on page 44)

#### 0 “Yes” answers

**Ownership Position #5:** The Industry partner should own the IP in the Results, and the Public research organisation would have no right to publish the Results. (This type of agreement is usually referred to as a Contract Research or Research Services Agreement, rather than a Collaborative Research Agreement, where the industry partner pays a commercial rate to the Public research organisation but retains complete control over the results.)

#### 1 - 4 “Yes” answers

**Ownership Position #4:** Industry partner should own the IP obtained from the Results, but the right should be reserved to allow the Public research organisation to use the Results for academic purposes (such as teaching, research & publication) on certain conditions to protect the confidentiality of the Industry partner’s information and so as not to jeopardise the possibility of the Industry partner obtaining IP protection, such as a patent, for the Results.

## Section 3: IMPORTANCE OF THE RESULTS FOR FUTURE ACTIVITY

1. Has the Project been designed primarily to address academic interests?
2. Does the Project represent an integral part of the academic professor or PRO research group's overall long-term research activities?
3. Does the Project rely substantially on the PRO's own materials or Background IP from the Public research organisation?
4. Is the Project being funded principally through sources other than from the Industry partner, e.g. public funding from a government or state research funding organisation; funding from a third party?
5. Would the Project be easy to carry out without privileged access to the Industry partner's own materials or Background IP?
6. Will the Project take place entirely on PRO premises?
7. Are all the individuals working on the Project employees or students of the Public research organisation?
8. Is it unlikely that commercially exploitable Results or patentable inventions will arise from the Project?
9. Are the Results of the Project likely to be of more interest to the Public research organisation than to the Industry partner?
10. If the PRO has ownership of the IP resulting from the project will this have little or no effect on to the Industry partner's future research (i.e. there will be no knock-on effect on the Industry partner's other research or related IP rights)?



## SUITABLE OWNERSHIP POSITION (see details on page 44)

### 0 - 3 "Yes" answers

Please go to Section 4.

### 4 - 5 "Yes" answers

Go to Section 5: Additional Questions.

### 6 - 10 "Yes" answers

**Ownership Position #1:** The Public research organisation should own the Intellectual Property (IP) obtained from the Results and grant a non-exclusive licence for the Industry partner (and its Group Companies) to use the Results in a specified area of business (field of technology) and/or a geographical area (territory) in which they operate.





## Section 4: EXPLOITATION OF THE RESULTS

1. Will an exclusive licence provide an effective means through which the Industry partner can exploit the Results?
2. Are there likely to be applications/fields of use, markets/ territories in which the Industry partner is unable to exploit, or is uninterested in exploiting, the IP obtained from the Results?
3. Does the Project represent an integral part of the overall research activities of the PRO or individual researcher(s), and will the IP in the Results therefore be of significance to his/her/their long-term plans?
4. Is the Project based more on the Public research organisation's Background/ Know-how/own materials than on the Industry partner's Background/Know-how/ own materials?
5. Does the Public research organisation have the patent budget and expertise to manage the IP in the Results?



### Suitable Ownership Position (see details on page 44)

#### 0 - 2 "Yes" answers

**Ownership Position #3:** The Public research organisation should, in general, own the Intellectual Property (IP) obtained from the Results and grant a non-exclusive licence for the Industry partner (and its Group Companies) to use the Results in a specified area of business (field of technology) and/or a geographical area (territory). The Industry partner should also have the right to negotiate ownership through an assignment of the IP;

#### 3 "Yes" answers

The position is evenly balanced and we cannot usefully recommend an ownership position. You may wish to reconsider some of your answers. Answering the Additional Questions in Section 5 may help to clarify things.

#### 4 - 5 "Yes" answers

**Ownership Position #2:** The Public research organisation should own the Intellectual Property (IP) obtained from the Results and grant a non-exclusive licence for the Industry partner (and its Group Companies) to use the Results in a specified area of business (field of technology) and/or a geographical area (territory). The Industry partner should also have the right to negotiate to acquire an exclusive licence in relation to certain Results.

## Section 5: ADDITIONAL QUESTIONS

This section is designed to help you reflect and consider the answers you have given to the previous sections so that you can have greater clarity about which ownership position may be most appropriate.

If you are still unsure which Ownership Position is most useful, try answering the following questions to help determine an appropriate way forward. These are not designed to have yes/no answers in the same way as the previous questions, but to help you consider how important the project is to you.

1. whose idea was the Project?
2. what is the purpose of the Project?
3. why does the Industry partner wish to fund the Project?
4. why does the Public research organisation wish to carry out the Project?
5. what are the relative contributions of the parties in cash and in kind (e.g., materials, equipment)?
6. how will the industry partner use the resulting IP (e.g., do they need a non-exclusive licence)?

**(Please Note:** Financial contributions might also include payment of patent costs, and protection for enforcement/infringement proceedings, bonus payments, etc.)

Based on the above questions and after negotiation between the parties, either of the following Ownership Positions may apply:

**1. Ownership Position #2:** The PRO should own the Intellectual Property (IP) obtained from the Results and grant a non-exclusive licence for the Industry partner (and its Group Companies) to use the Results in a specified area of business (field of technology) and/or a geographical area (territory). The Industry partner should also have the right to negotiate to acquire an exclusive licence in relation to certain Results.

**2. Ownership Position #3:** The PRO should, in general, own the Intellectual Property (IP) obtained from the Results and grant a non-exclusive licence for the Industry partner (and its Group Companies) to use the Results in a specified area of business (field of technology) and/or a geographical area (territory). The Industry partner should also have the right to negotiate ownership through an assignment of the IP.

**Having answered all these questions the industry partner can decide that the results from the project will have little or no potential for future commercial use for themselves, they can then decide that they do not need to secure a non-exclusive licence to use the results in a specified area (field of technology) and/or a geographical area (territory).**





#### 3.5.2 Second Step: Does The Proposed Collaboration Agreement Adequately Cover Cross-Border Issues?

##### IPR Ownership

**Q1 Is the PRO in control of the IP rights so that they can enter into negotiations with the Industry Collaborator?**

It is reasonable for the industry collaborator to require that any circumstances that mean that the PRO is not the first owner of rights produced on its side will be the responsibility of the PRO to sort out.

This applies equally the other way, though it is less common for businesses not to have direct contractual arrangements with its researchers which cover IPR ownership. You may also have to deal with a situation in which the PRO is required to retain use of its research.

**Q2 Is there any arrangement to cover reversion of the IPRs back to the PRO if commercialisation of the invention is not pursued?**

This will have to take account of what the Industry collaborator has paid the PRO for the IPRs

**Q3 Is there an agreement on how each partner can have access to the background IPR or confidential information that each bring to the project?**

An arrangement needs to be in place that indicates how each collaborating party may use this background IPR especially where such background knowledge from the industry partner or the PRO is important to the commercialisation of the invention, e.g., knowledge of how machinery using the invention works or knowledge of how to prepare material to get the best results from using the invention.

**Q4 Have you checked that there is a suitable project description included with the collaboration agreement?**

Experience at national level has shown that an outline of the project to be performed is most helpful so that it is clear what work, and subsequent IPRs generated from this work, is covered by the agreement. An example of such a project outline in Annex C.<sup>41</sup> The collaboration agreement should refer to the specific project to be performed and include details such as the dates of beginning and finishing of the project or stating how a finish date will be agreed and arrangements for reporting progress and results from the work.

**Q5 If it is unavoidable that some of the resulting IP is to be jointly owned, have suitable arrangements been agreed and put in place to ensure that this does not cause obstacles to the exploitation of the results?**

If a joint ownership agreement is unavoidable, arrangements should be included that allow as much flexibility as possible for exploitation, for example, have the joint owners sometimes agreed that each is free to exploit the IP without accounting to the other joint owners? Alternatively, have the joint owners agreed to assign the (jointly owned) IPR to a single party which would be responsible for the exploitation and would account to the joint owners according to agreed shares.

<sup>41</sup> This was developed as part of the Lambert Model Agreements Toolkit in the UK to ensure that a suitable project description would be included with the collaboration agreement and has proved very helpful in the UK.

#### Negotiating the IPR Contracts,

**Q6** Is there a clear statement of who the agreement is between and what their relationship is to parties carrying out the work?

If further negotiations are to take place over, for example, a licence agreement, who are the parties to carry out the negotiation.

#### Effect of Funding

**Q7** Does the collaboration agreement include details of how the partners in the collaboration will take account of any requirements placed on them by funding from a third-party source?

**Q8** If the funding is from a public source and requires that the results from a project funded from this source are published and made available for others to use, does the collaboration agreement indicate how this will be achieved while also taking account of the need for confidentiality until the necessary IPRs have been secured? Has any necessary consent of the funding body been sought and obtained?

**Q9** Have you dealt with any regulatory requirement to commercialise the invention?

In some states it may be required to have a plan to commercialise the invention in that country. It may also be helpful to consider whether the different parties can have different roles in commercialising the invention in their respective countries.

#### Confidentiality & Publication

**Q10** Is there a need to include a clause laying out how the collaborating partners will decide when and who may publish the results from the project?

This arrangement would need to take account of the time needed for the appropriate partner to secure any IPRs and, possibly, put in place the necessary arrangements to gain commercial benefit from the project, for example, install new equipment.

An alternative arrangement may be for the PRO to secure the IPRs prior to publication but then to receive reimbursement for such expenses from the industry partner.

**Q11** Is there an undertaking that neither partner will disclose to any other third party any of the background confidential information provided by the other party?

Access and use of background confidential information provided by each party may be essential to use or exploit the results from the collaboration project. It is important that there is a clear understanding what this information is, how it can be used and most importantly, that either party to the project will not reveal it to a third party unless expressly allowed to by the owner of the background confidential information.

**Q12** Is there any arrangement laying out clearly how any legal requirements to publish will be taken into account?

This might indicate, for example, how long a time period the industry partner has to secure the IPRs before publication of the results by the PRO will take place.





**Q13** If students (postgraduate or undergraduate) or persons without a contract of employment (see definition) with the PRO were involved in the project, has an arrangement been made with them to ensure that the results of the project remain confidential until the IPRs are secured?

For example, if a postgraduate student was involved in the work, has an arrangement been put in place to indicate that the thesis may only be consulted by third parties who agree to keep the information in the thesis confidential?

#### Protection and Enforcement of IPRs

**Q14** Is there a need for an undertaking from the PRO that they will provide appropriate assistance, for example in the form of expert advice, to the Industry partner if they are taking action to enforce the IPRs generated from their collaboration?

**Q15** Has it also been make clear how the collaborating partners will handle any disagreements that arise between them during the collaboration project?

For example, if there is a difficulty over payment of funds to the PRO from the industry partner; how will such a situation be resolved?

**Q16** Have you considered under what jurisdiction and applicable law any disputes that arise will be dealt with?

The nature of a cross-border collaboration means that you have to agree under which jurisdiction any disputes between the parties will be dealt with. This will often dictate the sorts of termination or other normal contractual provisions that should be agreed. You may also have to agree what language the collaboration will work in.

A collaboration agreement may have to give specific recognition to particular requirements from each country for contracts which are distinct from the cross-border issues referred to above regarding the ownership, negotiation and funding of IPRs, confidentiality and publication, and protection and enforcement of IPRs. For example, in contracts in the UK, it is common practice to include a clause which sets out the limitation of legal liability of the parties to the agreement.

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#### DISCLAIMER

The above questions and suggestions are designed to give people an idea of the issues that they should expect to include in a cross-border collaboration agreement. They are designed as a guide to make the process of negotiating a collaboration agreement easier.

They are not a comprehensive list of the many other elements that should be included in a collaboration agreement and should in no way be regarded as a substitute for proper legal advice.

Neither the European Commission nor any person acting on behalf of the CREST Expert Group on Intellectual Property Rights or the Commission is responsible for the use which might be made of the following information. The content and views expressed in this report do not necessarily reflect the opinions or policies of the Member States or the European Commission.

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### 3.5.3 The Fact-Sheets – Summary of the Situation in Each State

#### THE FACT SHEETS

1. The second part of the Toolkit is the series of country fact sheets in Appendix B describing the elements of the IP system in each member state that a potential collaborator from another state should be aware of when considering a cross-border collaboration.
2. The information in each fact-sheet is presented under under eight key issues – discussed in more detail below. The fact-sheets also provide details on how recently the data has been updated and where to find further information on each topic.
3. The information on these eight key issues was obtained for each state using a template fact-sheet and a list of key questions, reproduced in Appendix B.
4. If you have little or no knowledge/experience of PRO/industry collaboration: Please see Appendix E 2 which provides a reference to various national and European guidelines which will help familiarise you with the process of research collaboration at national level.

#### THE KEY ISSUES

5. Eight key issues relating to how to handle the ownership, access to use and exploitation of the IP are summarised below, and a reference given to where you can find general information on each topic. Specific information on each issue will be found in the fact sheet for the individual country concerned.

#### A Types of IPR

##### Issue:

6. The range of intellectual property available in most countries is substantially similar. One variation worth noting is that a low cost form of IP protection for inventions known as a “utility model” or “innovation patent” exists in some countries but not in others. For more information see the note on Utility Models.

#### B Ownership of IPR

##### Issues:

7. The ownership of IPR is important because all the parties to a collaborative RTD project will want to ensure that the IPRs necessary to exploit the results of collaborative research have been secured and are able to be validly assigned or licensed for development and/or exploitation to an industry partner.
  - a. There are variations from country to country as to whether the PRO or the individual researcher owns the IPR in:
    - i. Any patentable invention resulting from research. For more information see the section on IPR ownership.
    - ii. Copyright: variations exist in the treatment of computer programmes and other copyright material, even within the same country. For more information see note on copyright.





**b.** In the absence of contracts to the contrary, students and independent contractors, rather than the PROs, will own all IPR in their creations, or co-creations. For more information see note on students, researchers and independent contractors.

**c.** However, in practice, most contracts for collaborative research will be negotiated by the PROs or by technology transfer offices acting on behalf of PROs and/or individual researchers. It will generally be the responsibility of the PRO or technology transfer offices to take the necessary steps to ensure that all the necessary IPRs have been secured and are able to be validly transferred or licensed to an industry partner. For information on what steps to take to reassure yourself that this process has been carried out, please see Conclusions.

#### C Negotiation of IPR contracts

##### Issues:

**8.** In countries where the individual researcher owns IPRs, it is possible to enter into contracts directly with the individual researcher. In practice, the PRO, or a technology transfer office representing the PRO(s) and/or the researcher(s), is usually involved in negotiating research collaboration agreements.

**9.** To ensure that the necessary rights are properly transferred or licensed, there are a number of precautionary steps both PROs and their industry partners can take, please see Conclusions.

**10.** Where the research is wholly or partly publicly-funded, State Aid regulations require PROs and researchers in EU states to obtain the full market price for the transfer of any IPR. For more information, please see note on the price of publicly-funded IPR.

**11.** In some countries the PRO is empowered to accept equity in payment for IPR. Particulars differ in each country. For more information please see note on equity.

**12.** In several countries, laws, regulations or policy require reversion of some or all rights if commercialisation of IPR is not diligently pursued.

#### D Effect of funding of IPR contracts

##### Issue:

**13.** The source of research funds will sometimes dictate the returns that should be expected from research, whether the results of research should be publicly accessible, and may require permission for foreign exploitation. When entering into a cross-border collaboration it is therefore important to be aware of the restrictions and opportunities that this offers. For more information please see the section on Effect of Funding.

#### E Confidentiality & Publication

##### Issue:

**14.** PROs and their industry partners may have conflicting needs as regards the publication of the results of research; the PRO and researchers generally require publication while a company may want to delay publication temporarily to enable patent applications to be filed, or indefinitely to preserve trade secrets. For more information please see Confidentiality and Publication section.

#### F Examples and Further information of IPR contracts

##### Issues:

**15.** Experience in many countries has shown that it is often difficult to achieve agreement on IPR ownership when a research project has been jointly funded by industry and public funds. For more information please see Examples of IPR Contracts section.

**16.** There are several useful guides to help resolve this issue, as well as examples of model contractual provisions. We have provided a Decision Guide which should help the collaborators in collaborative research decide where ownership of resulting IPR should reside. For more information please also see Appendix E.

#### G Protection and enforcement of IPR

##### Issues:

**17.** It is important to be clear about who will be responsible for the registration and enforcement of IPRs that result from collaborative research. For more information please see notes on protection and enforcement.

**18.** Costs of patenting inventions vary significantly, but as a guideline a recent European Patent Office (EPO) study found that a “representative European patent” would cost an average of EUR 31,580 if filed direct with the EPO (generally valid in six countries), while a filing under the Patent Co-operation Treaty, generally valid in eight countries would cost an average of EUR 46,550. For more information see Appendix E (4).

#### H Sources of further information

**19.** Local industrial and intellectual property offices will be able to provide further information. For details of national IP offices, please see Appendix E.

**20.** Appendix E also contains tables of useful references for:

- The IPR Helpdesk which provides comprehensive information on IPR
- Resources provided by industry
- Resources provided by technology transfer bodies
- Resources provided by EC-sponsored entities promoting innovation





#### 3.5.4 Definitions Of Terms Used In The Decision Guide

The following are definitions for terms used in the decision guide that you may need to know in order to answer the questions.

##### Public Research Organisation (PRO)

A university or other publicly funded institution or laboratory that carries out research.

##### Industry Partner

A business that carries out research and provides resources to the PRO e.g. financial, equipment, personnel.

##### The Field and the Territory

If the PRO owns the IP and grants a non-exclusive licence to the Industry partner, the Industry partner's use and exploitation of that IP may be limited to a specific business or technological area or field, and/or to a specific geographical area or territory.

By granting a non-exclusive licence in a field, the PRO is precluded from granting exclusive rights to any third party in the same field and in the same territory, but it may grant non-exclusive licences, and may itself exploit the technology, in that field and territory.

If the Industry partner's key business area is pharmaceuticals, or its activities are limited to Europe, the Industry partner may have no need for a licence in other fields or territories, so leaving the way clear for the PRO, or other licensees of the PRO, to exploit the IP in other fields/territories.

If the Industry partner's use of the IP is not limited to a specific territory, you should insert "worldwide" in the definition of the Territory.

##### Group Company

The Industry partner may be part of a group of companies and its R&D may be carried out across various companies in the group. Therefore the PRO allows the group to use the Results.

##### Background, Specific Background, Sensitive Background and Confidential Information

It is likely that the Industry partner or the PRO (or both of them) will make available for use in the Project, information, software or materials that already exist or that are developed independently of the Project. Each of the parties allows its Background to be used for the purposes of the Project but not for any other purpose, although negotiations may result in Background being used, where necessary, to exploit the Results.

Although it may not be necessary or possible to identify all of the Background at the start of the Project, if the success of the Project depends on one or both of the parties making specific Background available, this needs to be identified and included in the project plan.

If any of the Background is sensitive or for some other reason should not be disclosed beyond the researchers working on the Project, this should be identified either before, or at the time, the Background is made available. While the PRO may want to publish Background as part of its academic publication of the Results, it

### 3. Work stream 1

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may be important to the Industry partner that its Background remains confidential. It is important that this issue is resolved at the outset.

The Industry partner may take the view that all of its Background is commercially sensitive and must be kept confidential. Any information or material that is to be kept confidential should be marked “Confidential”.

#### The Project

One of the most important parts of the Agreement is the description of the Project in the Project plan as this describes what is to be done and the resources that are to be provided; the nature of the IP created will flow from the description of the Project and its outputs or results. It is the cornerstone of the agreement and it is therefore important that the researchers give serious thought to the contents of the project plan so that it is complete and accurate

#### Contract Research

The PRO is paid to apply existing knowledge and expertise to a particular situation rather than developing new solutions or new ideas. The PRO acts as a service provider with specialist expertise and/or specialist equipment. Patents, utility models, confidential trade secrets or computer programmes protected by copyright may result. PROs are not in business to compete with contract research organisations and may not use public money to do so. The PRO would therefore be compensated at full cost of carrying out the work plus reasonable profit, and the rights in the agreed deliverable would be generally transferred to the industry partner.

#### Collaborative Research

This relationship is best defined as research where both parties provide financial or other resources for the project. This may imply private funding of part of the research conducted by the PRO, but it could also be that the industry partner funds only its own part of the project. The agreements that the parties come to regarding use of the resulting IPR, and any share in resulting revenue will of course vary according to the unique set of circumstances of each individual case.

#### Student or Person without an Employment Contract

As part of their education and training, students and visiting academics may be involved in carrying out research. These people do not have an employment contract with the PRO so there may be difficulties in securing assignment or transfer of IP rights.







## 4. Work stream 2

Professionalising  
Technology  
Transfer



# 4. Work stream 2: Professionalising Technology Transfer

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## 4.1 Introduction

1. Collaboration between Public Research Organisations (PROs) and industry is crucial to increase Europe's capacity to innovate. In this context universities are seen as part of the PROs. There are several factors which influence such collaborations, in particular, the ability to exchange knowledge between PRO and industry in a professional way. This requires them to have basic knowledge and access to all of the skills necessary for the commercialisation of knowledge created (i.e. patenting, licensing, drawing up contracts, how to spin out etc).
2. The CREST 1st Cycle concluded that the professionalization of technology transfer professionals plays a crucial role in reaching the 3% target. Technology transfer enables the flow of knowledge from PROs to industry. Technology transfer professionals include staff which work in PROs, industry and intermediaries who have the responsibility to facilitate, promote and exchange technology.
3. Evidently, such a capability largely depends on the profile and expertise of the technology transfer officers at the PRO side. The Crest IP expert group<sup>42</sup> recognised that this issue needed to be tackled in the first cycle, and said: that:
  - “The group recommends that the EC and member states endeavour to ensure that professional technology transfer systems are sufficiently resourced at institutional, national and EU levels. Issues to be tackled include: The need for professional and skilled people” (REC 3)
  - “The group recommends that professionalization of Technology Transfer Organisations should be improved through IP/technology transfer training...” (REC 4)
4. The importance of these recommendations were confirmed during the 2004 Dutch Presidency conference in Noordwijk on “Investing in Research and Innovation: Realising the potential of public-private interaction”. The conference recommendations built on these conclusions of the first cycle. The conference recommended that an (European) education programme should be developed in which people could be trained to become professional technology transfer officers.<sup>43</sup>

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<sup>42</sup> CREST REPORT on the application of the open method of coordination in favour of the Barcelona research investment objective – see [http://europa.eu.int/invest-in-research/coordination/coordination01\\_en.htm](http://europa.eu.int/invest-in-research/coordination/coordination01_en.htm).

<sup>43</sup> See the Report “Investing in Research and Innovation, Realising the Potential of Public – Private Interaction” summarising the results of the conference, held in Noordwijk, the Netherlands, October 12 and 13 2004, as part of the Dutch EU Presidency. Organised by the Ministry of Economic Affairs and the Ministry of Education, Culture and Science, and supported by the European Commission.

## 4. Work stream 2

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Work Stream 2 follows up on the aforementioned work done in the first cycle, the Noordwijk conference conclusions and existing Member State initiatives in this field.

### 4.2 Objectives

1. Building on the earlier work and recommendations made by the 1st cycle OMC-Crest IP-Expert Group, the 2nd cycle IP-Expert Group also decided to take forward a second work stream to focus on professionalizing technology transfer through education. Central to this work stream are the following questions:

- (i) What skills/expertise should a person possess to be able to work as a professional in the field of Technology Transfer?
  - (ii) If such skills/expertise are going to be taught through education programmes/courses, what should be the main characteristics of such programmes/courses? (e.g. target audiences, levels, subjects, formats, ...)
  - (iii) What education programmes/courses are already available in the Member States/Europe and what do they offer?
2. Based on the answers to these central questions and relevant sub-questions, recommendations will be made on how Member States, the Commission and stakeholders should proceed to realise the objective of professionalizing technology transfer through education.



## 4. Work stream 2



### 4.3 Methodology

1. The IP-expert group wanted to draw on as much expertise as possible to answer the formulated questions. To be able to analyse the subject and draw conclusions/recommendations this work stream gathered information through two separate channels:

- **OMC-Crest IP-expert group survey**

2. This survey was carried out by the OMC-Crest IP-expert group members themselves. A focused questionnaire was sent to national experts and collected by the members of the IP-expert group. This survey was not meant to be comprehensive or complete. The aim was to get a general feel of the relevant issues, questions and needs in the respective Member-State countries and to use it as base for the preparation of the expert workshop.

- **Workshop with national and European experts and stakeholders in the field of technology transfer**

3. On March 22nd there was an expert workshop held in Brussels. A total of 22 national technology transfer experts attend this meeting. These experts came from 15 Member-state countries. Also representatives of the major European and national associations in the field of technology transfer (Proton,<sup>44</sup> ASTP,<sup>45</sup> AURIL<sup>46</sup> and LES<sup>47</sup>) participated in this workshop.

4. The results of survey and the full workshop-report can be found in the appendix in this report.

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<sup>44</sup> ProTon Europe is a pan-European network of Technology Transfer Offices (TOs) and companies affiliated to universities and other Public Research Organisations (PROs); see <http://www.protoneurope.org/>.

<sup>45</sup> The Mission of the non-profit Association of European Science & Technology Transfer Professionals (ASTP) is to professionalise and promote technology and knowledge transfer between the European science base and industry.; see <http://www.astp.net/>.

<sup>46</sup> AURIL is the professional association representing all practitioners involved in knowledge creation, development and exchange in the UK and Ireland who work to ensure that new ideas, technologies and innovations flow from their institution into the market place; see <http://www.auril.org.uk/>.

<sup>47</sup> The Licensing Executives Society International (LESI) is an association of 31 national and regional societies, each composed of men and women who have an interest in the transfer of technology, or licensing of intellectual property rights - from technical know how and patented inventions to software, copyright and trade marks; see <http://www.lesi.org/>

### 4.4 Analysis of Survey Results

1. The OMC-Crest IP-expert group survey is a tool to quickly draw out information from the national experts in the Member States. Furthermore, this information was also used to set up and prepare for the Expert Workshop. This would enable the Expert Workshop to go into and explore in further detail the relevant questions. The questionnaire was distributed through the members of the OMC-Crest IP-Expert Group to a number of experts in each state. Experts from 14 States filled in the Survey.

2. The survey explored the following questions:

**Q1 Is there a need to professionalize the technology transfer profession (through upgrading the skill-sets) within your country through education programmes/training?**

**A** The result from the Survey was an unanimously yes. This discussion was confirmed by the IP-Expert Group. It can be concluded that there is a need to professionalize the technology transfer profession (through upgrading the skill-sets) within the MS through education programmes/training.

**Q2 Who should be the target-audience of such an education programme/training?**

**A** The results of the survey delivered a clear picture whereby there was a split in the middle in regarding who is going to be the target-audience. 50% of those who answered wanted personnel from universities and PROs only as the target audience. The other 50% wanted to also include personnel from industry in the target audience (as well as those from universities and PROs).

This split in opinion was also reflected in the discussions within the group regarding the issue of target-audience.

**Q3 Should the education programme/training be aimed at people entering the technology transfer profession (like students) or at people who already working in this profession?**

**Outcome of the Survey:**

The majority (75%) of the respondents wanted a focus on both groups. The rest wanted a focus on people who are already working in the field

**Q4 What should be the status of such a programme? (Training, full course, graduate course, masters, post-graduate, MBA, etc.)?**

**Outcome of the Survey:**

This delivered a very mixed picture. There was not a clear answer regarding this question. There were several important issues raised that will influence the answer to this question. These issues included time constraints for the participants and a general need for an official recognition of the programme.

**Q5 Should such an education programme/training cover all aspects of technology transfer profession (screening, scouting, patenting, business development, VC, licensing, etc) or should it focus on one aspect?**

**Outcome of the Survey:**

The majority (90%) of the respondents wanted a programme that covers all aspects of technology transfer.

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**Q6 Should such an education programme/training offer the possibility to learn with and from technology transfer professionals from other Member States in the European Union? And should such an education programme/training provide for EU-networking possibilities between the participants of the education programme/training?**

**Outcome of the Survey:**

The respondents answered this question unanimously with a yes.

**Q7 Is there already such a course available in your country?**

**Outcome of the Survey:**

This delivered a mixed picture. Only the UK and Austria have education programmes that cover all the aspects of technology transfer and supplied official degrees. Most countries in Europe don't have this. They do have workshops and courses on specific aspects (for example patenting, licensing, etc.).

**Q8 Would it be interesting for your country to explore the possibilities setting up such a (European) technology transfer educational programme?**

**Outcome of the Survey:**

The respondents answered this question unanimously with a yes. The only remark put forward by some respondents was that the format of such programme would influence their final answer.

The outcome of the survey was discussed by the Expert Group. The results of the survey reflected the opinion of the group. The main issue was that of the target-audience. The Expert Group was split on this issue of whether industry should be included. Furthermore the results were used for the preparation of the expert workshop.

### 4.5 Analysis of Expert Workshop Results

#### Expert workshop

1. On March 22nd there was an expert workshop organised in Brussels. The topic was professionalizing technology transfer through education. The workshop focused on the central questions raised by the 2nd work stream which were discussed by the attending national experts and representatives of the the major European and national associations in the field of technology transfer (Proton, ASTP, AURIL and LES). Most national experts came from PRO-side while a minority came from industry or had an industry background. For a full report on the Workshop, its participants and its outcomes, see Appendix F. The supporting and background materials developed for the workshop are described in Appendix G.

2. The IP-expert group themselves felt confident enough to make recommendations for PRO's and Industry based on the outcome of the survey and workshop.

3. There was a general consensus regarding the following conclusions:

- there is a shortage of qualified and professional technology transfer personnel.
- the range of different roles in Technology Transfer was recognised, as well as the need for different profiles of the skills required in each of these roles and the possibility of distributing these skills across the team, some of whom may be outsourced.

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- there is a need for education programmes to educate these personnel.
- there is a need for a basic level of skills/competences.
- the critical core role/skill was 'bridge-building' between the research base and industry.
- the full core set of skills/competences that should be taught within the programme was identified; these were (in priority order, with 1 being top priority):
  1. Business development
  2. IP management/legal
  3. Negotiating (internally & externally)
  4. Networking & interpersonal skills (communications & relationships)
  5. Marketing & selling
  6. Contracting
  7. Personal organisation (multiple projects & skills integration)
  8. Coaching/leadership
  9. Project management/finance.
- Such a programme should be developed/delivered on modular-basis. If a person successfully completes the required number of different modules within the programme, he/she is awarded a title/certificate, preferably of the MBA type/level.
- the status of the course depended very much on the target audience, i.e. qualification courses were generally more important for new entrants to the profession and short courses were generally more appropriate for the experienced professionals.
- Different levels of courses should be provided. These levels should be identified as Basic/Introductory, Intermediate and Advanced. These courses should be highly practical, using case studies, be work-based, use practitioners and other experts, and involve staff exchange/mobility.
- There are a number of courses already available – from ProTon, ASTP, LES, AUTM, AURIL). However these courses don't cover the full range of skills needed for a technology transfer professional.
- there is no national certification currently available although it is an important requirement for many TT staff.
- the need for recognition/accreditation among Member States was clearly identified.

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4. In the context of the Workshop and subsequent discussion by the IP-Expert Group, recognition means mutual acceptance between all involved parties of each others education programmes and the certificates provided after completing these education programmes. In contrast, accreditation is a formal and legal method of recognition. There are official processes in place in the European Union that one has to follow in order to get an education programme accredited at the European level. This is further discussed in paragraph 4.7 below.

5. Other topics involved considerably more debate and a range of views, and were therefore less conclusive or focussed. These topics included:

### Delivery at national or European level

Many felt that these courses should generally be taught at a national level, especially for the material at the introductory & intermediate levels, but that the more advanced levels and trans-national elements should be promoted and accessible at the European level, and additionally supported by trans-national mobility programmes. However, a few representatives, especially those from states where the national demand was small or the infrastructure/resources for delivery was limited or non-existent, felt that the complete programme should be delivered at the European level (this point was reinforced by some representatives at the subsequent Expert group meeting). Conversely, some representatives, especially those with significant numbers of staff, pointed out that participation in European programmes at all levels of training for all staff would not be possible financially, when taking into account the normally high course fee rates and travel and subsistence costs.

### Target audience

Although PROs were clearly agreed as the primary target audience, many also agreed that it was important to involve industry, and SMEs in particular, wherever appropriate. Several experts suggested that it was difficult to include all stakeholders, especially SMEs (which have other priorities and time-constraints). Other experts didn't agree with this view and stated that the participation of Industry is necessary. It was also felt important to engage appropriate personnel from regional, national and European public agencies as well as from business support intermediary organisations. This latter group were considered important because of their role as a route to SMEs and their potential to influence/stimulate them to invest more resources in R&D/Innovation.

### Experience Level of target audience.

8. Although the overall priority target was those at the entry/introductory level (0-2 years), there was also considerable support for programmes to be delivered at the pre-entry level, as well as at the intermediate (3-5 years) and advanced/expert (>5 years) levels. These levels could also be applied to the modules; for example: basic IP-training for entry-level; intermediate IP-training for intermediate-level and specialised IP-training regarding specific 'hot topics' for advanced/expert-level.

### Business Experience

9. Many felt that a certain level of business experience was an important/desirable but not a critical pre-requisite, although it is important to be credible and confident in interactions with business.

### Course length

10. The combination of practical short courses in a modular approach accumulating towards an MBA-type qualification clearly emerges as the most preferred option. However, the academic criteria and constraints normally associated with this level and standard of qualification make these combined options difficult to achieve in practice, at least in the short term, although some steps towards this have already been taken.

### Providers

11. Although, some felt that competition between providers should be encouraged, others felt that a more collaborative approach, especially between professional associations, was needed, particularly at the current stage of development and with the relatively small national demand involved.

### Mobility programmes

12. These were generally highlighted as being important. Although the Marie Curie mobility programme already exists, a number of attempts to access it to support TT mobility have failed – it seems that the programme's current objectives and assessment criteria are oriented towards academic/researcher mobility only. It therefore seems as though either the Marie Curie programme needs to change or a new programme devised to specifically support TT.

### 4.6 Overview and analyses available courses

1. After the workshop, the TT professionals were asked to supply details of existing courses available to support the training and development of TT staff. This information is combined with the data from the Survey which also asked about available courses in the Member States. These results are shown in Tables 1 and 2 below.

2. Based on the collected information the conclusion can be drawn that the picture is quite diverse in Europe. On a national level some Member States do have several courses available, while others have nothing in place. Also the topics that are covered and the format of the course are diverse. Most Member States offers Masters in intellectual property. This covers only some aspects of Technology Transfer.

3. Approaches to professionalizing technology transfer staff in 3 European states – Austria, Denmark and the United Kingdom - are explained in more detail in the text boxes.

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**TABLE 1: Available international courses**

Course	Provider	Level	Time
Fundamentals of Intellectual Asset Management	LES International + national	Intro	3 days
Beginners Workshop	ProTon Europe	Intro	2 days
Licensing	LES	Intro/Inter	1-2 days
Range of Expert Workshops	ProTon Europe	Inter/Adv	1 day
Range of Workshops	ASTP	Inter/Adv	1 day

**TABLE 2: Available national courses**

Country	Course	Provider	Level	Time
Austria	Uni:Invent (Post Graduate module)	Austria Wirtschaftsservice Gesellschaft mbH	Intro	3 modules over total 4 weeks
Austria	“Patent & License management – systematic methods to generate and exploit intellectual property”	MCI	intro/inter	1 year (part-time)
Belgium (Flemisch Region)	?			
Czech Republic	Certificate in Intellectual Property	The University of Public Administration and International Relations (CZ)	intro/inter	12-24 mths
Czech Republic	Industrial Property Training Institute	IPO CZ	intro	24 mths
Czech Republic	Licensing course	University of Pardubice (CZ)	intro	1 day
Czech Republic	Fundamentals of Knowledge Transfer	University of Pardubice (CZ)	intro	1 day
Denmark	Several workshops	Techtrans.dk	intro	1-2 days
Finland	Uni:Invent (Post Graduate module) Workshops/short courses	IPR University Center (see www.iprinfo.com)	Intro	several modules and weeks
France	Certificate in Intellectual Property (CAPI)	INPI (FR)	Inter/Adv	9 x 2 days
France	Licensing Course	IEEPI/LES France	Inter/Adv	2 weeks
France	Several one/two day courses	INPI, Centre Paul-Roubier, IRPI, IEEPI	Intro/Int/Adv	1-2 days
France	Range of Workshops/Short Courses	CURIE (F)	Inter/Adv	1-2 days

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**TABLE 2: Available national courses (continued)**

Country	Course	Provider	Level	Time
Germany	Common training courses on specific issues (organised on ad hoc base).	PROs and / or universities, also in cooperation with private consultants	Intro/Inter/Adv	Up to 1 week
Italy	Beginners Workshop	NetVal (I)	Intro	3 days
Italy	Range of Workshops/Short Courses	NetVal (I) UIBM, IPI, universities	Inter/Adv	1-2 days Postgraduate course
Netherlands	There only courses and workshops that only handling one specific aspect of the technology transfer profession; mainly IP-orientated	universities/Dutch Patent office/ TAK	intro	1 day
Portugal	Range of Workshops/Short Courses	National Network (PT)	Inter/Adv	?
Slovakia	?	?	?	1 day training for professionals
Spain	Beginners Workshop	RedOTRI (E)	Intro	5 days
Spain	Range of Workshops/Short Courses	RedOTRI (E)	Inter/Adv	1-2 days
UK	Fundamentals of Tech Transfer	Praxis (UK)	Intro	
UK	UK Fundamentals of Knowledge Transfer	AURIL (UK)	Intro	3 days
UK	Range of Workshops/Short Courses	Praxis (UK)	Inter/Adv	1-3 days
UK	Range of Workshops/Short Courses	AURIL (UK)	Inter/Adv	1-2 days
UK	Post Graduate Certificate in Knowledge Transfer	AURIL/Open University (UK), AURIL/ProTon/ Open University (EU)	Intro/Inter/Adv	12-18 months distance learning, work-based project
UK	UK Professional Award for Knowledge Transfer Practitioners	AURIL/Open University (UK)	Intro/Inter/Adv	12-24 mths / work evidence based

### EXAMPLE 1: TECHNOLOGY TRANSFER TRAINING SYSTEM IN AUSTRIA

In **Austria** there was no centralised responsibility for training of technology transfer officers. Indeed, TT education situation had been highly fragmented in both, the providers of seminars (e.g. university, patent office, patent attorneys, commercial organisation) and content of seminars (e.g. IP legal aspects, IP marketing, IP valorisation).

This changed in 2005, when Austria Wirtschaftsservice GmbH (AWS), a member to the OMC Cycle, initiated a new comprehensive training course for technology transfer officers. The recommendations given by the Expert group on IP and Research, AWS and the Management Centre, Innsbruck (MCI), led to the launch of the post-graduate course in “Patent & License Management – Systematic Methods to Generate and Exploit Intellectual Property”. The curriculum covers almost all fields and competencies needed by technology transfer officers, such as training in national, European and international patent right regimes, trainings in how to generate innovations including creativity techniques, training of all forms of IP (patents, copyrights, utility models, design...) with specific focus on issues in discussion (e.g. software and bio patents) and promoting of advanced skills in exploiting IP (IP due diligence, contracting, taxation of IP...). Moreover the participants complete course with a certificate that grants credit points according to the Bologna Process. The course itself is also embedded in the general curriculum of the MCI.

Link to course “Patent & License Management” ([http://www.mci.at/com/executive\\_education/patent\\_license\\_management/index.html](http://www.mci.at/com/executive_education/patent_license_management/index.html))

**4.** It is clear that, particularly over the last few years, a number of training courses and education programmes have already been developed by professional associations at both the national (e.g. in France, Italy, Spain, UK, Germany) and European levels.

(e.g. by ASTP, LES, ProTon Europe). However those courses are limited in the scope of topics covered.

**5.** Where, certification is provided for the longer education/training programmes, this seems to be mostly, if not totally, provided by universities (e.g. in Austria, Germany, Spain). One such university certified course in the UK has professional association support (see Example 3 below). However this certification doesn't provide recognition of these education/training programmes between countries and/or organisations or professional associations.

**6.** Courses at the beginners/introductory level are mostly available at the national level (e.g. Italy, Spain, UK), with some presented and accessible at the European level (e.g. by LES and ProTon Europe). At the higher levels (intermediate and advanced) courses are presented at both the national and European levels.



### EXAMPLE 2: TECHNOLOGY TRANSFER TRAINING SYSTEM IN DENMARK

In Denmark the training of technology transfer officers is a key responsibility of The National Network for Technology Transfer (Techtrans.dk).

The number of technology transfer officers in Denmark is very limited (approximately 50 full time staff equivalents) and does not provide a sustainable basis for an accredited training programme for technology transfer officers at national level. The current training activities offered by The National Network for Technology Transfer include three basic elements all offered at an ad hoc basis:

#### Internal network courses and workshops

The internal network courses are designed exclusively for the members of the network. These courses deal with subjects of particular interest to of research institutions. Examples could be: Joint R&D-contracts, negotiation techniques, marketing of IP or conflict-of-interest policies. Participation is free of charge. In addition to this, it is the intention to establish a number of thematic membership groups (of a more permanent nature) for exchange of experiences on similar subjects.

#### External courses by other national operators

The Techtrans Network refunds all costs for of members participating in relevant courses offered by other national operators. In particular The Danish Patent Office is a major provider of such courses aimed at IP-managers of trade and industry, but relevant even to technology transfer officers. Examples of subjects in such courses could be: IP-strategy, IP-legislation or valorisation of IP.

#### International courses and workshops

The Techtrans Network refunds membership fees of relevant international associations such as ASTP, ProTon or LES. Furthermore, the network refunds up to 50 percent of all participation costs in relation to courses or workshops outside Denmark. Practically all Danish technology transfer officers are members of ASTP and participates regularly at ASTP-conferences and workshops.

### EXAMPLE 3: TECHNOLOGY TRANSFER TRAINING IN THE UK

There are three organisations in the UK which provide training in technology transfer - AURIL ([www.auril.org](http://www.auril.org)), PRAXIS ([www.praxis.org](http://www.praxis.org)) and UNICO ([www.unico.org](http://www.unico.org)). All three provide short courses in technology transfer and knowledge transfer for staff working in PROs. These courses are dedicated to specific topics such as how to obtain a patent, how to set up a license etc., how to manage a spin-out company. Attendance at these courses is on payment of a fee and they are open to all those involved in technology transfer.

UNICO (annually) and AURIL (bi-annually) hold regular conferences where TTO staff can network, find out about latest situation on developments at national and EU level, for example, on EU framework programmes, national funding priorities, current government policies to promote TT. The websites of these three organisations provide detailed information about the training opportunities they provide, such as short courses, seminars and conferences.

Development of TT as a profession in the UK

AURIL has developed two programmes for technology transfer staff in PROs to obtain professional qualifications. These are:

**(1)** Post Graduate Certificate in Knowledge Transfer in association with The Open University (for details see <http://www.auril-cpd.org/pgcinfo>)

This is a postgraduate qualification which is 50% practical work and 50% study. The first group of students registered in 2004 and the first graduates are expected in early 2007. The course is delivered using the distance learning approach to give maximum flexibility for those students who are working while also doing the course. It can be used as part of an MBA but is also a qualification in its own right,

**(2)** Professional Award in Knowledge Transfer through Continuing professional Development (CPD) (For details see <http://www.auril-cpd.org/professionalaward>)

This award is usually completed over 2 years and it has graduated its first graduate in 2005. It is 100% work based and is based on the candidate providing evidence from his work to show that he has reached a certain skill in 6 areas of expertise or competency referred to as six key roles -

- Manage information and communications
- Manage relationships
- Manage projects
- Manage the commercial interface
- Manage operations in a legal context
- Problem solve and manage the decision making process

#### Accreditation of TT

Since late 2005, AURIL, PRAXIS and UNICO have been working together to create an Institute of Knowledge Transfer (IKT) in order to

**(a)** facilitate progress towards greater professionalization in technology transfer in terms of qualifications and accreditation; and

**(b)** involve those more widely involved in TT such as intermediaries in business development and public sector promotion of R & D.

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- 7.** The certificated programmes that are available seem to be mostly presented or accessible at the national level (e.g. Austria, France, Germany, Spain), with one available across the EU via distance learning/support (the AURIL/ProTon Europe/Open University course).
- 8.** Many of the courses are aimed specifically at target audiences in the Technology Transfer Offices of PROs (e.g. from CURIE in France, Red OTRI in Spain, AURIL and Praxis in the UK, and ProTon Europe), although in most cases these courses are also open to professionals from other sectors. On the other hand, LES courses are aimed at professionals from all sectors.
- 9.** Most of the courses focus on the 'technical' aspects of the Technology Transfer role, eg IP, licensing, law, although the priority skills identified in the workshop tended to emphasise the 'non-technical' aspects, e.g. business development, negotiation, communications, marketing and selling. Although these latter skills may appear to be somewhat generic, it is clear from the workshop and other research that the complexities and difficulties of the role arise because of the context within which these skills need to be exercised, ie the critical 'bridge building' role between very different cultures (the academic/industry culture and the different legal traditions). Only a few courses seem to include some coverage of these important skills, e.g. from the national networks in Portugal and UK, and from ASTP and ProTon Europe.
- 10.** Based on the available information it can be concluded that none of the programmes provide the flexible modular short course route to an MBA-type qualification that was prioritised in the workshop. Also these courses do not provide full coverage of all essential aspects of the Technology Transfer profession. And finally, the current available courses are singular and don't offer a trans-national recognised/accredited title making it possible for the mobility of Technology Transfer professionals between Member States.
- 11.** Perhaps the closest to the ideal discussed in the expert-workshop are the Uni:Invent post graduate module available from Austria Wirtschaftsservice Gesellschaft GmbH/MCI in Austria and the Professional Award for Knowledge Transfer Practitioners available from AURIL/The Open University in the UK. But even those programmes don't offer the trans-national recognised/accredited title.

### 4.7 Discussion OMC-CREST IP-Expert group

1. The purpose of training programmes has to be to ensure that technology transfer professionals have the necessary skills to set up effective collaborations on a national and cross-border basis.
2. However, while there are a number of European and national initiatives there is as yet no embedded comprehensive and Europe wide education programme for technology transfer professionals working in this field. The nature of the Technology Transfer profession and the broad variety of skills involved make it hard to develop its component parts in order to create a comprehensive education programme which meets the diverse range of needs of a relatively limited and dispersed demand.
3. Evidently, some programmes, training courses, and workshops are currently available in some Member States and/or across Europe on specific elements, but most of these programmes are not interrelated and are generally conducted on an ad hoc basis.
4. On the back of the first cycle outputs, a small number of Member States decided to take action in this area. For example, Austria and the UK have created professional education programmes in 2004/5 - in Austria, AWS have led on the development of a 3 module post graduate programme called Uni:Invent, whilst in the UK, AURIL has, with the financial support of the DTI, developed a Post Graduate Certificate and a Professional Award with The Open University.
5. Furthermore, some of the Member States have developed a project for jointly setting up national courses in the field of Technology Transfer in their respective countries (the OMC-NET CERT-TTT-M project). This project is discussed further on in this paragraph. However, most Member States have so far not taken specific/coordinated actions.
6. The nature of ad-hoc short course provision means that they are generally financed by fees. This means that it can be difficult to set up new courses where there is a lack of critical mass of TT-professionals. Some Member States (eg Denmark) have addressed this by funding the participation of national TTOs in European or other trans-national association's workshops (e.g. by ASTP). Similarly, EC Framework 5 funding has supported the development and delivery of ProTon Europe courses/workshops. Inevitably, this leads to a patchy and piecemeal system of training for TTOs.
7. Even if primarily targeted at PRO' it is useful to invite industry to participate in technology transfer training schemes in order to promote and facilitate dialogue and mutual understanding. The experience in Austria has been that it is often necessary to start courses drawing audience mainly from PROs and build up interest in industry gradually.
8. This goes back to the discussion within the workshop who should such a programme be targeted at. There are different arguments for a narrow target-audience (PRO-only) and broader target-audience (PRO, Industry and intermediates). The IP-expert group recognise the need for a broader approach if the aim is a recognised technology transfer profession. Those professionals will be working across the board (PRO, Industry and intermediates). Due to their limited available time and resources SME's will be more difficult to motivate to participate in a technology transfer educational programme.
9. The Expert group believes that Member States and the European Commission should take action to promote and support the creation of such education programmes for Technology Transfer Managers/Officers. There was general

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agreement that, for them to be successful, they must be set up together with experienced stakeholders.

**10.** Before setting up education programmes, the Member States should agree on joint quality criteria to be able to facilitate recognition and accreditation. The European Commission may have a role in coordinating these activities. Based on the outcome of the survey, the workshop and discussion within the OMC-Crest IP-expert group, it was decided that these quality-criteria to include the following skill-set:

- Business development
- Negotiating (internally & externally)
- Networking & interpersonal skills (communications & relationships)
- Marketing & selling
- Personal organisation (multiple projects & skills integration)
- coaching/leadership
- Project management/finance
- IP management/legal
- Contracting

### **These skills should be delivered through education programmes.**

**11.** Precise estimates of the market size are inevitably difficult, especially since the context in each Member State is different. There are an estimated 1600-2400 Technology Transfer Professionals in the UK involved with Universities, with a further 2500-3000 working in non-university research institutes, the public sector and industry.<sup>48</sup> Thus a potential market of 5000-6000 exists in the UK. Of course the level of public investment in knowledge transfer and the number of knowledge transfer staff in PROs will vary considerably across the Member States. However, this will influence the ability of a Member State to provide such courses. It was felt that for countries where the internal market would be too small, a course structure/delivery could be agreed between several adjacent countries.

**12.** Within each office the level of experience and therefore training need will vary – the more experienced staff are more likely to need a small number of advanced/expert courses, whereas less experienced staff (especially in 0-2 years experience range) are more likely to need the longer qualification oriented programmes.

**13.** It is clear from the evidence gathered that the best way to construct the programme is through a modular approach<sup>49</sup> (delivery system) which leads to a qualification and/or accreditation. As proposed in recommendation 1, it is important for this qualification/accreditation to be mutually recognised between Member States within Europe. This recognition/accreditation can be achieved through several means.

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<sup>48</sup> The average number of dedicated technology transfer staff working with commercial organisations across 160 UK Higher Education Institutions was reported in 2002-03 as between 10-15 (source HEFCI/HEBCI Survey at [www.hefce.ac.uk](http://www.hefce.ac.uk)). However, this survey did not take into account people working in technology transfer for non-university research institutions, referred to in the UK as Public Sector Research Establishments (PSREs); the public sector, for example, central and local government, the National Health Service (NHS); or industry. It is estimated that the total number of people working in Technology Transfer in the UK has increased from around 3000 to about 6000 since 1999-2000. This increase in numbers is largely due to the significant increase in public investment in university knowledge transfer over this period.

<sup>49</sup> A modular approach means that an individual can follow separate courses/modules and that once he/she has completed a certain number courses/modules he/she is awarded a qualification (for example an MBA-type).

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- 14.** One way to go is making use of the existing accreditation process on an European level. The broader long-term aim outlined by the Commission in its Communication on 'Making a European Area of Lifelong Learning a Reality' is to enable people to meet the challenges of the knowledge-based society by promoting the development of their knowledge and competences at all stages of their lives.
- 15.** However, where recognition of the qualification is sought in order to exercise a regulated profession<sup>50</sup> in a Member State, the procedure for such recognition must be done along the lines of Directive 2005/36/EC<sup>51</sup> on the mutual recognition of qualifications. In such situation, this directive is indeed, the only legally binding instrument which confers rights and obligations on both the relevant national authority and the migrant.
- 16.** A third possibility is the European Qualifications Framework (EQF), which the Commission formally published as a Staff Working Document on 8 July 2005. The EQF is a key priority for the Commission in 2006. The objective of the planned EQF is, where the access to a profession is not regulated, to enable the comparison between the qualifications framework used in the Member State where the migrant trained and the qualifications framework of the host Member State, by linking qualifications systems at the national and sectoral levels and enabling them to relate to each other. When available the EQF could help setting up a framework for the accreditation of these Technology Transfer courses for non regulated professions.
- 17.** Another approach is that Member States individually recognise and accredit the courses between themselves.
- 18.** The great benefit of using the modular approach is that people with limited spare time (due their regular day-job) are able to follow the programme. Individuals often don't have the time and/or resources to follow a full time course. Another benefit is that it allows persons that are only interested in specific themes/skills to follow relevant courses/modules.
- 19.** An added benefit is that it allows for some differentiation between the various levels of expertise of attendees. For example, people who have worked 0-2 years in the profession can follow an entry level course whilst those who have been in the field longer more advanced ones.

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<sup>50</sup> A profession is regulated when access to a profession is subordinated by law, regulation or administrative provisions to the possession of a qualification.

<sup>51</sup> Directive 2005/36/EC consolidates 15 existing directives adopted between 1975 and 1999. It was adopted on 07.09.2005 and must be implemented in Member States by 20.10.2007. Directive 2005/36/EC provides for a system of automatic recognition of qualifications for professions whose conditions of training have been harmonised (doctors, nurses, midwives, dentists, veterinarians, pharmacists) and also for architects. For the other professions, the system is based on mutual trust. The underlying principle is that once a person is qualified to exercise a profession in a Member State this person should be authorised to exercise the same profession in another Member State. The procedures as well as the five levels of qualifications fixed under Directive 2005/36/EC have been designed on the basis of this principle. For professions of the craft, commerce and industry area, the procedure is based primarily on recognition of professional experience. For the other professions, the following procedure applies: The Host Member State competent authorities have the obligation not only to recognise qualifications classified in the same level of the Directive as the national qualification but also qualifications classified in the immediately lower level of the Directive. In principle, qualifications must be recognised without any additional requirement. However, if substantial differences between qualifications are identified and that such substantial differences cannot be compensated by professional experience or supplementary training (e.g. seminars, lifelong learning etc.), compensatory measures can be imposed on migrants (a test or training period at the choice of the migrant).

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**20.** There was a certain amount of discussion about how such programmes should be delivered, with two main viewpoints:

**OPTION 1.** The courses should be set up at European level with a single body (for example through a consortia of existing European or trans-national associations) delivering them;

**OPTION 2.** The courses should be set up mainly at National level on the basis of a jointly agreed framework with the qualifications of the trainees being recognised in other countries. This could form the basis for the establishment of a single European framework to deliver/coordinate these courses through National outlets and/or to accredit/recognise the delivery of, or participation in, the courses at the National level.

### Option 1

**21.** The benefit of a European delivery mechanism is that it brings together a much larger market and therefore makes self-sustainability a more practical proposition - a number of Member States have insufficient demand to make such courses self-sustainable at the national level. Furthermore, it was felt that a European approach would be more likely to ensure consistency of delivery across Europe. However, a number of issues are apparent:

(i) Who will be the single European body? Does a potential body exist already? Does one need to be created? Who by and how long will it take? How does this relate to the existing European associations (ASTP, Proton, LES, Eirma) and who will take the lead?

(ii) How will a European body respond flexibly to the national or even regional contexts and needs, e.g. in terms of language, legal systems, economic and business environments?

(iii) Where will the courses be delivered and how will the concerns expressed by professionals about costs be addressed e.g. potentially high fees plus travel and subsistence, as well as time away from the office?

### Option 2

**22.** The benefit of National delivery is that courses could be more easily tailored to address the differences in national/regional context, e.g. language, legislation etc.

**23.** To some extent this sort of approach is emerging already with the existence or recent establishment of national networks in some Member States (France, Italy, Poland, Portugal, Spain, UK). For example a programme has already been developed by AURIL based on research and application in the UK – it recognises the range of roles possible across the TT/KT spectrum and the skills required in each role, and it provides a skills profiling/training needs analysis tool; it also forms the basis of the existing Post Graduate Certificate and Professional Award qualifications. Some Member States are developing ‘two-way’ partnership arrangements with and through ProTon Europe. However, these partnerships are limited in scope and don’t offer a accredited and mutually recognised title that is necessary for trans-national mobility.

**24.** Another concrete example is the OMC NET ‘CERT-TTT-M’-project which is described in the text box below. This project is set up by 6 Member States (Austria, the Netherlands, France, Sweden, Italy and the Flemish region of Belgium) participating in the OMC-Crest IP-expert group and supported by the European Commission. It will start at the end of 2006. The aim of this project is to professionalize technology transfer through education by setting up a framework for national Technology Transfer MBA-courses through a flexible modular approach with mutual recognition and accreditation between the participating

## 4. Work stream 2

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Member States. Due to the open setup of the project other Member States are able and encouraged to join this initiative.

**25.** This option also has to address a number of issues:

**(i)** Who will provide the training at national level? Should it be organised at Government level or left to PROs or independent national networks? Do qualified providers exist in all member states? And how could national trainings schemes be made sustainable in member states with very few technology transfer officers?

**(ii)** How will the different national courses lead to a common qualification for a single technology transfer profession?

**26.** Progress to meet either option will require cooperation and interaction between both European body and the (trans)national initiatives to provide a common qualification for a single technology transfer profession. This builds on the existing strength of both models.

**27.** Irrespective of which option was preferred, there was agreement that such education programmes should be easily accessible to staff (perhaps requiring an element of delivery in each MS) and that trans-national collaboration on the development and delivery was essential.

### CERTIFIED TRANS-NATIONAL TT MANAGER

#### **EC Proposal to FP6-2005\_RTD-OMC-NET – Building up a framework to qualify TT-Mangers on a trans-national level and with mutual recognition” (CERT-TTT-M)**

This project addresses directly to the recommendations made in the 1st Crest-Report and has been developed within the IP-Expert Group of current 2nd OMC Cycle. CERT-TTT-M is a bottom-up initiative by the participating countries and aims to complement OMC-CREST process by building up a framework or a blueprint education programme that:

- Professionalize s TT on a trans-national level, thus reducing lack of TT skilled people in the ERA
- Covers all phases of the TT process, thus also facilitating a clear career structure for TT officers
- Meets the need for an official recognised course as basis for an official accredited profession (Certified TTT-Manager)
- Supports MS policy-makers to interlink CERT-TTT-M to their own specific TT-policy
- Standardises the skill-set of TT profession in Europe (making comparable to internat. TT systems with view to TRENDCHART)
- Is based on surveys on both, the requirements to such a programme and the existing programmes in the EU

The proposal has been successfully submitted the participants of the OMC Cycle have been informed throughout the process of writing the proposal. Opportunities to join the project are still available (as of June 2006).

### 4.8 Recommendations

The OMC-CREST IP-Expert Group set out to explore the following key questions:

- (i) What skills/expertise should a person possess to be able to work as a professional in the field of Technology Transfer?
- (ii) If such skills/expertise are going to be taught through education programmes/courses, what should be the main characteristics of such programmes/courses? (eg target audiences, levels, subjects, formats)
- (iii) What education programmes/courses are already in the Member States/Europe and what do they offer?

Our analysis of these questions has highlighted the differing levels of provision that member states are able to provide. It has shown that in order to establish a viable size of market for courses and in order to provide effective training on cross-border aspects of collaborations a European approach to training is merited.

The expert group therefore recommends that:

#### Recommendation 1:

**Member States should determine and agree on quality criteria for the education of technology transfer professionals to be able to promote recognition and accreditation of Technology Transfer education programs.**

This will allow the free movement of graduates of these programmes within the European Research Area. Agreement on content (range/depth) and quality control would facilitate the free movement of technology transfer professionals between Member States. As mentioned there are several ways to approach this. Several initiatives are being developed to achieve this goal. The European Commission may have a role in coordinating these activities.

#### Recommendation 2:

**Any such comprehensive education programs should be modular-based and must provide and/or improve the core-skills identified below:**

- Business development
- Negotiating (internally & externally)
- Networking & interpersonal skills (communications & relationships)
- Marketing & selling
- Personal organisation (multiple projects & skills integration)
- coaching/leadership
- Project management/finance
- IP management/legal
- Contracting

When such education programmes are promoted it should be taken into account that they should primarily target personnel from PROs. Such courses, for reasons of viability and to benefit from diversity, need to include intermediaries and be open to industry. Experience has shown that industry involvement tends only to develop slowly, but forms an important long-term aspect. If there are internal special interest for specific groups, they may be addressed through internal training. Furthermore, an appropriate way to construct such a programme is through a modular approach (delivery system) in order to permit staff to engage in the course on a part-time basis. Such courses should lead to a recognised qualification through mutual recognition (e.g. an MSc) and/or be a key step towards a professional accreditation.

### Recommendation 3:

**The European Commission should facilitate and support setting up European-wide or trans-national training systems and assist those Member States which lack the necessary infrastructure or national demand.**

The EC has a special role in helping those Member States that lack the necessary infrastructure (e.g. sufficient personnel to deliver training courses) or the national demand to support these courses. Furthermore, the EC should facilitate, promote and support the mutual recognition of any national education system which are set up.

A concrete example how the EC can support this is through the current Marie Curie-programme. This programme could be adapted in such a way that it would provide for the exchange of technology transfer professionals between institutions. The OMC-Crest IP-expert group advises and encourages the EC to open this programme for this possibility.

It could also be achieved by providing support to European and/or national training providers for designing training programmes. There are several ways this could be facilitated. For example by economic support to allow for a more higher quality or coordinated/coherent designed programme or by giving a forum for discussion through OMC-Crest. Other possibilities are providing training for programme providers,

An effect of implementing this recommendation is that through such European/trans-national education systems a recognizable professional qualification in technology transfer would become available. There are several approaches to achieve the goal of professional qualification in technology transfer.





# 5. State Aid



# 5. STATE AID

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## 5.1 Background

1. The first cycle report of the expert group on IPR and Research to CREST in June 2004 added that “there was a concern expressed by some countries regarding this subject (i.e. ownership of IPR resulting from industry/PRO collaboration) and whether it could infringe State Aid rules. The group agrees that this is a key question which might be looked into in greater depth by the next cycle”.

2. Article 87 of the Treaty of the European Union provides that “any aid granted by a Member State or through State resources in any form whatsoever which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods shall, in so far as it affects trade between Member States, be incompatible with the common market.”

3. State Aid will therefore be present if all of the following tests are met:

- Is the measure granted by the State or through State resources?
- Does the measure favour certain undertakings?
- Is the activity tradable between member States?
- Does the measure distort or have the potential to distort competition?

4. Several exceptions and exemptions to this blanket prohibition of state aid are, however, provided for. Among them is the possibility of public assistance for research and development (R&D) work undertaken by or for enterprises. Such aid may be granted, subject to a body of rules that regulate the nature and value of permissible R&D assistance: The Community Framework for State Aid for Research and Development.<sup>52</sup>

5. Of particular relevance to the work of the Group is paragraph 2.4 of the Framework which states that:

*2.4. Public financing of R&D activities by public non-profit-making higher-education or research establishments is normally not covered by Article 92 (1) [now 87(1)] of the EC Treaty.*

*Where the results of publicly financed R&D projects carried out by such establishments are made available to Community industry on a non-discriminatory basis, the Commission will assume that State aid within the meaning of Article 92 (1) of the EC Treaty is not normally involved.*

*Where R&D is carried out by public non-profit-making, higher-education or research establishments on behalf of or in collaboration with industry, the Commission will assume that State aid within the meaning of Article 92 (1) of the EC Treaty is not involved either:*

*(a) where the public non-profit-making higher-education or research establishments contribute to research projects as a commercial firm would, e.g. in return for payment at the market rate for the services they provide;*

*(b) or*

*- where the industrial participants in the research bear the full cost of the project, or*

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<sup>52</sup> [http://europa.eu.int/eur-lex/lex/LexUriServ/LexUriServ.do?uri=CELEX:31996Y0217\(01\):EN:HTML](http://europa.eu.int/eur-lex/lex/LexUriServ/LexUriServ.do?uri=CELEX:31996Y0217(01):EN:HTML)

- where the results which do not give rise to intellectual property rights may be widely disseminated and any intellectual property rights to the R&D results are fully allocated to the public non-profit-making establishments, or

- where the public non-profit-making establishments receive from the industrial participants compensation equivalent to the market price for the intellectual property rights which result from the research project and which are held by those industrial participants, and where the results which do not give rise to intellectual property rights may be widely disseminated to interested third parties.

6. In June 2005, The EC adopted a State Aid Action Plan<sup>53</sup> outlining the guiding principles for a comprehensive reform of state aid rules and procedures over the next five years. There is particular emphasis on the use of the EC Treaty's state aid rules to complement the Lisbon Agenda and the Barcelona Council objectives.

7. The Plan states that:

“This review will also seek to better take into account the priorities of the Community's R&D policy such as the promotion of cross-border research cooperation, public-private research partnerships, dissemination of research results and important research projects of common European interest.”

“The framework should also take account of the growing importance of public private partnerships in the R&D field. In particular, it should provide for adequate provisions for collaborative research including the ownership of, access to and exploitation of Intellectual Property Rights obtained in such projects. Furthermore, the need to allow for aid for dissemination will have to be considered in the course of the review.”

8. In September 2005, the EC published a consultation document on State Aid for Innovation.<sup>54</sup>

9. To support the development of poles of excellence through collaboration and clustering, the Commission noted in the consultation document that in the current R&D framework, where there is cooperation between industry and public institutes, industry has to pay the full cost of the project or give all intellectual rights to the public institute. They proposed that this provision should be amended, and rights should be allocated between partners on a pro rata basis according to the contribution of each partner.

10. The Commission further proposed that as is currently expressed in the R&D framework, in all cases where the Commission concludes that the purpose of the aid in question is to promote the execution of an important project of common European interest, that aid may qualify for the derogation contained in article 87.3 (b).

### 5.2 The View of the Expert Group

1. The Group considers that in setting up and carrying out technology transfer activities PROs are not themselves carrying out commercial activities. Rather, they are fulfilling what is regarded as their “third mission” of transferring scientific knowledge to industry and society. As Richard Lambert noted in his presentation to the Group, PROs should look on technology transfer as an extension of the PROs public duty, rather than as a source of revenue.

2. It is the view of the Group that in carrying out of the technology transfer function, PROs are promoting the execution of an important project of common European interest, i.e. the promotion of the ‘Barcelona Objective’.

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<sup>53</sup> [http://europa.eu.int/comm/competition/state\\_aid/others/action\\_plan/saap\\_en.pdf](http://europa.eu.int/comm/competition/state_aid/others/action_plan/saap_en.pdf)

<sup>54</sup> [http://europa.eu.int/comm/competition/state\\_aid/others/action\\_plan/cdsai\\_en.pdf](http://europa.eu.int/comm/competition/state_aid/others/action_plan/cdsai_en.pdf)

3. As such, the Group stresses the importance of providing the necessary framework conditions for PROs to successfully undertake the task of technology transfer. This would include:

- For PROs to be entitled to actively engage in the protection, transfer and commercial exploitation of IP generated from publicly funded research.
- For PROs to be able to organize commercial activities such as patenting and licensing in various types of entities.
- For PROs to have clarity in the legal framework regulating the transfer of IP from academia to industry.

4. PROs across Europe have organized technology transfer activities using a variety of models, e.g. integrated offices at the PROs, subsidiary companies or trans-institutional technology transfer organizations. The present state aid regulation, however, offers little guidance as to the operational conditions of such entities.

5. The lack of clarity in the existing state aid regulation regarding transfer of IP from PROs to industry has complicated R&D collaboration and limited market transparency. In particular, the present regulation in paragraph 2.4 of the state aid framework has been subject to different interpretations by various stakeholders - complicating the formulation of collaborative R&D contracts.

6. Our group chairman therefore sent a letter on behalf of the group to the Chair of the Crest group (DG Research.) In its response DG Research thanked the group for its comments, and agreed to discuss this within the Commission. The group acknowledged the preliminary draft (20.4.2006) "Community framework for state aid for research and development and innovation." It was noted that this did not mention support for technology transfer from PROs.

### 5.3 Conclusions

The revised Community framework for State Aid for R&D should reflect that exploitation of IP is a legitimate and necessary role of PROs in fulfilling their role in the execution of an important project of common European interest. Consequently, the Commission should consider appropriate measures for achieving this objective - e.g. in the form of a block exemption or similar.

The revised Community Framework for State Aid for R&D should aim to facilitate the flexible development and implementation of the various organisational models – including integrated offices at the PROs, subsidiary companies or trans-institutional technology transfer organizations - even if this challenges traditional borders between public and private sector.

The revised Community Framework for State Aid for R&D should seek for clarification – e.g. in the form of an accompanying guideline describing the practical implications of the regulation in various situations of R&D collaboration.

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