

Open Method of Coordination

**Report of the Expert Group on
IPR AND RESEARCH**

**First cycle – Final report to CREST
June 2004**

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GROUP MEMBERSHIP

Country	Name	Organisation
Chair	Ena Prosser	Enterprise Ireland Biotechnology Directorate
Consultant/facilitator	Tara Mac Mahon	Independent Consultant, Ireland
Austria	Georg Buchtela	Austria Wirtschaftsservice
Belgium	Patrick Chaltin	KU Leuven Research & Development
Belgium	Nathalie Van Den Bossche H. Bracquene	Ministère de la Communauté Française
Cyprus	Elena Zacharuadou	Law Office of the Republic
Denmark	Kaare Jarl	Ministry of Science, Technology and Innovation
Finland	Tuomas Aho	Ministry of Trade and Industry
France	Alain Gallochat	Ministère de la Recherche, Direction de la Technologie
Germany	Klaus Weber	Federal Ministry for Education and Research
Greece	Emmanuel Samuelides	Industrial Property Organisation
Ireland	Martin Shanagher	Department of Enterprise, Trade and Employment
Israel	Hadas Ferber	Israel Europe R&D Directorate
Italy	Daniela Carosi	Ministry of Productive Activities – Italian Trade Mark and Patent Office (UIBM)
Latvia	Uldis Viesturs	Institute of Microbiology and Biotechnology
Luxemburg	Serge Juchem	Ministère de l'Economie
Netherlands	Jeffrey Matakupan	Ministry of Economic Affairs
Norway	Sidsel Arbo	Ministry of Trade and Industry Adviser
Portugal	Leonor Trindade	Instituto Nacional para a Propriedade Industrial
Romania	Narcisa Tanase	Ministry of Education, Research and Youth Directorate for Technology Transfer and Innovation
Slovak Republic	Lucia Lalikova	Industrial Property Office of the Slovak Republic
Slovenia	Andrej Piano	Slovenian Intellectual Property Office
Spain	Gerardo Pinas	Ministry of Science and Technology, Spanish Office of Patents and Marks
Sweden	Catharina Sojde	Swedish Agency for Innovation Systems,
United Kingdom	Janette McNeill, Richard Mulcahy Barbara Squires Mark Bryant	UK Patent Office

European Commission Secretariat	Denis Dambois Frank Moeschler	
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CHAPTER ONE: COMPOSITION OF THE GROUP

The group was composed of a broad variety of participants. These included policy makers from 13 countries, 8 participants from national Patent Offices, 3 members from Technology Transfer Offices and an academic. Of all of the Committee for Scientific and Technical Research (CREST) members, only Iceland and Lithuania did not have representatives at any of the meetings.

Dr. Ena Prosser (IE) was appointed Chairperson of the intellectual property rights (IPR) group. Ms Tara Mac Mahon was appointed facilitator in April 2004.

The broad mix of skills that were represented was an important asset to this expert group as it permitted us to broaden the debate and gain non-governmental views on prospective recommendations which were being suggested. The Action items covered by the group concerned both education and enterprise policy. In hindsight, additional members with education policy experience may have assisted the progress in Action C and Action D.

The table below shows the composition of the full group. The names and titles of individual members may be seen in Appendix A.

Table 1: Multidisciplinary Composition of the Expert Group

Government		Non-Government	
Policy	National Patent Office	TECHNOLOGY TRANSFER	Academic
FI, IE, FR, IL, NL, DK, BE (W), LU, NO, SE, CY, RO, DE	ES, IT, PT, SE, UK, EL, SL, SK	IE, AT, BE (F)	LV

Attendance at the meetings was in general good (between 60% and 75% at most meetings bar one). Indeed, the blame for the meetings with low attendance may partially be due to the short notice and rescheduling of meetings (see the Table below).

Table 2: Analysis of participation at CREST meetings in Brussels

	No. of attendees (out of total of 26)	Note
DEC	18 attendees	* Short notice
JAN	20 attendees	
FEB	18 attendees	
MAR	18 attendees	
APR	10 attendees	* Holidays
MAY	15 attendees	* Change of date
JUNE	13 attendees	* Change of date

This suggests that the Open Method of Coordination (OMC) will work particularly well when there is clear planning of the work programme and outputs, coupled with a continued use of multi-disciplinary skills recruited from the CREST national systems.

CHAPTER TWO: EXECUTIVE SUMMARY

A CONTEXT WITHIN WHICH THE WORK HAS BEEN REALISED:-

The IPR group has completed a number of objectives as defined in December 2003.

Deliverables from the Group and Timetable.

- The 5 expert groups reported on progress achieved by April 2004.
- The 5 expert groups finalised their first reports by 15 June 2004.
- These reports will be discussed in CREST in July/September 2004.
- CREST will adopt a consolidated report in September 2004.

B THE RECOMMENDATIONS: -

The recommendations outlined below relate to possible joint or concerted actions to be launched by several member states or by the Commission. This is based on the findings of the expert group in areas such as:-

- a) clarity on IPR ownership and achieving economic growth through clear and simple trans-national understanding,
- b) professionalism of technology transfer officers, and
- c) awareness of different IPR regimes and how that relates to entrepreneurial innovation in economic development.

Additional recommendations relate to the development of European guidelines on certain specific aspects of IPR and innovation. Finally, the expert group has aimed to give clear guidance on which recommendations can be addressed by new initiatives at national or EU level (legislative or standardisation proposals; studies; expert groups).

Additional details of these recommendations are provided in [CHAPTER FOUR: RESULTS](#).

The group encourages the CREST group to adopt its recommendations. To assist in the understanding and to aid their adoption, the group has attached an impact assessment in [Appendix F](#).

<u>Recommendations</u>	<u>Potential impact</u>	<u>Feasibility</u>
A) <u>National IPR systems: Recommendations to achieve transparency and co-operation in Europe and to maximise global competitiveness.</u>		
1. The group recommends the creation of clear and operational rules regarding: ownership, disclosure, compensation, and the sharing of profits to be created for all stakeholders <u>at a national level</u> . Specific reference to the requirement and benefit of (mandatory) disclosure to the Public Research Organisation of all IP is a key gap in some systems and the group supports the inclusion of clear disclosure obligations in national systems.	Long term	High
2. The group recommends the development of <u>European</u> guidelines, with respect to the management and exploitation of IPR, such as those being prepared by several EU-based professional associations (EIRMA, EARTO, ProTon and EUA). Such guidelines can only be expected to succeed with the participation and backing of national stakeholders. The availability of data regarding the disclosure of inventions, spinouts, licenses and IPR is considered to be a vital element to understand and to benchmark systems at a European level.	Average (up to two years)	Very high, subject to non-gov/EC-funded orgs listening to proposed way forward
B) <u>Technology Transfer, people and professionalisation: Recommendations towards filling a European expertise & information gap</u>		
3. 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: <ul style="list-style-type: none"> a. The need for professional and skilled people b. The need for Technology Transfer Organisations to be well organised with critical mass c. The need for incentives throughout the technology transfer chain (incl. career structure and rewards for professionalism) d. The need for dedicated (earmarked) funding at national level e. Incentivise links and collaboration between sectoral, national, European, and international networks (without creating additional pan-European associations) 	Mixed short and long term impact	High, subject to political support and finance
4. The group recommends that professionalisation of Technology Transfer Organisations should be improved through IP/technology transfer training and international benchmarks should be established.	Mixed short and long term impact	High, subject to political support and finance

<u>Recommendations</u>	<u>Potential impact</u>	<u>Feasibility</u>
5. Recognising that there are multiple and fragmented awareness initiatives, the group recommends that they be focussed more effectively to ensure a higher impact across Europe and develop an “awareness multiplier” across our innovation systems.	Mixed short and long term impact	High, subject to political support and finance
6. Recognising that North America has a competitive advantage in technology transfer due in part to a single world-class Technology Transfer Association, the group recommends that Europe should have a single world-class professional association/network for technology transfer. All member states and the Commission should promote cooperation between existing Technology Transfer Associations and networks, <u>without creating additional pan-European associations.</u>	Requires several years to show effectiveness	High, if incentivised Requires several years to show effectiveness
7. The group recommends the development of IPR performance indicators in order to balance academic and commercial priorities in Public Research Organisations and strongly encourages the adoption of the North American model through the implementation of recommendation 6.	Medium term (to get quality data)	Medium Requires several years to establish benchmarks
C) <u>Innovation awareness: Recommendations to improve understanding of research, entrepreneurial activity and innovation across Europe.</u>		
8. The group recommends the development, at EU level, of programmes for general IP/ technology transfer training and awareness which can then be tailored at national level.	Long term	Average / high Dependent on sustained investment (results will be indirect)
9. The group recommends that the EU promote co-ordinated IP/ technology transfer awareness initiatives for undergraduate students at a national level.	Short term	Average / high but hard to monitor

CHAPTER THREE: INTRODUCTION

A. BACKGROUND:-

Europe must invest in research at all levels to compete internationally. Policies and systems to maximise the environment in which research investment will thrive must address the national IPR systems in each country and increase awareness and trans-national co-operation in R&D where possible. Public Research Organisations have historically held two key missions – those of education and research. However, to benefit fully from the significant levels of investment in R&D which have been granted to them in recent years, an additional responsibility has fallen on their shoulders – that of the generation and transfer of knowledge.

In many cases, open publication and making research results freely available is the most effective means for knowledge transfer. Indeed, research outputs usually require substantial investment before they can be brought to market and find applications. Competitive advantage will derive from many factors, depending on the nature of the market and technology, but protection of the underlying research results is fundamental for such opportunities to be exploited. The issue is not simply one of protection in order to encourage commercial investment. University researchers require continuing access to the results of their research for use in future projects and teaching. This is a key economic and social issue globally.

Within Europe, each member state in CREST has a different innovation system and each member state has individual IP systems and legislation. These systems can be very broadly classified as:-

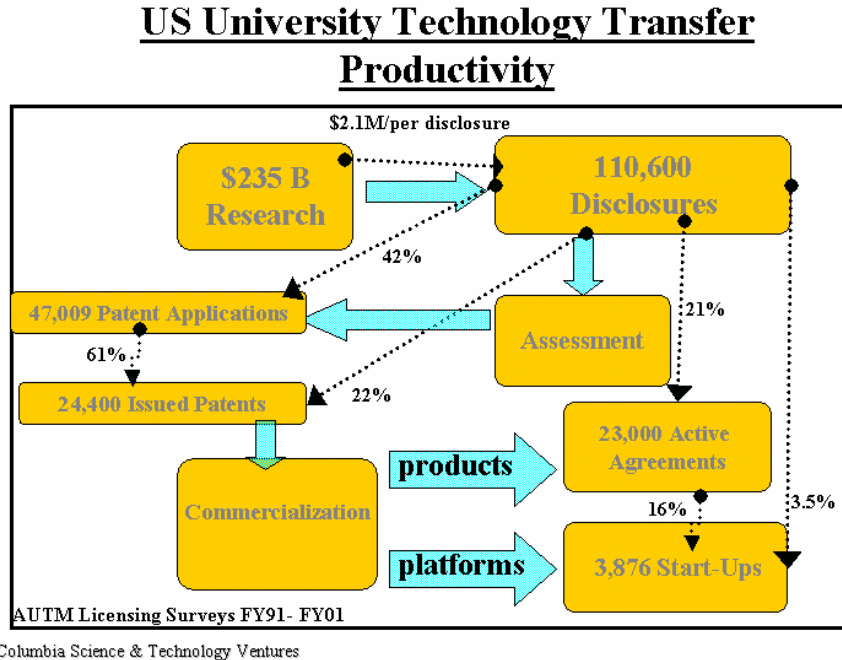
- a) systems where **institutional ownership** of IPR is the norm,
- b) systems where the inventors (specifically **university professors**) own the IPR they generate, and
- c) a range of **additional systems**, where the IPR is managed centrally, is controlled by legislation or where it is co-owned with funding agencies, with Public Research Organisation and others.

While within CREST, the first system dominates in the majority of countries, the lack of understanding of the differences between these co-existing systems can lead to increased costs in trans-national IPR management, and can cause unnecessary confusion and wariness in trans-national research. Systems to increase clarity and understanding are a priority to improve competitiveness and encourage trans-national research collaboration.

Europe needs to strike a clear balance between the accepted need to disseminate research for the public good and to protect and exploit research for innovation and economic activity. While this report focuses on the latter issue, it is important to continue to understand that this balance is vital and necessary for all successful innovation economies. The role of the Public Research Organisations in the North American innovation system is generally recognised as the international benchmark for entrepreneurial activity and innovation derived from Public Research Organisation-based innovation. The existence of a strong professional non-governmental organisation AUTM¹, which plays a vital role in the training of technology transfer professionals, and also collects and analyses accurate metrics, allows the innovation system to be competitive and responsive to change, and drives best practice and professionalism as a non-governmental organisation. A summary of the understanding of the North American system gained by the publication of metrics prepared by AUTM is shown in *Figure 1* below.

¹ Association of University Technology Managers, www.autm.net/index_ie.html

Figure 1: Summary of the North American innovation system from 1991-2001 (courtesy of Columbia University)



The Commission-funded initiative ProTon² was created with the intention of creating an umbrella organisation that ideally could incorporate all existing technology transfer bodies from across Europe (COREP³, EARMA⁴, CSIC, etc). However, it is clear from discussions that a number of large representative organisations from within Europe (in particular AURIL⁵ and ASTP⁶) offer an alternative preferred by a majority of PROs in some member states. In addition, DG Enterprise supports a network of national Technology Transfer Offices (e.g. Innovation Relay Centres (IRCs)).

Technology transfer officers in Public Research Organisations are the personnel who are responsible for the formal transfer of new inventions, creations, discoveries, innovations, processes and the like which result from scientific research conducted at Public Research Organisations, to a commercial environment for public use. Internationally, technology transfer officers are recruited from a broad range of disciplines, such as science, engineering, law and business.

Unfortunately, there is a general lack of awareness and basic skills regarding IPRs and technology transfer in society as a whole and, perhaps more alarmingly, in the Research and Technology Transfer Communities. This is considered by the group to be an obstacle to awareness throughout the innovation system.

² www.proton-europe.org

³ Consorzio Per La Ricerca ed'Educazione Permanente, www.corep.it

⁴ European Association of Research Managers and Administrators, www.earma.org

⁵ Association for University Research & Industry Links, www.auril.org.uk

⁶ Association of European Science & Technology Transfer Professionals, www.astp.net

The group decided to frame its work around the following four Actions:-

Actions A and B, which relate to management of IPR and technology transfer by Public Research Organisations

Action A: Develop recommendations to help member states review – and, where appropriate, adapt – their national regimes governing the ownership, licensing and exploitation of IPR resulting from publicly-funded research, with the aim of promoting technology transfer to industry and spin-off creation.

Action B: Support the development and implementation of European guidelines for the management and exploitation of IPR in Public Research Organisations and public-private partnerships. These guidelines will help public research institutions to develop and enforce, on a voluntary basis, charters setting out the main principles to be applied regarding e.g. the ownership and licensing of research results, the sharing of revenues, etc.

Actions C and D which relate to IPR, innovation and technology transfer awareness issues:-

Action C: Ensure that before graduating, every student – especially from science, engineering and business schools – receives basic awareness/training regarding intellectual property and technology transfer.

Action D: Support EU-wide coordinated IPR/ technology transfer awareness and training activities targeting in particular the European research community.

B. SCOPE OF THE GROUP'S MANDATE: -

The need for this group came following the Commission's communication "*Investing in research: an action plan for Europe*" (COM(2003)226). The Council invited member states, acceding states and the Commission to apply the Open Method of Co-ordination (OMC) to support the implementation of the Action Plan and the achievement of the 3% objective, and to use CREST as an operational interface. Five expert groups were established to support CREST in that task and help participating countries in achieving concrete progress in different fields of action.

The opportunity presented to the European Research Area is to promote the coherence and effectiveness of the legal IPR regimes applicable in publicly funded research. Such regimes govern, in particular, the ownership and licensing of university inventions. The example of the Bayh-Dole Act in the USA has shown that these regimes can have a strong impact on the exploitation of publicly funded research results and on the associated socio-economic impact. Substantial work was recently conducted or launched, both by the Commission (various studies from Research DG, the "ITTE" study and expert group currently managed by the Enterprise DG) and by the OECD⁷. In addition, changes were recently introduced at a national level, for instance in 2002 in Germany (abolition of the "professor's privilege"). The OMC group reviewed the findings and have conclusions from these various activities (see Appendices).

In order to understand the overall framework in which IPR operates at a European level, the group considered the technology transfer function to be a key aspect of their work. The group considered this especially relevant in terms of the implementation of any recommendations.

⁷ See <http://oecdpublications.gfi-nb.com/cgi-bin/OECDBookShop.storefront/EN/product/922003021P1>

The group considered especially the following issues: -

i) The management and exploitation of IPR in Public Research Organisations (PROs) from an operational perspective, taking account of the existing national contexts. In addition to the stakeholders concerned (Public Research Organisations (which generally include universities and research institutes)), many bodies⁸ called for the development of “charters” or “guidelines” which could facilitate the management and exploitation of the R&D results and associated IP generated by Public Research Organisations, including university-industry relationships.

ii) A number of on-going trans-national initiatives specifically related to this OMC group’s work were identified and considered supportive, including the following:

- an expert group convened by DG Research (report currently being prepared for publication)⁹
- the PROTON network funded by DG Enterprise¹⁰
- a “private” initiative jointly prepared by the EIRMA¹¹, the EARTO¹², the EUA¹³ and the PROTON network (with a conference which took place in February 2004).

C. DESCRIPTION OF THE PROCESS, PHASES OF WORK AND ACTIVITIES DEVELOPED:-

Through the Open Method of Co-Ordination, and from December 2003 until March 2004, the group agreed its objectives and priorities, developed a common view on its objectives and completed data collection. From April to June 2004, the group has focused on synthesis, analysis and drafting its recommendations.

The chairperson steered and organised the work of the group, in accordance with the roadmap and the work plan agreed by the group and with the Commission. The chairperson also ensured interface with CREST, to which she regularly reported.

The chairperson identified and appointed a facilitator, Ms Tara MacMahon to assist in the development of the workplan and the drafting of this report.

The other members of the group, [Appendix A](#) participated in the meetings and contributed to all stages of the group work, liaising as appropriate with other experts in their country. They provided information on policies and measures in their country according to agreed templates, and other specific contributions as agreed with the chairperson.

The recommendations and suggested implementation of these recommendations were compiled from three sources: -

1. Presentations made to the group (see [Appendix B](#)).
2. Replies to Questionnaires (see [Appendix C](#) and [Appendix D](#)).
3. Group discussions in-group meetings, with some sub-group activity between the formal sessions.

⁸ For instance, the European Research Advisory Board (EURAB) proposed “*that the Commission establish a Working Party from Industry and Academia, along with legal and patents expertise, charged with the creation of pragmatic models for Intellectual Property Rights for industry-university relations in Europe*” (see <http://europa.eu.int/comm/research/eurab/pdf/recommendations2.pdf>)

⁹ draft report available on the Internet: <http://europa.eu.int/comm/research/era/pdf/iprmanagementguidelines-report.pdf>

¹⁰ see <http://www.gate2growth.com/ProTon.asp>

¹¹ <http://www.eirma.asso.fr/index.html>

¹² <http://www.earto.org>

¹³ <http://www.unige.ch/eua>

1. Presentations made to the Group

The group attended and discussed a number of presentations (made by both group members and external invitees), outlining national and other (e.g. OECD; EPO) experiences and initiatives. Details of these presentations are listed in [Appendix B](#).

2. Replies to Questionnaires:-

The group developed Questionnaires in order to collect the information necessary to properly examine the four Actions. The aim of the Questionnaires was to produce an overview of the national situations regarding different aspects of the issues to be addressed, in order to provide a means of comparing the situation of the different countries and their evolution over time. The replies to these Questionnaires were then analysed in the context of the above four Actions.

The Questionnaires were completed by the following member states: -

Austria, Belgium (Flanders), Belgium (Wallonia), Cyprus, Denmark, Finland, France, Greece, Ireland, Israel, Italy, Latvia, Luxemburg, Netherlands, Norway, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, United Kingdom. Synoptic tables summarising the replies to these Questionnaires are provided at [Appendix C](#) and [Appendix D](#).

Numerous requests were made of each member states to confirm that their replies to the questionnaires, as reflected in this report, were correct. Also, some member states were asked to clarify various replies. However, some member states did not reply to such requests. As a result, whilst every effort was made to ensure the accuracy of both the synoptic tables at Appendices C and D, and the tables included in Chapter 4 (Results), some discrepancies still existed as at the time of finalising this report.

3. Group Discussions

The group discussed various issues arising from the four Actions, from both their personal and national experiences. The group analysed relevant national initiatives, and identified good practices and possible obstacles.

While recognising that there were four Action items, the group divided the data generation and analysis into two key tasks. The group then divided into two sub-groups, with one sub-group considering issues relevant to Actions A and B, and the other sub-group considering issues relevant to Actions C and D. *Table 3* below outlines the key subgroups selected to drive each theme and draft initial recommendations.

Table 3: Details of the key sub-groups:-

	Sub-Group A/B	Sub-Group C/D
Focus:	IPR Regimes – National & EU Level	IPR Training & Awareness
Leader:	Jeffrey Matakupan	Gerardo Penas
Participants:	Catharina Sojde Georg Buchtela Patrick Chatlin	Lucia Lalikova Sidsel Arbo Daniela Carosi

The sub-groups agreed draft recommendations based on the various discussions between, and presentations to, the group, and also suggested ways in which these recommendations could be implemented, with primary focus on:-

- Possible joint or concerted actions to be launched by several member states.
- The development of European guidelines on certain issues.
- The identification of needs to be addressed by new initiatives at national or EU level (legislative or standardisation proposals, studies, expert groups, etc.)
- Possible implementation steps for the next cycle (should it exist).

Copies of each version of the report were circulated to all members of the group for comment, and minutes of each meeting were also circulated. Each member of the group was given the opportunity to comment on the issues being discussed and the draft report, at each stage of the OMC process.

A draft report was prepared and discussed in detail at a two-day meeting of the group in Brussels on 3rd and 4th May 2004. A revised draft was then prepared in May, with additional communication between expert members, with the final draft having been agreed at the expert meeting on 1 June 2004.

Finally, the group briefly considered possible issues to be addressed by the new group, in the next cycle of work (should CREST agree) (see [Appendix E](#)).

The group has found all information gathered from this process to be very useful, and believes that it will be of substantial benefit to individual member states in the course of developing their IPR and research systems. Individual group members intend to use the information collated in the course of this CREST work at a national level, following completion of the report.

D. DIFFICULTIES/BARRIERS ENCOUNTERED AND HOW THEY WERE OVERCOME:-

There were three main difficulties and barriers encountered during the first cycle of the OMC process.

1. Timing:

Issue: The tight deadlines which were imposed upon the group and the relatively “heavy” procedural burden put upon it meant that the group was under constant pressure and was rarely able to consider issues in the depth which it would have liked, having to focus upon the next deliverable. Also, the short time span between meetings meant that progress between each meeting was often little, and representatives did not have time to interact with colleagues. Furthermore, the lack of time most participants had in which to actively engage in the process meant that the chairperson was unable to call upon sufficient additional resources from within the group to meet the requirements being made by CREST.

Solution found: Having expressed concerns about this state of play to the Commission secretariat, an appropriate facilitator was identified and hired in April to assist the group in the drafting of the final report.

Procedural recommendation for the next cycle (should CREST agree):

- a) to either extend the length of the next cycle, or to diminish the work-programme.
- b) to extend the time between meetings to between 1.5 months and 2 months.
- c) to ensure that individuals who participate at the meeting are given sufficient time in which to assist the process and to consult with colleagues, both within their administrations and externally with representative associations.
- d) representatives should be expected to serve for a minimum of 1 to 2 years (preferably) on the CREST expert group and, if changes in staffing occur, a handover meeting should take place where both participants are present. This would enable members to build closer ties between themselves and create a more cohesive group. Furthermore, it would avoid, or at least minimise, the extent to which elements which have been previously discussed or agreed during meetings, need to be revisited, and would ensure continuity of the discussions. It would also give each group a better opportunity to develop greater interaction and inter-connection between each of the other OMC groups.
- e) to provide a full-time / permanent facilitator (with expertise in the fields under discussion) on which the Chairperson and/or Rapporteur could call to conduct research and to draft initial reports for further discussion with the entire group.
- f) the group recommends that the next cycle commence with a two-day session, which would include an informal dinner. This would enable each group member to get to know the other members more quickly, as well as enabling the group to get to grips with the work programme more speedily.
- g) introduction of a procedure whereby members who do not attend any particular meeting are named in the Minutes of the Meeting. This will emphasise the importance of attendance of the meetings.

h) if a further expert group is convened by CREST, some members of the current group should remain, for continuity and to avoid duplication.

2. Scope of the work:

Issue: The scope of the work programme was overly broad.

Solution found: Two sub-groups were created, who led on half of the workload each. The results of the sub-groups' work were then presented to the entire group in the May meetings and the group as a whole endorsed the recommendations put forward.

Procedural recommendation for the next cycle (should CREST agree): A narrower work programme should be adopted. This would ensure that more substantive discussion and procedure. In addition, the expertise and composition of the next group should be considered carefully. If the members do not possess adequate expertise in all areas relevant to the proposed Actions for the next cycle, then the work for which the new group does not have adequate expertise should be re-allocated to another more appropriate group.

3. Identification of best/worst practices:

Issue: The group found it difficult to agree on any best practices in respect of any particular aspect of the Actions, from the questionnaire results. The group did not consider it appropriate to try to identify any worst practices.

Solution found: The group did not identify any worst practices, and only one best practice – namely, the UK's publication of national statistics in respect of technology transfer activities. Also, for those countries considering national guidelines, the recently published Irish guidelines, and the process for developing guidelines, was generally welcomed.

Procedural recommendation for the next cycle (should CREST agree): The group should be instructed to only identify best and worst practices if doing so would be beneficial to the group/the report.

CHAPTER FOUR: RESULTS

4.1 – ACTIONS A AND B: MANAGEMENT OF IPR AND TECHNOLOGY TRANSFER BY PUBLIC RESEARCH ORGANISATIONS

Action A: Develop recommendations to help member states review – and, where appropriate, adapt – their national regimes governing the ownership, licensing and exploitation of IPR resulting from publicly-funded research, with the aim of promoting technology transfer to industry and spin-off creation.

Action B: Support the development and implementation of European guidelines for the management and exploitation of IPR in Public Research Organisations and public-private partnerships. These guidelines will help public research institutions to develop and enforce, on a voluntary basis, charters setting out the main principles to be applied regarding e.g. the ownership and licensing of research results, the sharing of revenues, etc.

4.1.A REVIEW AND ANALYSIS OF RECENT AND PLANNED POLICY DEVELOPMENTS/MEASURES IN MEMBER STATES:-

Both legislation and key policies in the field of IP are dynamic in many CREST member states – they are ever-changing and rarely static. As a result, it is extremely difficult to carry out a clear analysis of what does or does not work in this controversial field. This is especially true when one seeks to contrast a national or European system with the North American model, especially given that the innovation cycle is generally 5-10 years and that retrospective analysis is difficult in this area. This will also impact the collection of metrics on European innovation systems, as the changes in national regimes may take several years to impact on innovation data.

From the responses received to the Questionnaires, at least nine of the member states are intending to make some major changes to their national regimes in this field, and eleven others have recently undertaken them.

Table 4: European IPR: A highly dynamic environment (source : replies to Questionnaires 14, 15 and 16, from: [QUESTIONS 14 – PROPOSED CHANGES](#))

Currently considering implementing change	Significant change in last 5 years	Guidelines / code of practice	Considering National guidelines
DK	AT ('03)	IE	IT
FI	CY ('02)	UK	DK
DE	DK ('99)	BE (W)	EL
IL	DE ('02)	BE (F)	NO
IT	IE ('99)	FR	PT
LV	IT ('01)	DE	ES
ES	LV (90's)	IL	
SE	NO ('03)	LV	
	RO ('03)	NL	
	ES ('02)	PT	
	UK ('01)		

These national initiatives do not take into account the “macro” issues which need to be considered and which are currently being debated in the EU. These issues include:

- the Community patent,
- the grace period,
- software patenting,
- State Aid and the valuation of IPR transfer within national systems.

The group referred to these issues throughout the first cycle and acknowledged that all of these key issues have a direct effect on the environment in which users of the system operate. However, they were considered to be outside the scope of the OMC expert group on IPR and the Actions discussed in this report.

The group recommends that countries embracing or considering new policies in IPR consult those member states that have already made the change, or those that are considering change, and learn from the experiences of the other systems. A number of examples are set forth in this report.

In order to heighten awareness, the group has identified several key elements of IP national systems at trans-national level where groupings of countries have similar systems. As indicated in other sections of this report, the group considers that these informal groupings are a valuable tool in cross learning, to achieve best practice.

Such groupings exist in the following areas:

- Classifications of ownerships systems
- Countries which are considering change and the reasons behind this change
- Countries which have National Guidelines and Codes of Practice
- Countries with national policies on the incentivisation of researchers.

The clear identification of informal groupings or clusters of countries having similar (or at least comparable) legal regimes, support structures, etc. by CREST can be used to promote focused exchange of experience and good practices, and further convergence of the national regulatory/administrative environments and is a clear success for the OMC methodology.

Furthermore, across Europe, in respect of those countries who support guidelines rather than legislation, the agreed best practice for the development of guidelines is for Governments to develop them in collaboration with industry, university and other public sector research establishments. Such guidelines have been introduced by a cluster of countries including IE, UK, BE (W), BE (F), FR, DE, IL, LV, NL, PT in recent years and could be used by others who are contemplating the generation of guidelines.

4.1.B GENERAL TRENDS: -

(a) Ownership systems

There are three broad groups of ownership systems in our classification (see *Table 5* below). The results of the Questionnaire clearly show that there is a growing trend across Europe towards Public Research Organisation (institutional) ownership of IPR, as opposed to professor privilege (which still exists or partially exists in five countries). Germany has adopted such an approach. Finland is considering changing to institutional ownership in certain circumstances.

Table 5: Classification of general ownership systems for publicly funded research (source: replies to [QUESTION 2 – OWNERSHIP OF IPR](#))

A Institutional Ownership	B Professor's Privilege	C Alternative systems
IE UK BE (F) DK FR DE SE* (research institute only) E*L + joint with inventor IL L* (for patents) LV (joint with inventor) LU NL NO PT (joint with inventor) ES SK	FI RO SE* (only University professors) EL */ joint with Public Research Organisation IT L* (for copyright)	BE (W) CY AT
* means ownership can fall into more than one of the above three groups of ownership, depending on circumstances		

The group agrees that the existence of three broad groups of ownership systems is not a barrier in itself (and therefore no recommendations were made on this subject). While the group acknowledges that the existence of several systems can be a source of some confusion, the discussions led to the agreed opinion that all relevant IPR guidelines should highlight the fact that these three broad groups of ownership systems exist, when developing IPR guidelines for working with other countries. It should be noted that there was a concern expressed by some countries regarding this subject 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 (should it exist) and be considered a “cross cutting” issue with other OMC groups (public policy).

(b) Lack of Clarity in Rules

From the responses received to the Questionnaires, it is clear to the group that the national rules governing (a) ownership of, (b) disclosure of and (c) compensation/sharing of profits in respect of, R&D results (and the corresponding IPR) generated by universities and Public Research Organisations may appear unclear in some countries, and have no consistency between countries. Without communication and awareness programmes, the complexity and lack of clarity at national level may hamper and/or delay the exploitation of university/ Public Research Organisation R&D results, and university-industry relations. Indeed, unless this awareness is heightened, such discrepancies may result in an uneven playing field, hampering cross-border collaborations and technology transfer activities.

(c) Technology Transfer, People and Professionalisation

In many countries, technology transfer and Technology Transfer Organisations are not seen as central to the mission of the Public Research Organisations, and therefore no funding is specifically earmarked for technology transfer activities. Indeed, it is clear from our survey that no member state has an appropriate

system which effectively and equitably incentivises and rewards all individuals who play a part in any of the four phases of the technology transfer process (i.e. the IP creation phase, the IP identification phase, the IP protection phase, and the IP exploitation phase).

The questionnaire replies indicate that most countries allow all routes of commercialisation, including spin-outs, licenses, etc. Several countries (e.g. FI, EL, NO) allow the transfer of rights by assignment. Many of these mechanisms require specific expertise and industry knowledge to work in practice.

4.1.C RECOMMENDATIONS:-

4.1.C.1) National IPR systems: Recommendations to achieve transparency and co-operation in Europe and to maximise global competitiveness.

- 1. The group recommends the creation of clear and operational rules regarding: ownership, disclosure, compensation, and the sharing of profits to be created for all stakeholders at a national level. Specific reference to the requirement and benefit of (mandatory) disclosure to the Public Research Organisation of all IP is a key gap in some systems and the group supports the inclusion of clear disclosure obligations in national systems.**
- 2. The group recommends the development of European guidelines, with respect to the management and exploitation of IPR, such as those being prepared by several EU-based professional associations (EIRMA, EARTO, ProTon and EUA). Such guidelines can only be expected to succeed with the participation and backing of national stakeholders. The availability of data regarding the disclosure of inventions, spinouts, licenses and IPR is considered to be a vital element to understand and benchmark systems at a European level.**

Factors for Consideration Relating to these Recommendations:-

(a) Systems and rules to maximise the generation and disclosure of new IP

The group strongly recommends that, irrespective of whether a country has an institutional ownership or a professor privilege regime, all countries should emphasise and develop systems to maximise the generation and disclosure of new IP at an institutional level in order to maximise commercialisation possibilities and to enable the auditing, measuring and monitoring of same.

When making any revisions to rules on these issues, the concerns of all parties involved in technology transfer, including Public Research Organisations, SMEs and large multinationals, should be taken into account.

Clarification/consideration should be given to whether or not the same rules in respect of ownership, compensation and sharing of profits should apply to universities and to other Public Research Organisations (differences are observed in many countries).

The group recommends that the **first owner** of the IP should consider the best route for commercialisation, taking particular account of the number of potential fields of exploitation which are possible for the IP in question, and implications for State Aid rules.

(b) Disclosure requirement

Ideally all member states (especially professor privilege member states) should introduce national systems to maximise the obligation on researchers to disclose details of current research to the appropriate Technology Transfer Organisation on a regular basis. This will enable universities/ Public Research Organisations to have knowledge of the current research being carried out at any particular time. The feasibility for imposing such a requirement may be low in various countries, and these might consider other mechanisms such as incentivisation / metrics / contract conditions which may reach the same result.

(c) Possible guidelines re co-ownership

Consideration should also be given to the possibility of introducing clear guidelines on the issue of co-ownership of IPR. Again, the group reviewed the various EU systems and showed that a wide variety of systems exist at national level (see replies to Questionnaire 3, [Appendix C](#)).

(d) Implementation of Recommendation 1 - national guidelines or legislation

To implement the above recommendation, national guidelines or legislation are considered a good practice at EU level.

The group has identified those countries that have published national guidelines (see *Table 4* above) and recommends that, where any other country is considering the development of national guidelines, that it refer to those countries. The key to introducing new rules and the clear lessons from the US, is that incentivisation is necessary.

The implementation of this recommendation should involve each member state reviewing the summaries of the replies to the Questionnaire in more detail to identify relevant informal groupings with which they may wish to achieve cross-learning and achieve best practice.

(e) Implementation of Recommendation 2 - European guidelines in respect of the management and exploitation of IPR,

Clear and co-ordinated guidelines in respect of the management and exploitation of IPR are the backbone to effective IPR commercialisation. "Guidelines" in this case were interpreted by the group as a series of broad principles which would work with national systems.

In relation to Action B, the group supports the development of guidelines in respect of the management and exploitation of IPR, such as those being prepared by several EU-based professional associations (EIRMA¹⁴, EARTO¹⁵, ProTon¹⁶ and EUA¹⁷). However, the success of such guidelines is dependent upon the validation and support of stakeholders.

CREST should note that the group has not seen the draft guidelines currently being developed by EIRMA, EARTO, ProTon and EUA and therefore is unable to comment until these are available to the group.

EIRMA and ProTon presented their initial work regarding these guidelines and the group would like to endorse their general ambitions. That said, the group raised concerns about the scope of the guidelines

¹⁴ European Industrial Research Management Association, www.eirma.asso.fr

¹⁵ European Association of Research and Technology Organisations, www.earto.org

¹⁶ www.proton-europe.org

¹⁷ European University Association, www.eua.be/eua

under development, as it was not clear to them that the rather unique needs of SMEs (in particular) were being considered in their development, at the time of presentation to the expert group.

It is also recommended to EIRMA etc. that, once the guidelines have been drafted, that they are brought to the next cycle of the OMC (should it exist) or CREST, and for members of that group to conduct a validation and review process. This step would result in the guidelines being recognised by national administrations and as such they could be held as being the agreed European guidelines in this field for all Public Research Organisations. This implementation aid should increase the effectiveness and speed of adoption of IPR best practice.

The group notes that guidelines could be developed by different groups in isolation, and would encourage the groups to continue to come together to develop one clear set of guidelines. One way of improving this exploitation is for Public Research Organisations and industry to agree on European guidelines setting forth basic principles regarding in particular the management and exploitation of knowledge and IPR. The "users" would develop the guidelines, but public authorities may play an important role in their implementation. The guidelines should deal with issues that would be of concern/relevance to SMEs as well as large multinationals.

If it is decided to develop European guidelines, it may be of particular value to consult with those member states that have already introduced national guidelines, in order to identify (a) issues that may need to be dealt with in the European guidelines, and (b) issues that may arise from the introduction of European guidelines.

Proposals should be made at this consultation phase for national or cluster-group measures to encourage and facilitate the take-up and the effective use of these new European guidelines, to ensure compatibility with any pre-existing national guidelines, and to deal with any conflict between the European guidelines and any pre-existing national guidelines. A single individual/contact point should be identified in each member state to achieve this.

The group believes that these guidelines will be particularly important for countries where no national guidelines exist. However, the group did not reach general agreement on whether such guidelines should be binding.

4.1.C.2) Technology Transfer, people and professionalisation: Recommendations towards filling a European expertise & information gap: -

- 3. 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:**
 - a. The need for professional and skilled people**
 - b. The need for Technology Transfer Organisations to be well organised with critical mass**
 - c. The need for incentives throughout the technology transfer chain (incl. career structure and rewards for professionalism)**
 - d. The need for dedicated (earmarked) funding at national level**
 - e. Incentivise links and collaboration between sectoral, national, European, and international networks (without creating additional pan-European associations)**
- 4. The group recommends that professionalisation of Technology Transfer Organisations should be improved through IP/ technology transfer training and international benchmarks should be established.**

5. **Recognising that there are multiple and fragmented awareness initiatives, the group recommends that they be focussed more effectively to ensure a higher impact across Europe and develop an “awareness multiplier” across our innovation systems.**
6. **Recognising that North America has a competitive advantage in technology transfer due in part to a single world-class Technology Transfer Association, the group recommends that Europe should have a single world-class professional association/network for technology transfer. All member states and the Commission should promote cooperation between existing Technology Transfer Associations and networks, without creating additional pan-European associations.**
7. **The group recommends the development of IPR performance indicators in order to balance academic and commercial priorities in Public Research Organisations and strongly encourages the adoption of the North American model through the implementation of recommendation 6.**

Factors for Consideration Relating to these Recommendations:-

(a) Sufficiently resourced professional technology transfer systems

CREST member states should ensure that there are sufficiently resourced professional technology transfer systems to facilitate and stimulate the innovation system at a national level. This must be achieved through the provision of dedicated (earmarked) funding at Public Research Organisation level and by ensuring there are sufficient professional and skilled people recruited and trained to staff these offices.

It is essential that these offices are well organised with **critical mass** locally or achieved through networking with subject matter experts.

At Public Research Organisation level, it is advised that the US system of incentives throughout the technology transfer chain (incl. career structure and rewards) is best international practise.

Smaller Public Research Organisations should be incentivised to join forces in order to create a critical mass and justify the investment in specialist expertise.

High levels of skills and resources are required for IP exploitation to be successful. Member states should be reminded that the funding of technology transfer activities is a national *investment*, and is not simply funding for which it will receive no return. This funding is part of the whole ecosystem of research and development and this is generally a lengthy return on investment.

Similarly, the group recognises that technology transfer activities are not income generating in the short-term. The group therefore recommends that each member state should consider developing a financial scheme to initiate and fund a good technology transfer scheme. This could be the subject of periodic review.

Consideration needs to be given to, and guidelines created in respect of, the funding of Technology Transfer Organisations in general and who pays for same (e.g. the Department of Enterprise or Research, etc.). Proper benchmarks/guidelines need to be set as to how much money should be given.

Self-sufficiency of the Technology Transfer Organisations is possibly the long-term goal, but it may not happen – the current priority should be to provide adequate funding to ensure the Technology Transfer Organisations can properly carry out their activities.

(b) Implementation of Recommendation Three

The implementation of this recommendation requires further work by the next cycle (should it exist). Specific examination of current funding and technology transfer systems needs to be made (nationally, regionally and trans-nationally) to identify how to create critical mass to achieve professionalisation and expertise. The group has identified that this is not a straightforward matter. The group therefore recommends that the next cycle consider the possible criteria for allocation of funding to Technology Transfer Organisations and Offices. The group recognises that a key factor of the US system is the incentivisation of Public Research Organisations in respect of technology transfer.

Each national administration should look at the various technology transfer systems which exist in other member states, and evaluate which system best fits their needs. Particular consideration should be given to whether best practice supports the location of Technology Transfer Organisations being within the university campus (enabling technology transfer officers to develop a good relationship and trust with the researchers) or outside the university campus (with private sector incubation, or inter-institutional groups), or combinations of the above. In some countries, this may be better implemented at Public Research Organisation level. The outcome and recommendations made in the ITTE Project¹⁸ could be considered by the next cycle (should it exist).

(c) Publication of revenue details and other metrics; career structure for technology transfer officers

The group recommends that, where possible (not possible in, e.g., UK; AT; HU), and given the limitations in this regard due to different national regimes, details of the revenues from IPRs are published at institution level.

In addition to professionalisation, such transparent metrics will improve the mobility of technology transfer professionals (between industry and Public Research Organisations) and the natural transfer of best practices throughout Europe.

A clear career structure for technology transfer officers should also be developed. Lack of career advancement acts as a substantial disincentive to individuals to join Technology Transfer Offices and Public Research Organisations to carry out technology transfer activities. Possible criteria for career advancement could be, e.g.: number of patents filed per annum; number of knowledge transfer events per annum; number of licenses executed per annum; size of research group.

To understand the relationship between academia, Technology Transfer Organisations and industry, it is necessary to explore the motivation and incentives that exist at research level. The questionnaire replies indicate that 7 countries have specific commercialisation/incentive policies in this regard but several of these countries noted that this is not generally enforced.

The group acknowledges the imbalance of publication over commercialisation of technology transfer in the promotion and funding of institutions at a national level. This should be addressed as a policy question (cross cutting issue with policy mix group and university industry group).

¹⁸ See <http://oecdpublications.gfi-nb.com/cgi-bin/OECDBookShop.storefront/EN/product/922003021P1>

Table 6: Analysis of member states where innovation metrics inform academic career development (source: replies to [QUESTION 13 – PATENTS /LICENSES AS ACADEMIC CREDENTIALS](#))

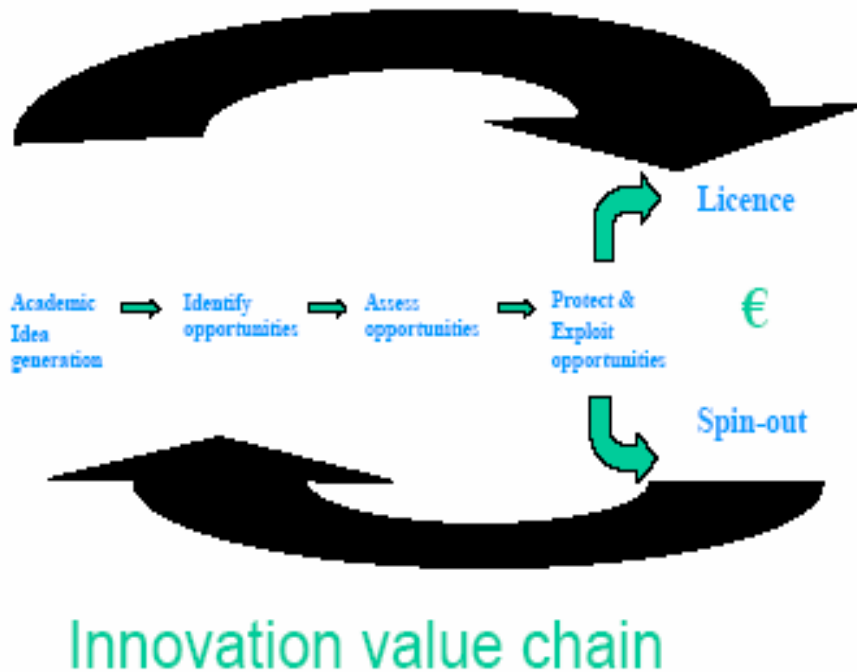
Patents included	Not included	Varies at Public Research Organisation
ES DK (in principle) FI DE SK LV SE	AT NO FR (inclusion being considered) RO CY IL NL UK (inclusion being considered) PT	BE (F) IE

In order to benefit both researchers and Technology Transfer Offices alike, the group believes that the EU should fund the activity, development and collection of metrics through ProTon or ASTP or other unified associations or networks. Also, to “kick-start” this process, the EU could offer a public prize for the most successful Public Research Organisation of the EU/ European Research Area in technology transfer.

(d) Incentivisation/rewarding of all members of the technology transfer value chain

Structures/guidelines should be put in place to ensure that all members of the technology transfer value chain are adequately incentivised and rewarded (both financially and otherwise), in order to acknowledge/endorse the view that they are all valued professions and critical players in the technology transfer value chain.

Figure 2: Innovation Value Chain



With respect to the IP creation phase, the inventor is the most incentivised. The group recognises that this is a good principle, but agrees that appropriate incentivisation should also be given to the Public Research Organisation and to the technicians and researchers who are not the ultimate inventors, and to the technology transfer personnel. In particular, individuals involved in the IP identification and IP protection phases are not adequately rewarded. In some countries (e.g. Sweden; Ireland), professors are incentivised, but public sector Public Research Organisations are not. With respect to the IP identification, protection and exploitation phases, the development of professionalism in these areas is paramount. Once professionalism has been achieved, appropriate rewards should be given.

Failure to properly incentivise and reward the individuals involved in the technology transfer process could result in IP creation, protection and exploitation activities not being fully maximised to their potential.

Consideration should be given to the following: (a) who should be rewarded/incentivised, (b) what financial rewards/incentives should be given to them, and (c) what other rewards/incentives should be given to them.

While recognising that incentivisation is good, several experts suggested that a cap should be placed on the amount of financial rewards that should be given to inventors and researchers. All members did not accept this.

This recommendation could be implemented through the development of national guidelines in respect of rewards and incentives, which are reflected at institutional level.

- The group noted that the analysis of the questionnaire replies from the member states revealed that incentivisation and compensation and sharing profits are generally agreed at institutional level.
- It is clear that DK, FR, DE, NO, PT, ES and BE(F) have specific systems in legislation or with Government and approval to support the incentivisation of the technology including allocations of profits between researchers, their departments and the institution. This cluster of countries could be used to assess the impact of this measure for towards the generation of European guidelines.
- Skilled professionals are critical to each of the four phases of technology transfer activities, in order to develop competency and critical mass.
- Inadequate incentives and mis-allocation of rewards has created inequitable elitism within the profession, with the result that it is becoming increasingly difficult to retain good researchers and technology transfer officers in the system.
- AUTM was recognised by all of the representatives as an example of best practice – it represents technology transfer officers, but also provides training for new and existing members as well as collates data that benchmarks institutions from across the US, Canada and more recently, Mexico. The summary of the understanding of the North American system gained by the publication of metrics prepared by AUTM is shown in [Figure 1](#) (see Chapter Three {Introduction}). The UK has also taken a national approach and has published national statistics¹⁹, many of which are directly comparable to the AUTM data.

(e) EU-wide certification and training programme for technology transfer professionals

To implement this recommendation, the group strongly endorses an EU-wide certification and training programme for technology transfer professionals. The group recognises that many technology transfer personnel come from different areas of expertise (e.g. science, law, business), and agree that this is good,

¹⁹ Further details may be found at the following link: http://www.hefce.ac.uk/pubs/hefce/2004/04_07/04_07.pdf

as there is a need for varying expertise in this role. In developing and implementing this recommendation, the group recommends that the next cycle look to the professionalisation of other careers where professionals are sourced from a number of different disciplines, for guidance. Examples of these career structures include marketing, institutes, controllers and administration. The group pointed out that the transfer of these trained individuals into industry is the norm in the US and that this adds significantly to the absorption capacity of new start-ups and high technology sectors to adopt new technology through the networks and expertise of licensing professionals throughout the innovation system.

(f) Development of a single European world-class professional association/network for technology transfer

The group recommends that national administrations promote collaboration with an appropriate association, to ensure that it gains critical mass and can become an effective European alternative to AUTM. The group did not reach agreement that ProTon is the association with which they should collaborate. Such collaboration may be done through granting contracts for joint work – for example in the realms of creating a recognised certification of the profession, standardisation, training (courses, workshops, etc European IP Academy (EIPA)).

Recommendations should be made which are aimed at promoting synergies and uniformity in the collection of data on the patenting/licensing/spin-off creation activities of universities and Public Research Organisations. Consideration should be given as to the type of data that should be collected.

The group also noted that EU funding could be divisive when one association is funded over another, and suggests that, in its funding strategies, the Commission adopt strategies that encourage inclusiveness and consolidation of pan-European Technology Transfer Associations.

4.2 – ACTIONS C AND D: IPR, INNOVATION AND TECHNOLOGY TRANSFER AWARENESS ISSUES

Action C: Ensure that before graduating, every student – especially from science, engineering and business schools – receives basic awareness/training regarding intellectual property and technology transfer.

Action D: Support EU-wide coordinated IPR/ technology transfer awareness and training activities targeting in particular the European research community.

4.2.A. REVIEW AND ANALYSIS OF RECENT AND PLANNED POLICY DEVELOPMENTS/MEASURES IN MEMBER STATES AND THE GENERAL TRENDS:-

In European society there is a low degree of awareness about IPR/ technology transfer. This issue has been recognised by national administrations and it is clear from the consultation that most countries are implementing IPR awareness initiatives. All but three countries have general awareness-raising initiatives and members of the group would be keen to see Higher Education Institute courses to begin to include modules on IPR / technology transfer.

A common approach does not exist in the different countries. The general feeling is that the existing courses are insufficient. Indeed, they are usually non-compulsory for undergraduates (even for science/engineering/ business schools students) and their provision could be described as being inconsistent. Where there exists undergraduate courses, these are primarily for legal undergraduate degrees. The situation for postgraduates is slightly better, with many courses now offering IP modules as part of the training. Again, the composition of the group was more biased towards IPR profession and the group struggled to get complete information from the education experts nationally as this is a new process.

Table 7: Compulsory undergraduate IP COURSES at national level (source: replies to Questionnaires 3 and 4 of survey re Actions C and D)

YES	NO	Considering introducing broad course
FI RO	All other member states who replied	FI FR EL PT ES IE

A key difficulty is that of changing Higher Education Institute curricula throughout Europe. This is partly due to the variety of the responsible bodies (national or regional public authorities, autonomy of the universities in some countries, ...) and the fact that, although IP awareness is a recognised problem, it has not been identified as a priority action for European Administrations.

While there are no specific undergraduate courses available, several countries which have Higher Education Institutes which offer specific Masters of Postgraduate courses in IP include: BE (F), FR, DE, IT, NL, ES, SE, UK.

Table 8: Analysis of proposed course content in those countries considering introducing IPR training in Higher Education Institutes undergraduate courses (source: replies to [QUESTION 4; IP IN UNDERGRADUATE COURSES](#) of survey re Actions C and D):

Innovation	FR, LV, LU, NL, RO, ES, SE
Technology Transfer	EL, IE, LV, LU, RO, SL, SE
Entrepreneurship	EL, IE, LV, LU, NL, RO, SE
IPRs	FR, EL, IE, LV, LU, NL, RO, ES, SE
Exploitation strategies	IE, LV, LT

Most member states are in consensus that awareness and training are crucial, both at EU and national level. This is not possible without a clear initiative of awareness. The exploitation of academic R&D results cannot be effectively maximised if public-sector researchers are not aware of the relevance and importance of such activities (patenting; licensing; creation of spin-offs) and do not have at least a basic knowledge of the issues which arise in aspects of IP identification, protection and commercialisation. Such awareness and basic skills are even more important for the graduates to be hired by private companies. The graduates of the 21st century are no longer expected to focus solely on the production of new knowledge, but also require awareness of its management, protection and exploitation.

As a general rule, graduates lack experience in IP.

Isolated examples of awareness initiatives (few of them relating to undergraduate science/engineering training) are:

- UK and IT: IP awareness campaign in secondary schools
- France: regional delivery awareness scheme
- In several countries: post-graduate courses on IP (mainly for IP specialists).

Table 9: Analysis of the key bodies responsible for IPR awareness training in Higher Education Institutes at a national level (source: replies to Questionnaire 1 of Survey re Actions C and D). [IP COURSES](#)

Higher Education Institute	Patent / trademark office	Tech TO	Education Ministry
AT, BE (F)*, DK*, FI, DE, IL, IT, IE*, LV, NL, NO, RO*, SK*, SE, UK*	DK*, FR, RO*, SK*, ES*, UK*	BE (F)*, ES*, UK*, IE*	PT, RO*
<p>While 19 countries indicated that IP courses are provided in Higher Education Institutes as either undergraduate or post graduate courses, there is considerable variability in the content and detail at Higher Education Institute level. A full analysis of the content of key courses was prepared in Q2 (b) of the questionnaire and is available on request.</p> <p>“*” signifies more than one body.</p>			

In their deliberations, the group also noted that the lack of systematic monitoring of such initiatives and their impact (many recent activities) leads to an inability to really understand the impact of awareness

training. The group considers this a very important aspect of awareness training and concludes that the next cycle (should it exist) should specifically address the impact assessment and the issues surrounding course development.

4.2.B. RECOMMENDATIONS: -

Innovation awareness: Recommendations to improve understanding of research, entrepreneurial activity and innovation across Europe:-.

- 8. The group recommends the development, at EU level, of programmes for general IP/ technology transfer training and awareness which can then be tailored at national level.**
- 9. The group recommends that the EU promote co-ordinated IP/ technology transfer awareness initiatives for undergraduate students at a national level.**

Factors for Consideration Relating to these Recommendations:-

(a) Development of programmes for general IP/ technology transfer training and awareness at EU level

The group agrees it is desirable and feasible to deal with some of the issues raised above, at European level. The valuable sources of training and awareness which currently exist should be fully utilised. These national and international organisations could coordinate to develop an awareness and training programme which could be implemented at EU and national level, and could work together to promote convergence and synergies regarding awareness and training (development of common curricula and material, etc.).

The possibility of developing joint initiatives (setting up networks of universities offering focused training regarding IP, technology transfer, innovation, entrepreneurship) should be investigated.

The European Patent Office is currently preparing a large-scale initiative aiming to set up a European-scale IP training institution, the European IP Academy ("EIPA"), also involving national Patent Offices. The Commission could support this project. The group recommends political support to the EIPA.

(b) Interfacing with national and regional organisations

In parallel with this process at EU level, it will be necessary to ensure interfacing with, and commitment from, the appropriate national organisations which will be responsible for implementing the IP/ technology transfer awareness/training programmes at national and regional level (e.g. Higher Education Authorities; national Patent Offices; DG Enterprise).

National co-ordination is needed to ensure that the awareness and training programme(s) is/are extended regionally to every Public Research Organisation.

Financial support should be provided at a national level to develop databases of training/awareness initiatives and implement awareness programmes.

In order to further the development of IP/ technology transfer awareness, the group proposes pilot programmes (communication and training) to be set up by a voluntary group of EU Higher Education Institutes and national Patent Offices aimed at researchers and Technology Transfer Organisation staff of Public Research Organisations. For instance, the French campaign on IP could be extended to other

countries. Also, the Portuguese experience (UIPP/GAPI Network/PATLIB Centres) could be used as a good example.

The development of a European masters on IP/ technology transfer, possibly based on distance learning, should be considered.

Each member state will need to identify the organisations responsible for implementing the IP/ technology transfer awareness/training programmes, and ensure that they take local needs into account (local IP/ technology transfer support infrastructure, etc.).

The relevant body(ies) in charge of these issues in each country (national or regional public authorities, universities, NPOs, ...) should be clearly identified and take responsibility to launch or participate in actions.

(c) Content of awareness and training programmes

Awareness and training need to deal with all aspects of IP as outlined in *Table 8*: identification, protection and commercialisation. Emphasis should be placed on:-

- IPR commercialisation;
- the role played by IPR in innovation and entrepreneurship activities;
- issues related to national and trans-national joint ownership (between different Public Research Organisations and between Public Research Organisations and Industry); and
- training programmes should cover enforcement.

Comprehensive training needs to be provided to all Public Research Organisations throughout all member states of the EU, in order to develop and promote professionalism within Public Research Organisations. The training should cover all phases of the technology transfer process (i.e. the IP creation phase, the IP identification phase, the IPR protection phase, and the IPR exploitation phase – licensing, enforcement, ...), with particular emphasis on technology transfer, patentability, effectiveness of trade secrets, and the importance of comprehensive lab notebooks, and properly drafted patent specifications and technology transfer contracts.

(d) Evaluation of “intangibles” in Public Research Organisation’s annual financial statements

Some member states were of the view that each Public Research Organisation should be encouraged and possibly obliged to evaluate “intangibles” in its annual financial statements (balance sheet and profit & loss statements), and to provide details of its equity in spin-off companies. As well as serving certain purposes under Actions A and B (see above), this would also help to raise awareness. This recommendation was not agreed by all group members, and was contrary to confidentiality provision in some national regions

(e) Implementation

To implement these two recommendations, the group recognises that awareness and training needs to extend beyond science, engineering, business schools and the research community in terms of innovation (e.g. marketing/public relations schools (trade marks and goodwill; design rights); law schools).

It is important that appropriate national contact points (including representatives from the academic community) are nominated for the next cycle (should it exist).

The group recommends that the IPR Helpdesk could also provide (or act as a portal to) general information on the IPR system at national level, possibly based on the grouping recommended in this report (e.g. countries having a professor’s privilege).

The group supports the extension of the researchers curricula and linkage of career progression to the exploitation of the results of research activity.

(f) Suggested implementation steps for next cycle

Some implementation steps for the next cycle could include: -

1. Propose the main features of the pilot plan to be launched.
2. Develop a business plan for European masters course on IP.
3. Create a database of national contacts.
4. Identify best practices when there is more experience.
5. Define other possible roles of IPR Helpdesk in cooperation with DG-Enterprise.
6. Encourage that the skills of a technology transfer professional are defined.
7. Define a possible framework to use IPR and technology transfer data to reward Public Research Organisation and researchers.
8. Launching the Award.
9. Define metrics.

CHAPTER FIVE: CONCLUSIONS

A. SUMMARY OF KEY ISSUES IDENTIFIED AND RECOMMENDATIONS MADE:-

As the first cycle of this OMC methodology, the group supports the methodology as outlined in this report, and recommends its continuation, subject to several changes.

The group's key recommendations are comprehensively outlined in [CHAPTER TWO: EXECUTIVE SUMMARY](#), with further comments on these recommendations in [CHAPTER FOUR: RESULTS](#) and in [Appendix F](#).

While this report contains summarised statements, significant effort and learning emerged from the data collection phase and the comparison and understanding of the different national regimes.

The group recommends that the identification of cluster of countries with similar systems, policies and barriers should be encouraged as a smart method to improve learning and the adoption of best practise in Europe. The group has identified several areas in this report where it believes that national policy makers may learn from the experience of others in the following areas:

- Classifications of ownership systems
- Countries which are considering changes (in a specific or in a general way) and the reasons behind these changes
- Countries which have national guidelines and codes of practice
- Countries with national policies on the incentivisation of researchers
- Countries with postgraduate courses in awareness and IPR management
- Countries with published national metrics on IPR.

In addition, the group also considered the target audience for its recommendations and has aimed to assist CREST by assessing the feasibility or the anticipated difficulty associated with the implementation of each of its recommendations.

B. RECOMMENDATIONS FOR NEXT CYCLE:-

The group suggests some possible issues to be addressed in the next cycle (should it exist) at [Appendix E](#). The group had insufficient time to consider each of these points, but recommends that they are the issues which CREST should take into account when considering the scope of the work plan for the next cycle (should it exist). It should be noted that these issues are not listed in any order of priority.

In addition, the group refers the reader to Chapter 3 (Introduction), where some suggestions are made as to how to run the next cycle (see heading entitled "[DIFFICULTIES/BARRIERS ENCOUNTERED AND HOW THEY WERE OVERCOME](#)")

CHAPTER SIX: APPENDICES

Appendix A

Composition of the Group

Country	Name	Organisation
Chair	Ena Prosser	Enterprise Ireland Biotechnology Directorate
Consultant/facilitator	Tara Mac Mahon	Independent Consultant, Ireland
Austria	Georg Buchtela	Austria Wirtschaftsservice
Belgium	Patrick Chaltin	KU Leuven Research & Development
Belgium	Nathalie Van Den Bossche H. Bracquene	Ministere de la Communauté Française
Cyprus	Elena Zacharuadou	Law Office of the Republic
Denmark	Kaare Jarl	Ministry of Science, Technology and Innovation
Finland	Tuomas Aho	Ministry of Trade and Industry
France	Alain Gallochat	Ministère de la Recherche, Direction de la Technologie
Germany	Klaus Weber	Federal Ministry for Education and Research
Greece	Emmanuel Samuelides	Industrial Property Organisation
Ireland	Martin Shanagher	Department of Enterprise, Trade and Employment
Israel	Hadas Ferber	Israel Europe R&D Directorate
Italy	Daniela Carosi	Ministry of Productive Activities – Italian Trade Mark and Patent Office (UIBM)
Latvia	Uldis Viesturs	Institute of Microbiology and Biotechnology
Luxemburg	Serge Juchem	Ministère de l'Économie
Netherlands	Jeffry Matakupan	Ministry of Economic Affairs
Norway	Sidsel Arbo	Ministry of Trade and Industry Adviser
Portugal	Leonor Trindade	Instituto Nacional para a Propriedade Industrial
Romania	Narcisa Tanase	Ministry of Education, Research and Youth Directorate for Technology Transfer and Innovation

Slovak Republic	Lucia Lalikova	Industrial Property Office of the Slovak Republic
Slovenia	Andrej Piano	Slovenian Intellectual Property Office
Spain	Gerardo Pinas	Ministry of Science and Technology, Spanish Office of Patents and Marks
Sweden	Catharina Sojde	Swedish Agency for Innovation Systems,
United Kingdom	Janette McNeill, Richard Mulcahy, Barbara Squires, Mark Bryant	UK Patent Office:

Appendix B

Presentations

Part One: Presentations made to the Group: -

The group attended and discussed a number of presentations (made by both group members and external invitees), outlining national and other (e.g. OECD; EPO) experiences and initiatives. Details of these presentations are:-

Presentation Title	Organisation Presentation	Speaker
Academic Patenting in OECD countries.	OECD	M. Cervantes
National Code of Practice for Managing IP from Publicly Funded Research	ICSTI	E. Prosser
European IP Academy	EPO	D. Sant
From Science to Business	Techtrans DK	J. Damsgaard
French Policy on the Valorisation of the Results from Public Research Organisations.	French Ministry of Research	A. Gallochat
The Challenge of Effective Knowledge Transfer in Europe	ProTon	G. Capart
Outsourcing R&D is Not New at All	EIRMA	A. Dearing
Technology Transfer Institutions in Europe	EC (DG ENTR)	C. Lettmayr
Presentation of the Finnish situation	Ministry of Trade and Industry, FIN	T. Aho
Presentation on the IRC and IPRhelpdesk	EC (DG ENTR)	A. Escardino

Part Two: Recommendations made based on Presentations made to the Group

Recommendations based on the presentation Capart (ProTon)

- The support of the governments and EU for the creation and professional management of intellectual property within Public Research Organisations ;
- The clarification of IP ownership regimes for public research at a national level (professor's privilege vs. ip-ownership of Public Research Organisations).

Recommendations based on the presentation Aho

- The need for clear and widely accepted legal principles (who owns the IP, who and how do you create a fair compensation for the researcher/ Public Research Organisation, who enforces the IP)

Recommendations based on the presentation Cervantes (OECD)

- Governments and the European Commission should subsidise patenting and licensing costs at Public Research Organisations;
- Governments and the European Commission should support TTO-networking initiatives (national and international) to raise the professional level of TTOs;
- Governments and the European Commission should promote IP-training & awareness within Public Research Organisations.

Recommendations based on the presentation Dearing (EIRMA)

- Public Research Organisations should be provided with the expertise to support the science-business transfer.

Recommendations based on the presentation Gallochat

- There should be a clear legal-framework concerning the ownership of IP;
- The culture within Public Research Organisations should be changed to a more technology transfer-friendly surrounding where patents and collaboration with industry are being recognised as part of their core-business.

Recommendations based on the presentation Lettmayer (DG Enterprise)

- There is a gap between the EU-countries concerning the amount of money spent on TTOs compared to the Public Research Organisations expenditure on R&D as % of GDP. There seems a need for several countries to spend more resources on TTOs.

Recommendations based on the presentation Damsgaard

- There should be a clear understanding what the expectations and obligations of Public Research Organisations are on the subject of technology transfer;
- Public Research Organisations should be able to take an equity-stake in companies.

Recommendations based on the presentation Prosser

- Take sufficient time for the process for making national guidelines;
- Guidelines should be a living document that can flexibly respond and support the wide variety of contexts that occur with regard to IP.

Appendix C

Synoptic Tables Summarising Replies to Questionnaire in respect of Actions A and B

The synoptic tables attempt to provide a “user-friendly” summary of the replies to the Questionnaires.

In compiling the tables, we have not attempted to interpret any particular reply in any way, but have done our best to merely record the reply in the table, as it was given in the Questionnaire reply.

When reviewing the tables, you should note the following:-

- A filled in dot signifies a “yes”.
- An empty dot signifies a “no”.
- A dash signifies that a reply should have been given, but was not.
- An empty box signifies that no reply was given, and no reply should have been given.

Numerous requests were made of each member states to confirm that their replies to the questionnaires, as reflected in this report, were correct. Also, some member states were asked to clarify various replies. However, some member states did not reply to such requests. As a result, whilst every effort was made to ensure the accuracy of both the synoptic tables at Appendices C and D, and the tables included in Chapter 4 (Results), some discrepancies still existed as at the time of finalising this report.

QUESTION 1 – OWNERSHIP OF IPR	Austria	Belgium Walloon	Belgium Flanders	Cyprus	Denmark	Finland	France	Germany	Greece	Ireland	Israel	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	United Kingdom
	AT	BE W	BE F	CY	DK	FI N	FR	DE	EL	IE	IL	IT	LV	LT	L	NL	NO	PT	RO	SK	SL	ES	SE	UK
1. What governs ownership of IP resulting from publicly-funded R&D carried out in PROs?		-				-								-							-			
- Patent/other IP law	•			•		•	•		•	•						•		•	•	•		•	•	•
- Employment law					•			•		•			•				•	•						
- Contract law	•								•	•	•		•		•			•						•
- Business code/ civil code																				•				
- PRO/institution policy/ rules/statutes			•										•					•		•		•		•
- Collective bargaining agreement	•																							
- Other legislation/rules			•									•	•		•			•						

QUESTION 2 – OWNERSHIP OF IPR	Austria	Belgium Walloon	Belgium Flanders	Cyprus	Denmark	Finland	France	Germany	Greece	Ireland	Israel	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	United Kingdom
2(a) In general, in PROs, does the researcher have ownership rights in the IPR?	○ ²⁰	○	○ ²¹	○	○	● ²²	○	○	Note 1	○	○ ²³	● ²⁴	–	–	● & ○ ²⁵	○	○	● ²⁶	●	○	–	○ ²⁷	Note 2	○
If no, who owns the rights?									Note 1				–	–							–		Note 2	
- PRO			●		●		● ²⁸	●		●	●				●	●	●	● ²⁹		●		●		● ³⁰
- PRO/funding body	●			●																				
- PRO/funding body/university/private sector		●																						
- PRO/author													●											

²⁰ Austria: No for non-academic research (usually due to individual contracts); No for academic research since January 2004 (due to law).

²¹ Belgium, Flanders: No, but most PROs give the researcher part of the revenues or financial bonus.

²² Finland: Government bill on university inventions is being finalised and expected to be passed to Parliament rather soon. It would expand ownership rights of PROs in case of contract research

²³ Israel: No - but most PROs give the researcher part of the revenues of financial bonus.

²⁴ Italy: Yes, but according to Article 12bis of the Italian Copyright Law, software developed by inventors belongs to the employer, including PROs.

²⁵ Luxemburg: Yes for copyright, no for patents.

²⁶ Portugal: Yes, partially (and partially owned by PRO).

²⁷ Spain: No. The PRO owns the IP, but the researcher has rights to participate in the benefits of the exploitation.

²⁸ France: PRO (i.e. employer)

²⁹ Portugal: PRO, partially (and partially owned by researcher).

³⁰ UK: PRO, but occasionally the funding body.

Note 1: Greece: Depends on PROs, usually joint ownership.

Note 2: Sweden: Researchers at HEI: Yes, owned by researcher; Researchers at research institutions (partly state-owned companies not part of the education system): No, owned by research institute.

QUESTION 2 – OWNERSHIP OF IPR	Austria	Belgium Walloon	Belgium Flanders	Cyprus	Denmark	Finland	France	Germany	Greece	Ireland	Israel	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	United Kingdom
2(b) Does funding play a role in determining ownership?	•	•	•	•	○	○ ³¹	• ³²	•	•	○ ³³	•	• ³⁴	• ³⁵	-	-	○	•	•		•	-	• ³⁶	○	○
2(c) What other factors may determine ownership?		-				-		-					-	-	-	-					-			Note 1
- Institution policy/internal regulation of PRO			•								•							•						
- Value/impact of invention																				•		•		
- Decision of PRO																						•		
- Agreement between the parties				•															•					
- Involvement of industry/private sector/external partners					•					•		•											•	
- Partial funding from private sector									•			•												
- No other factors	•																							

³¹ Finland: see footnote above

³² France: Yes, if funding from industry & contract.

³³ Ireland: Some funders have veto on exploitation, but no ownership or joint ownership.

³⁴ Italy: in case of a research contract between research and industry

³⁵ Latvia: If industry, yes.

³⁶ Spain: Yes, in case there has been a contract with third parties.

Note 1: UK: Contractual arrangements may apply.

QUESTION 2(D) - PAYMENT OF IP PROTECTION COSTS	Austria	Belgium Walloon	Belgium Flanders	Cyprus	Denmark	Finland	France	Germany	Greece	Ireland	Israel	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	United Kingdom
2(d) In general, who pays for the IP protection costs?		-	-						-		Note 2		Note 3	-	-			-	Note 4		-		Note 5	
- The owner	● ³⁷		● ³⁸	● ³⁹		●	● ⁴⁰			● ⁴¹		● ⁴²				●								●
- The institution					● ⁴³			●									● ⁴⁴			●		● ⁴⁵		

³⁷ Austria: The owner i.e. the institution; due to the new legal situation there exists a new programme for the universities (uni: invent) disposing of a certain budget dedicated to finance patents.

³⁸ Belgium Flanders: the owner, except as otherwise stipulated in license agreements/assignments.

³⁹ Cyprus: The owner of the rights, which is usually a PRO or a funding body.

⁴⁰ France: The owner (otherwise stipulated in the licence agreement).

⁴¹ Ireland: The owner i.e. the institution; due to the new legal situation there exists a new programme for the universities (uni: invent) disposing of a certain budget dedicated to finance patents from government agencies. PRO passes on costs to licensee as soon as possible.

⁴² Italy: According to the current law, it is the researcher; however most PRO's finance IP protection costs of their researchers on the basis of a contract. According to article 65 of the draft industrial property code, which Italian government should vote by this year, since IPR belongs to the performing organisation, PRO's will pay such costs.

⁴³ Denmark: The institution – but often co-financed by licensee or government appropriation.

⁴⁴ Norway: The institution, if it wants to use its right to commercialise. Otherwise, the researcher.

⁴⁵ Spain: Universities do not pay fees at all. PRO other than university must pay fees.

Note 2: Israel: In HEI: the HEI or subsidiary; in other PRO: the PRO or the researcher of its research institute.

Note 3: Latvia: The institution and/or the researcher (author(s)/owner(s)).

Note 4: Romania: Where the patent is obtained within PROs, the costs for protection shall be borne by the respective institution, in case this aspect is foreseen in the labour contract. In case the person who patents is a natural person, the protection costs shall be born by that person.

Note 5: Sweden: If not the researcher himself, the company who buys the patentable invention, government agencies like VINNOVA, NUTEK, Almi, different state-governed foundations like the Technology Bridge Foundations, or state-owned companies handling the researcher's patents. For the moment it is very hard to find public money for patent costs.

QUESTION 3 – JOINT OWNERSHIP	Austria	Belgium Walloon	Belgium Flanders	Cyprus	Denmark	Finland	France	Germany	Greece	Ireland	Israel	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	United Kingdom
3. Describe the conditions in which joint ownership occurs (legally or in practice).		-							Note 1					-		Note 1					-			
- Joint research (e.g. 2 PROs; PRO and private partner/company)	•		•		•		• ⁴⁶	• ⁴⁷		•					•									
- Joint creation /inventorship			•	• ⁴⁸	•							• ⁴⁹											•	
- Contract condition/agreement			•			•							•			•			•	•				•
- Decision of PRO			• ⁵⁰									•										•		
- Public R&D employment law																		•						

⁴⁶ France: In case of joint research. Joint ownership regulated by legal provisions or contractual agreement.

⁴⁷ Germany: Occurs only in co-operations between PRO and private companies. Regulation is by private contract.

⁴⁸ Cyprus: If there are two or more creators and the contribution of each one cannot be separated from the other's (Law 59/76).

⁴⁹ Italy: if several persons have developed an industrial invention, the provisions of the Civil Code on joint ownership shall unless otherwise agreed upon, regulate the rights deriving from the patent.

Note 1: Netherlands and Greece to provide more detail of circumstances where joint ownership arises, if possible.

⁵⁰ Belgium Flanders: Depending on the contract/agreement

QUESTIONS 4-6: REQUIREMENTS TO EXPLOIT PUBLICLY-FUNDED RESEARCH	Austria	Belgium Walloon	Belgium Flanders	Cyprus	Denmark	Finland	France	Germany	Greece	Ireland	Israel	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	United Kingdom
4. Any requirements to exploit IP from publicly funded research?	●	●	○ ⁵¹	●	●	●	○	●	○	●	○	●	●	-	●	○	●	○		○	-	○ ⁵²	○	N 3
- Yes, in law				●	● ⁵³			●				●			●									
- Yes, in institutional policies		●						●					●		●		●		●					
- Yes, in funding provider terms	● ⁵⁴	●				●				●			●		●									
5. Is there a sanction attached to this requirement?	○	-	● ⁵⁵	●	● ⁵⁶	●	○	● ⁵⁷		● ⁵⁸	○	● ⁵⁹	○	-	-		○		○	○	-	● ⁶⁰		○
6. If yes, are they enforced?		-	○	Note 2	●	○		○ ⁶¹		○	○	○ ⁶²		-	-						-	○ ⁶³		-

⁵¹ Belgium (Flanders): Not in general, but for some, “best efforts” and national/regional exploitation is required,

⁵² Spain: Not specifically, but it is applicable to all inventions. However, seldom applied.

⁵³ Denmark: Required by law, where PROs have required ownership.

⁵⁴ Austria: Some funds require it, but quite seldom.

⁵⁵ Belgium (Flanders): Sanction is re-payment of funding.

⁵⁶ Denmark: Only sanction: full ownership reverts to inventors if PROs do not evaluate inventions within specified time.

⁵⁷ Germany: Yes, theoretically, (violation of service regulations)/ No, if an invention has not been recognised as such.

⁵⁸ Ireland: Theoretically, as the funding contract is breached, damages could be sought. Has never happened.

⁵⁹ Italy: Where the inventor fails to initiate economical exploitation of the patent within five years after the patent being granted, all the exploitation rights are automatically but not exclusively transferred for free to the PROs.

⁶⁰ Spain: Yes – granting compulsory licenses.

⁶¹ Germany: To be decided in the individual case. Probably compensation for damages. Up to now, no case has occurred.

⁶² Italy: This norm is too recent to assess its effects in practice.

⁶³ Spain: Seldom applied.

Note 2: Cyprus to clarify if sanction is enforced.

Note 3: UK: Voluntary guidelines

QUESTION 7: REQUIREMENT TO EXPLOIT PUBLICLY-FUNDED IP	Austria	Belgium Walloon	Belgium Flanders	Cyprus	Denmark	Finland	France	Germany	Greece	Ireland	Israel	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	United Kingdom	
7. Do funding body Terms & Conditions generally require commercialisation strategies to be in place before funding made available?																									
Yes/no		<input type="radio"/>	<input type="radio"/> ⁶⁴	<input checked="" type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Depends on type of funding/type of project	<input checked="" type="radio"/>					<input checked="" type="radio"/>			<input checked="" type="radio"/> ⁶⁵				<input checked="" type="radio"/>												

⁶⁴ Belgium (Flanders): No, not in general, but there are exceptions.

⁶⁵ Greece: Depends on framework, but usually there are such requirements.

QUESTION 8 – RESPONSIBILITY TO ENFORCE IPRS	Austria	Belgium Walloon	Belgium Flanders	Cyprus	Denmark	Finland	France	Germany	Greece	Ireland	Israel	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	United Kingdom
8. Who is primarily responsible for the enforcement of (specific) IPRs?																								
- PROs				•				• ⁶⁶								• ⁶⁷	•	•		•		•		
- Owner			•		• ⁶⁸	•	• ⁶⁹		•		•	•							•				•	•
- PRO/licensee/other			•										•						•					
- Depends on licence contracts ⁷⁰	•					•				•														
- Other		•																						

⁶⁶ Germany: PRO. In case of regulation by contract: licensee

⁶⁷ Netherlands: In principal, the PRO. In most cases, the PRO would license the IP to a licensee with the requirement to enforce the IP.

⁶⁸ Denmark: Owner of the IPR. However, in practice, PROs do not actively pursue infringements.

⁶⁹ France: The owner, or the licensee when stipulated in the licence agreement.

⁷⁰ For both Austria and Ireland there is no general rule, but usually the research institutions avoid being responsible, as they do not want to take risk.

QUESTION 9: MOST COMMON EXPLOITATION ROUTES	Austria	Belgium Walloon	Belgium Flanders	Cyprus	Denmark	Finland	France	Germany	Greece	Ireland	Israel	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Portugal	Romania	Slovak	Slovenia	Spain	Sweden	United Kingdom	
9. What is the most common route for exploitation?														1							1				
- No specific way – all possibilities open	•					•				•						•									
- Spin-outs	•	•	•	•			•	•	•	•			•		•	•	• ⁷¹	•					•	• ⁷²	
- Licenses	•	•	•	•	•	•	•	•		•		•	•		•	•	•	•	•	•		•	•	•	
- Transfer of knowledge										•															
- Transfer of Rights						•			•									•	•						
- Other	•	•	•										•		•										
- Not known											•														

⁷¹ Norway: Spin-outs have been dominant, licenses of less importance

⁷² UK: Currently spin-outs, but licensing becoming more common.

QUESTION 10; LIMITATIONS IN PROS TO LICENCE/ASSIGN/ TRANSFER	Austria	Belgium Walloon	Belgium Flanders	Cyprus	Denmark	Finland	France	Germany	Greece	Ireland	Israel	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	United Kingdom
10. In PROs, are there limitations on licensing/assignment transfer possibilities?	○	●	○	○	● ⁷³	○	○	○	●	●/○ ⁷⁴	○	○	○ ⁷⁵	-	-	○	○	○	●	○	-	●	○	○
If yes, please specify-		-																						
- Joint ownership		-																				●		
- Certain restrictions on field/scope and term of licenses granted		-			●														●					
- Preference for non-exclusive licence		-			●					●														
- Limitation on transfer possibilities		-							●															

⁷³ Denmark: Most PROs have developed institutional strategies on commercialisation.

⁷⁴ Ireland: Not generally. The National Code of Practice has a preference for licensing rather than assigning.

⁷⁵ Latvia: No, except the conditions in agreements.

QUESTION 11: COMPENSATION/ SHARING OF PROFITS	Austria	Belgium Walloon	Belgium Flanders	Cyprus	Denmark	Finland	France	Germany	Greece	Ireland	Israel	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	United Kingdom
11. Are there laws/regulations/other stat provisions governing: -																								
(a) Compensation	● ⁷⁶	●	●	○	● ⁷⁷	○	●	●	● ⁷⁸	● ⁷⁹	●	●	○	—	●	● ⁸⁰	●	● ⁸¹	● ⁸²	● ⁸³	—	●	● ⁸⁴	● ⁸⁵
(b) the sharing of profits/revenues	○	●	●	● ⁸⁶	● ⁸⁷	—	●	●	● ⁸⁸	○	●	●	○	—	●	○	●	—	●	○	—	●	○ ⁸⁹	○

⁷⁶ Austria: Yes, a fair compensation must be paid.

⁷⁷ Denmark: If PRO claims ownership, the inventing researcher should be compensated. When ownership is offered to the researcher, he should compensate the institution.

⁷⁸ Greece: Not explicitly for PFR, but yes for inventions of employees.

⁷⁹ Ireland: Yes for universities only, not for other PROs. At universities, fair compensation must be paid. Need to be stated at institutional level. Generally changes with amount of monies.

⁸⁰ Netherlands: Inventor must be reasonably compensated for his invention.

⁸¹ Portugal: Yes, for public R&D employees only (general rule).

⁸² Romania: Yes – the income to the owner from exploitation is tax-free for the first 5 yrs since the first implementation taken into consideration since the data of implementation and included in the period of validity of the patent. The natural persons exploiting the invention, respective owner of the implemented patent shall take advantage of the above mentioned provisions

⁸³ Slovak Republic: Yes, patent law.

⁸⁴ Sweden: Yes for research institutions, but no for HEIs.

⁸⁵ UK: Yes- Patents Law gives some rights to an inventor of a particularly successful invention

⁸⁶ Cyprus: If agreed between the parties. Law 59/1976 includes provisions concerning the sharing of profits/revenues.

⁸⁷ Denmark: Yes, sharing of net profits.

⁸⁸ Greece: Not explicitly for PFR, but yes for inventions of employees.

⁸⁹ Sweden: No, for both HEIs and research institutions.

QUESTION 12: COMPENSATION/ SHARING OF PROFITS	Austria	Belgium Walloon	Belgium Flanders	Cyprus	Denmark	Finland	France	Germany	Greece	Ireland	Israel	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	United Kingdom
12. If so, does your legislation specify the share between the parties?	○	○	○ ⁹⁰	○	○ ⁹¹	○	●	●	● ⁹²	○ ⁹³	○ ⁹⁴	● ⁹⁵	○	–	●	○	● ⁹⁶	○	○	–	–	●	○	○
If yes, please specify the share (%) for:-						–			Note 1					–	–					–	–			–
- Researchers					33 ⁹⁷	–	50 ⁹⁸	30		30-70		= and not less than 50		–	–		33	50			–	33		–
- Department					33	–	25 ⁹⁹	–		0-30		–		–	–		33	–			–	–		–
- Institution					33	–	25 ¹⁰⁰	70		0-40		= and not less than 30		–	–		33	50			–	33		–
- Other					–	–	–	–						–	–		Note 2	–			–	33		–

⁹⁰ Belgium Flanders: No, but internal PRO regulations do.

⁹¹ Denmark: Rules on profit sharing to be developed by individual PRO and approved by the Government.

⁹² Greece: Not explicitly for PFR, otherwise yes.

⁹³ Ireland: No, but there are norms for over €500k. These norms are provided in the table.

⁹⁴ Israel: No, but the internal regulations of the PRO may regulate the sharing of profit.

⁹⁵ Italy: According to article 65 of the draft industrial property code which the Italian government should vote in by this year, the inventor will receive no less than 30% of any financial return deriving from the economical exploitation of the patent.

⁹⁶ Portugal: Yes, for public R&D employs (general rule)

⁹⁷ Denmark: The percentage shares outlined above for researchers, department and institution are the typical percentage shares, if IP is accorded to the PRO.

⁹⁸ France: 50% of net revenues (until a limit of €65k per year and per inventor and 25 % beyond this limit).

⁹⁹ France: Generally 25%, but up to the institution.

¹⁰⁰ France: Generally 25%, but up to the institution.

Note 1: Greece: For invention of employees using the means of employers, 60% for employee and 40% for employer, for service inventions (resulting from contractual obligation) compensation for employee.

Note 2: Norway: Upon Agreement.

QUESTION 12: COMPENSATION/ SHARING OF PROFITS	Austria	Belgium Walloon	Belgium Flanders	Cyprus	Denmark	Finland	France	Germany	Greece	Ireland	Israel	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	United Kingdom
Are there sanctions for non-compliance?	-	●	○	● ¹⁰¹	○ ¹⁰²	-	● ¹⁰³	● ¹⁰⁴	● ¹⁰⁵	○	○	●	● ¹⁰⁶	-	●	○ ¹⁰⁷	●	●	○ ¹⁰⁸	● ¹⁰⁹	-	○ ¹¹⁰	-	● ¹¹¹

¹⁰¹ Cyprus: Yes, the sanctions for non-compliance are identical to those referring to breach of contracts.

¹⁰² Denmark: No, the inventor can bring his case to court

¹⁰³ France: Yes (non-compliance with law).

¹⁰⁴ Germany: Yes. To be decided on an individual case basis, probably compensation for damages.

¹⁰⁵ Greece: Any provision in a contract limiting the rights of employees is invalid.

¹⁰⁶ Latvia: Yes, in compliance with the agreement.

¹⁰⁷ Netherlands: No, the inventor can bring his case to court.

¹⁰⁸ Romania: In case of non-fulfilment of the contract the contractual civil liability shall come into force.

¹⁰⁹ Slovak Republic: Yes, general (civil code; business code).

¹¹⁰ Spain: No sanctions on the said specific legislation, but subject to general sanctions on non-compliance regime either on administrative or civil basis.

¹¹¹ UK: civil law

QUESTION 13 – PATENTS /LICENSES AS ACADEMIC CREDENTIALS	Austria	Belgium Walloon	Belgium Flanders	Cyprus	Denmark	Finland	France	Germany	Greece	Ireland	Israel	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	United Kingdom
13. In your system, are patents (and/or licenses) recognised as academic credentials?	○	–	○/● ¹¹²	○	● ¹¹³	●	○ ¹¹⁴	●	–	○ ¹¹⁵	○	○	●	–	–	○	○	○	○	●	–	●	● ¹¹⁶	○/● ¹¹⁷
If yes, to what extent?																							–	
- For getting a certain academic status																						●	–	
- Patent is part of a science – pedagogical evaluation to obtain academic credentials						●														●			–	
- Patents considered like a good publication								●					●										–	
- Licensing very highly recognised													●											

¹¹² Belgian/Flanders: Depends on the PRO

¹¹³ Denmark: Possible according to provisions on employment of public researchers, but less common in practice. Some research councils recognise patents equally to scientific publications.

¹¹⁴ France: Not yet, but under consideration

¹¹⁵ Ireland: Noted on national expertise website.

¹¹⁶ Sweden: Some HEIs recognise patents as an academic credential. According to national legislation there is a possibility – but not an obligation to do that.

¹¹⁷ UK: No, however the next Research Evaluation Exercise in 2008 will take into account all aspects of excellence in research including such things as practical application and enterprise activities.

QUESTIONS 14 – PROPOSED CHANGES:	Austria	Belgium Walloon	Belgium Flanders	Cyprus	Denmark	Finland	France	Germany	Greece	Ireland	Israel	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	United Kingdom
14. Are any major changes in the national regimes being contemplated in the near future?	○	○	○	○	● ¹¹⁸	●	○	●	○	○	●	●	●		○	○	○	○	○	○		●	● ¹¹⁹	○ ¹²⁰
If yes, what are the key points?																								
- adaptation of patent law to new environment											●											●		
- changes to patent laws. Key point cannot be given until 2005													●											
- to investigate the possibilities re joint ownership between HEIs and the researchers at HEIs, to enhance the incentives for the HEIs to engage in commercialisation						●																	●	

¹¹⁸ Denmark: Evaluation of the 1999 act on IP ownership at PRO's is to be completed early summer 2004. Additional Act on Technology Transfer at PRO's is expected to be passed by Parliament in 2004.

¹¹⁹ Sweden: Yes, maybe.

¹²⁰ UK: No (Minor changes to practice)

QUESTION 14 – PROPOSED CHANGES:	Austria	Belgium Walloon	Belgium Flanders	Cyprus	Denmark	Finland	France	Germany	Greece	Ireland	Israel	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	United Kingdom
- adjusting old patent and copyright legislation to the needs of the 21 st century											•											•		
- Draft industrial property code being voted on in 2004. Main terms deal with authorship, ownership and profit share re patents						•						• ¹²¹												
- regulation of the researcher's share/constitutionality of current regulation						•		•																

¹²¹ Italy: According to Article 65 of the draft of industrial property code which Italian Parliament should vote by this year, in PROs IPR belongs to the performing organisation; the authorship of the patent is acknowledged to the inventor; the inventor will receive no less than 30% of any financial return deriving from the economical exploitation of the patent. If there is more than one inventor, inventorship is shared among inventors; in this case, the share of no less than 30% of any financial return deriving from the economical exploitation of the patent will be equally distributed among the inventors, unless they had defined a profit sharing criterion proportional to the contribution of each inventor. The main reason for the change is due to a strong negative reaction of PROs to the 2001 legislation and a pause in patent filing on the part of researchers linked to PROs.

QUESTION 15 – RECENT CHANGES TO NATIONAL REGIMES	Austria	Belgium Walloon	Belgium Flanders	Cyprus	Denmark	Finland	France	Germany	Greece	Ireland	Israel	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	United Kingdom
15. Were there recently any changes in your national regime (ownership provisions etc.)?	•	○	○	•	•	○	○	•	-	•	○	•	•	-	○	○	•	○	•	-	•	○	•	•
If so, when?	'03			'02	'99			'02		'99		'01	90s			'03		'03			'02			'01
What was their impact?																								
- Not identified/too early to tell				•								•												•
- Abolition of professor privilege					• ¹²²												•							
- Professionalisation of TT					•																			
- Build-up of an infrastructure at universities to ensure and support granting and commercialisation of patents					•			•		•														
- Increase in the number of patents																			•			•		

¹²² Denmark: This can be “impact”, or rather the contents of the new legal regime. If considered impact, more countries should have markings here

QUESTION 15 – RECENT CHANGES TO NATIONAL REGIMES	United Kingdom	Sweden	Spain	Slovenia	Slovak Rep.	Romania	Portugal	Norway	Netherlands	Luxembourg	Lithuania	Latvia	Italy	Israel	Ireland	Greece	Germany	France	Finland	Denmark	Cyprus	Belgium Flanders	Belgium Walloon	Austria
- Considerable												•												
- Universities got right to take ownership of patents from employees															• ¹²³									•
- Re-introduced fiscal facilities for owners of patents or for the licensees						•																		

¹²³ Ireland: And from funding agencies

QUESTION 16: NATIONAL NON-STATUTORY GUIDELINES	Austria	Belgium Walloon	Belgium Flanders	Cyprus	Denmark	Finland	France	Germany	Greece	Ireland	Israel	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	United Kingdom
16. Are there national non-statutory guidelines?	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/> ¹²⁴	<input type="radio"/> ¹²⁵	<input checked="" type="radio"/> ¹²⁶	<input checked="" type="radio"/>	<input type="radio"/> ¹²⁷	<input checked="" type="radio"/>	<input checked="" type="radio"/> ¹²⁸	<input type="radio"/>	<input checked="" type="radio"/> ¹²⁹	-	-	<input checked="" type="radio"/> ¹³⁰	<input type="radio"/>	<input checked="" type="radio"/> ¹³¹	<input type="radio"/>	<input type="radio"/>	-	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
If no, being considered?	<input type="radio"/>			<input type="radio"/>	<input checked="" type="radio"/> ¹³²				<input checked="" type="radio"/>			<input checked="" type="radio"/>					<input checked="" type="radio"/>	<input checked="" type="radio"/>	-	-		<input checked="" type="radio"/>	<input type="radio"/>	
If yes:																								
Were they developed/updated in last five years?		-	<input type="radio"/> ¹³³ 1998				<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> ¹³⁴	<input checked="" type="radio"/>	<input checked="" type="radio"/>		<input checked="" type="radio"/>			<input checked="" type="radio"/>		<input checked="" type="radio"/>						<input checked="" type="radio"/>
Were industry & other stakeholders involved in their initial development?		<input checked="" type="radio"/>					<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>		<input checked="" type="radio"/>			<input checked="" type="radio"/>		<input type="radio"/>						<input checked="" type="radio"/> ¹³⁵
Do they cover govt-funded research?		<input checked="" type="radio"/>					<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>		<input checked="" type="radio"/>			<input checked="" type="radio"/>		<input checked="" type="radio"/>						<input type="radio"/>
Do they cover industry-funded research at PROs?		<input checked="" type="radio"/>					<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/> ¹³⁶	<input type="radio"/>	<input checked="" type="radio"/>		<input checked="" type="radio"/>			<input checked="" type="radio"/>		<input type="radio"/>						<input checked="" type="radio"/>
Do they cover co-funded projects in industry & PROs?		<input checked="" type="radio"/>					<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> ¹³⁷	<input type="radio"/>	<input checked="" type="radio"/>		<input checked="" type="radio"/>			<input checked="" type="radio"/>		<input type="radio"/>						<input checked="" type="radio"/>

¹²⁴ Denmark: Guidelines on public announcements of private funding of public research only.

¹²⁵ Finland: No official guidelines being considered but at least one private initiative to harmonise practices

¹²⁶ France: Yes (recommendations for adopting an IP charter).

¹²⁷ Greece: No, but there are mechanisms supported by the state such as Liaison Offices. There is also legislation which describes in detail the procedure for establishment of spin-off companies to exploit IP.

¹²⁸ Israel: Yes. Government-funded programmes to encourage transfer of knowledge and know-how from the PROs (esp. HEIs) to industry.

¹²⁹ Latvia: Yes. However, not only IP, but the full scale from creation to exploitation. It is called National Innovation Programme.

¹³⁰ Netherlands: National non-statutory guidelines currently being drafted. Will be introduced before end 2004. This table provides details of proposed guidelines.

¹³¹ Portugal: Yes, but only in some PROs (IP Regulation on Universities).

¹³² Denmark: Joint "Code of conduct" on public-private R&D-cooperation is being developed by national industry organisation and national university organisation.

¹³³ Belgian Flanders: Broad guidelines not going into detail about ownership and compensation

¹³⁴ Greece: Late 1990s

¹³⁵ UK; as part of the consultation process and on the steering board of MIP guidelines

¹³⁶ Greece: Yes, under conditions.

¹³⁷ Greece: Yes, under conditions.

QUESTION 16: NATIONAL NON-STATUTORY GUIDELINES	Austria	Belgium Walloon	Belgium Flanders	Cyprus	Denmark	Finland	France	Germany	Greece	Ireland	Israel	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	United Kingdom
Are they compulsory?		-	•				○	● / ○ ¹³⁸	-	○	○		○ ¹³⁹			○		-						○
Where they are compulsory:-		-																-						
- Are there sanctions for not following the guidelines?		-						● ¹⁴⁰	-									-						
- Is their application monitored?		-						●	●	●								-						
Where they are not compulsory:		-																-						
- Are they widely used?		-					●	●	●	○ ¹⁴¹	●		-			-		-						N/ K
- Is their application being monitored?		-					○ ¹⁴²	●	●	●	●		●			-		-						○
- How do you promote their implementation?		-											-					-						
- special gov funding for PRO/industry who use guidelines											●													
- informing researchers; publicity; info; workshops;							●	●	●	●						●								●
- public endorsement by PROs, unis & industry										●						●								

¹³⁸ Germany: Some aspects of the guidelines are compulsory whilst others are not (Germany to confirm).

¹³⁹ Latvia: I wouldn't use the terms: compulsory, sanctions, etc. The goals are: successful entrepreneurship, development, GDP, prosperity, recycling of money invested in RTD, etc.

¹⁴⁰ Germany: Yes – payback of development funds.

¹⁴¹ Ireland: Too early to tell.

¹⁴² France: Not yet.

QUESTION 16: NATIONAL NON- STATUTORY GUIDELINES	Austria	Belgium Walloon	Belgium Flanders	Cyprus	Denmark	Finland	France	Germany	Greece	Ireland	Israel	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	United Kingdom
Do the guidelines cover; -									-				Note 1											
Ownership issues?		-	•				•	•	-	•	•		-			-		-						•
Licensing conditions?		-	○				•	•	-	•	•		-			-		-						•
Sharing of revenues?		-	•				•	•	-	•	•		-			-		-						•
Negotiation?		-	○				•	○	-	○ ¹⁴³	○		-			-		-						•
Monitoring & evaluation?		-	○				○	•	-	•	○		-			-		-						•
Conflicts of interest?		-	○				○	○	-	-	○		-			-		-						•
Gov funding for PRO and/or private entities using the programmes		-					○	○	-	○	○		-			-		-						○
Support for exploitation (financial and administrative)									•															○

¹⁴³ Ireland: At PRO, not nationally.

Note 1: Latvia to clarify what the guidelines cover

QUESTION 16: NATIONAL NON-STATUTORY GUIDELINES	Austria	Belgium Walloon	Belgium Flanders	Cyprus	Denmark	Finland	France	Germany	Greece	Ireland	Israel	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	United Kingdom		
Where there are national guidelines, what is their key point/reason for introduction?																										
- Regulation of IPR			•															•								
- Payback of development funds								•																		
- Efficient use of tax revenues								•																		
- To speed up & clarify ownership of IPR			•							•																
- Better use of university knowledge			•								•					•									•	
- Skilled personnel/ to encourage optimum use of human resources at PRO							•				•															
- Motivation for exploitation/stimulate long-term partnerships							•	•	•							•										

QUESTION 17:- NATIONAL KEY STRUCTURES/ INITIATIVES:-	Austria	Belgium Walloon	Belgium Flanders	Cyprus	Denmark	Finland	France	Germany	Greece	Ireland	Israel	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	United Kingdom
	AT	BE W	BE F	CY	DK	FI	FR	DE	EL	IE	IL	IT	LV	LT	L	NL	NO	PT	RO	SK	SL	ES	SE	UK
17. Are there national structures and/or initiatives (other than guidelines) to support the management & exploitation of IPR?	●	-	●	●	●	●	●	●	●	●	○	●	●	-	-	●	●	●	●	○	-	●	●	●
If yes:-																								
Are there any available statistical records?	○	●	○	○	● ¹⁴⁴	○	○	●	-	○		○	-	-	-	-	●	○	○		-	●	● ¹⁴⁵	●

On attached page:-

- (a) Details and impact of these key structures/initiatives;
- (b) Details of barriers faced in the operation of these structures/initiatives;
- (c) Details of annual budget available for this support; and
- (d) Extent to which the implementation of these support measures is completed.

¹⁴⁴ Denmark: Yes, but only limited.

¹⁴⁵ Sweden: Yes. There are statistics over patents owned by the holding companies and companies who handle the researcher's patents. But due to professor privilege it is not possible to know the total number of patents from research within the HEIs.

QUESTION 17 (B): NATIONAL STRUCTURES/INITIATIVES – DESCRIPTION AND IMPACT

	Describe the key national structures/national initiatives	If available, what has been the impact of these structures/initiatives?
Germany	(Fraunhofer Company, Max Planck Company, INSTI-Project (INSTI = stimulation of innovations), funded by the Federal Ministry of Education and Research since 1995). Key structures/initiatives: financial aid / training schemes / Installation of networks for different target-groups all over Germany.	Creating a positive climate for inventors and inventions, increasing number of patent applications, increasing number of commercialisation of patents
Portugal	Units of support (UIPP) / Financial aid.	Not yet available.
Spain	Transfer Technology Network at universities and PRO.	Greater TT indicators at PRO.
Sweden	1) The establishment of holding companies for the HEI. The HEI (with some exceptions) are public authorities without the right to commercialise. Therefore where these holding companies established. 2) The establishment of Technology Bridge Foundations with a mission to support commercialisation of research results from HEI and to enhance the HEI's cooperation with industry. 3) There is also a work going on which aims at finding public financing for pre-seed (for example financing to cover cost of patent).	The creation of new structures for commercialisation within and around the HEIs (for example companies to handle the researchers patents), spin-offs, licence agreements and change of attitude towards commercialisation within the HEIs.
Romania	Yes, Governmental Decision on the setting up, functioning, evaluation and assessment of the entities within the innovation and technological transfer infrastructure, and also the means for supporting it. Key structures/initiatives: The National Program regarding the setting up the technological transfer centres, liaison offices with industry, technological and business incubators.	Increase the number of the technological transfer centres, liaison offices with industry, technological and business incubators.
Latvia	Financial aid / tax reductions / training schemes / other.	Not yet estimated.
Austria	Uni:invent and tecma, 2 programs giving financial (paying for patents) and non financial support (marketing of patents) and training,	uni:invent is a new program started recently (1/2003).
Cyprus	Financial aid: eligible cost in RTD projects.	N/A
Denmark	A - STRUCTURES DIRECTED TOWARDS PRO's - A1: Cross institutional networks for training of tech trans officers. A2: Financial support for PRO patenting. A3: Cross institutional web-site www.techtrans.dk. A4: New Act on Technology Transfer to be presented for Parliament in 2004 entitling PRO's to establish institutional companies for technology transfer. B - STRUCTURES DIRECTED TOWARDS INDIVIDUAL ENTREPRENEURS - B1: Science Parks. B2: Technology Incubators.	1) Professionalisation of technology transfer. 2) Creation of PRO IPR portfolio.
Ireland	There are other groups such as the Programmes in Advanced Technology (PAT's), Enterprise Ireland, that work with the Universities with people and services to support university ownership. programs giving financial (paying for patents) and non financial support (marketing of patents) and training. New patent support scheme and other project management and expertise supplied to develop business plans and commercial strategies.	Patent fund is a new program started recently (1/2004). PATs model has changed, under review.

	Describe the key national structures/national initiatives	If available, what has been the impact of these structures/initiatives?
Netherlands	There are two policy-initiatives that are being implemented to support the management and exploitation of IP. The first one is the Knowledge Transfer subsidy-scheme (SKE). This scheme is aimed to subsidy among other things TTO-offices and the filing of patent applications. The SKE is part of a bigger plan to stimulate high-tech start-up's. The second initiative is aimed at supporting the creation of a national network of TTO-officers. The aim is to raise the level of professionalism within the trade of technology transfer. Both are being in the process of being implemented.	
France	Contract model project (formally private initiative).	
Greece	Bonus to researchers.	
Italy	<p>In November 2002 Italian universities created a network of TTOs linked to universities themselves with the following aims:</p> <ol style="list-style-type: none"> 1. having homogeneous principles and criteria for patent, spin-off and technology transfer; 2. providing available information to support and encourage collaboration among researchers on patents and the exploitation and commercialisation of inventions through licensing, spin-off and enterprise incubators. <p>Main services provided by the TTOs operating in the network are:</p> <ul style="list-style-type: none"> • Preparing the disclosure form to evaluate the idea/invention • Preparing the secrecy agreement form • Providing fast (< 45 d) evaluation for national patent application • Supporting and financing the patent procedures (national and international) • Evaluating the potential market • Carrying the business negotiation • Providing technical support for feasibility studies and prototypes • Managing the administrative activities related to patent exploitation • Evaluating spin-off projects • Supporting the business planning • Providing training on technology transfer. 	
Norway	Financial aid, training schemes (entrepreneurship), research parks and incubators.	We have just recently started to monitor the impact of these structures/initiatives.
Belgium Flanders	Monetary subsidies for TTO's	

	What barriers have been faced in the operation of the national structures/initiatives?	Which (annual) budget is available for this support ?	To what extent is the implementation of these support measures completed ?
Germany	None	Cannot be specified	Referring to the companies and the project named under 17., implementation is complete.
Portugal	Lack of information / knowledge.		
Spain	Certain reluctance in the academic world; differences in the approaches of TTO and Professors.	517 Meuros	all the universities and research centres
Sweden	The main barriers have been lack of funding and lack of experience due to a few years of operation	1) For the first imitative: Each holding company got about 600K euro when established. 2) For the second initiative the seven Technology Bridge Foundations got all together 100 M euro worth of shares in state owned companies. It was calculated that the income from capital would be about 550K euro a year for all seven foundations - which of course was dependent on the development of the stock exchange. 3) For the ongoing imitative: At the time of the establishment of the first and the second imitative there was public financing for pre-seed (for example financing for cost of patent) available. Now there is hardly any such financing available. The ongoing work is aiming at finding pre-seed financing amounting to 27M euro per year.	1) Not all the HEIs has holding companies. The research institutes are companies (partly state owned) themselves so they don't need holding companies. 2) The help from the technology bridge foundations should be available for all HEIs (no direct aid to research institutes) but due to the foundations financial situation they can't help all HEIs and have to prioritise.
Romania		This is a multi annual programme and the budget is established for each year. 60 mld lei, approximate 1.5 mil euros are available for 2004	Support is available for 100% of the universities and 75% for the PROs.
Latvia	Long explanation, but the bottle-necks are not only the IPR items.	100 k€	E.g. : Support is available for 75 % of the universities and all PROs.
Austria		3 mio €	Support is available for all universities and all PROs.

	What barriers have been faced in the operation of the national structures/initiatives?	Which (annual) budget is available for this support ?	To what extent is the implementation of these support measures completed ?
Cyprus	Have not been identified.	18.360.000 euros (approx) for the period 2003-2005.	Support is available for all PROs.
Denmark	A: Limited market for public research IPR's. Contrasting expectations from PRO's and industry. B: Hesitant venture capital market in recent years. Limited growth rate in ITC and Biotech industry.	A: Approx. €2 million annually B: Approx. €15 million annually.	A: Support is available for all PRO's.
Ireland	Confusion on who does what.	€1m for patent; €0m for people, databases and commercial space for incubation.	External review by agencies, targets set of licenses, start-up etc..
Netherlands		10 million. €annually.	All PRO's are allowed to submit proposals. Based on their proposal the government can grant a subsidy for this process of technology transfer.
Norway		€0.1m, €0.6m is available for PROs in general. €0.6m is reserved for 5 universities.	
Finland	Some hesitation and reluctance among academic circles, however, depending on faculties in question	not available	Support is available for all universities and all PROs.
United Kingdom	Academic freedom vs commercialisation, understanding of the system	Depends on the initiative; eg over £77m was paid out in total through HEIF on promoting knowledge transfer in general (not just IP exploitation).	Second HEIF fund underway

QUESTION 18 – MEASURING OF MANAGEMENT AND EXPLOITATION	Austria	Belgium Walloon	Belgium Flanders	Cyprus	Denmark	Finland	France	Germany	Greece	Ireland	Israel	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	United Kingdom
(PAGE 1 OF 2):- 18. Are management and exploitation of IPRs in PROs and public-private partnerships being regularly monitored at national level?	○	●	● ¹⁴⁶	○	●/○ ¹⁴⁷	○	○	●	●	● ¹⁴⁸	○	○	● ¹⁴⁹	–	–	○ ¹⁵⁰	●	○	○ ¹⁵¹	○ ¹⁵²		●	○	● ¹⁵³
If yes, do the measures include:-																								
- Universities?		●	●		●	–		●	●	●			●	–	–		●		●	–		●		●
- Other PROs?		●	●		●	–		●	●	●			●	–	–		○			–		●		●
What % of all universities are covered by the monitoring?		–	All		–	–		100	–	All			All	–	–		All					All		All
What % of all PROs are covered by the monitoring?		–	All		All	–		80	–	–			All	–	–		–					All		–

¹⁴⁶ Belgium (Flanders): Yes (just started).

¹⁴⁷ Denmark: Occasionally only. Evaluation of 1999 Act and supportive schemes to be completed in 2004.

¹⁴⁸ Ireland: Not regularly, but 2-3 years by Forfas and funders.

¹⁴⁹ Latvia: More precisely, there have been attempts to measure. The Central Statistics Bureau published the Innovation Survey Results in 2003. The publication presents information on publications in the field of innovations, on co-operation in introducing innovations and factors hampering it. Some IPR information is also available. Other statistics are published yearly.

¹⁵⁰ Netherlands: No. There are some figures concerning this issue, but there are not general figures covering the whole subject. This issue is being looked at. Especially in combination with the earlier mentioned policy initiatives, there are some possibilities to measure this on a national scale.

¹⁵¹ Romania: Not at national level. Measured at each PRO level.

¹⁵² Slovak Republic: Not at the national level. Measured at each PRO level.

¹⁵³ UK: Yes, as part of the annual Higher Education-Business Interaction survey (HEBI)

QUESTION 18 – MEASURING OF MANAGEMENT AND EXPLOITATION (PAGE 2 OF 2):-	Austria	Belgium Walloon	Belgium Flanders	Cyprus	Denmark	Finland	France	Germany	Greece	Ireland	Israel	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	United Kingdom
What indicators are being used?		-	-																					
- No of patent applications		-	-	•	•			•	•	•							•					•		•
- No of granted patents		-	-	•				•		• ¹⁵⁴							•					•		•
- No of licenses		-	-	•	•			•	•	• ¹⁵⁵							•					•		•
- Revenue from licenses		-	-	•				•	•								•					•		•
- No of invention reports		-	-	•				•																
- Disclosures		-	-	•	•																			
- Employment by TT		-	-	•						•														
- Spin-outs		-	-	•																				
- Other													•											• ¹⁵⁶

¹⁵⁴ Ireland: Some.

¹⁵⁵ Ireland; Some.

¹⁵⁶ UK: See full report at See full report at http://www.hefce.ac.uk/Pubs/hefce/2004/04_07/04_07.pdf

Appendix D

Synoptic Tables Summarising Replies to Questionnaire in respect of Actions C and D

The synoptic tables attempt to provide a “user-friendly” summary of the replies to the Questionnaires.

In compiling the tables, we have not attempted to interpret any particular reply in any way, but have done our best to merely record the reply in the table, as it was given in the Questionnaire reply.

When reviewing the tables, you should note the following:-

- A filled in dot signifies a “yes”.
- An empty dot signifies a “no”.
- A dash signifies that a reply should have been given, but was not.
- An empty box signifies that no reply was given, and no reply should have been given.

Numerous requests were made of each member states to confirm that their replies to the questionnaires, as reflected in this report, were correct. Also, some member states were asked to clarify various replies. However, some member states did not reply to such requests. As a result, whilst every effort was made to ensure the accuracy of both the synoptic tables at Appendices C and D, and the tables included in Chapter 4 (Results), some discrepancies still existed as at the time of finalising this report.

QUESTION 1: TEACHING OF IP COURSES:-	Austria	Belgium Walloon	Belgium Flanders	Cyprus	Denmark	Finland	France	Germany	Greece	Ireland	Israel	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	United Kingdom
1. Which body would be responsible for teaching (providing materials) IP courses in a HEI's curriculum?		-												-	-						-			
- HEI	•		• ¹⁵⁷		•	• ¹⁵⁸		• ¹⁵⁹			•	•				• ¹⁶¹	•			•			•	•
- Patent Office					•		•												•	•		•		•
- Trade Mark Office					•														•					•
- TTOs			•																			•		•
- Education Ministry																		•	•					
- No designated body				•					• ¹⁶³	• ¹⁶⁴														•

¹⁵⁷ Belgium (Flanders): The Faculty of Law (Centre for IP).

¹⁵⁸ Finland: HEI organise themselves courses sometimes with the assistance of outside professionals

¹⁵⁹ Germany: HEI give teaching assignments to temporary lecturers.

¹⁶⁰ Latvia: Universities are autonomous. In general, curricula must be accredited, but usually accreditation commissions/authorities do not correct separate study courses. It is the responsibility of a particular Professor/Chair/Faculty.

¹⁶¹ Netherlands: The Manager Education at each faculty has responsibility to decide which courses are due. At the faculty of law, IPR is one of the courses at BA or MA level. A professor has some room to manoeuvre and allow the national Patent Office to provide guest lectures.

¹⁶² Romania: The Ministry of Education and Research has an agreement signed with WIPO. State Office for Inventions and Trademarks and Romanian Office for Copyright, and Law Faculty.

¹⁶³ Greece: Not defined. The organiser selects the competent persons.

¹⁶⁴ Ireland: Not defined. The organiser selects the competent persons, often a patent agent, the TT executive or an industrial scientist.

QUESTION 2: PROVISION OF IP COURSES BY HEIs:-	Austria	Belgium Walloon	Belgium Flanders	Cyprus	Denmark	Finland	France	Germany	Greece	Ireland	Israel	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	United Kingdom
2. Are IP courses provided in HEIs (either postgraduate or undergraduate)?	•	-	• ¹⁶⁵	•	•	•	•	• ¹⁶⁶	• ¹⁶⁷	• ¹⁶⁸	•	•	Note 1	-	•	•	•	○ ¹⁶⁹	• ¹⁷⁰	• ¹⁷¹	-	• ¹⁷²	•	•

Where yes, details of courses are provided on attached page

¹⁶⁵ Belgium (Flanders): Yes, but differences between HEIs.

¹⁶⁶ Germany: Yes, in part of HEI.

¹⁶⁷ Greece: In law school and post-graduate courses/seminars. The NPO also organises seminars for undergraduates.

¹⁶⁸ Ireland: Yes, but there is no uniformity.

¹⁶⁹ Portugal: No (in a regular base).

¹⁷⁰ Romania: Yes, undergraduate.

¹⁷¹ Slovak Rep.: Yes, undergraduate.

¹⁷² Spain: Yes, just for post-graduate.

Note 1: Latvia: It depends on the corresponding curricula/HEIs.

**QUESTION 2(B): DETAILS OF IP COURSES PROVIDED IN HEIs
(EITHER POSTGRADUATE OR UNDERGRADUATE)**

Country	Details of IP courses provided by HEI (either postgraduate or undergraduate)
Luxemburg	Courses given to all students in 5th of 6th semester of Institut Supérieur de Technologie (recently integrated into the University of Luxembourg) = technical engineering school. 24 hours module deals with Intellectual Property (12 hours) and technology watch and competitive intelligence (12 hours). Technology Watch includes a part "Use of Patent Information". The program introduces patents, trademarks, design, copyright, trade secrets. Technology watch introduces the several patent information sources, exploitation of information in patent documents and in bibliographic references, exercises: search on espacenet. An examination takes place at the end of the module. Background of teachers: IP consultant - patent and trademark attorney and patent information specialist with scientific background.
Netherlands	At approx. 20 faculties IP courses have been incorporated in the curriculum. Ten faculties belong to the Technical Universities in The Netherlands, the others to the General Universities. In all less than 25 % of the faculties where IP courses could be relevant.
Denmark	A: Practical courses are provided in technical and life sciences - primarily directed at post graduate students. Duration from 1-13 weeks. B: Theoretical courses are provided by law- and business schools - primarily directed at graduate and undergraduate students. Duration one semester. Courses are voluntary.
Spain	Just for postgraduate. They are stand alone seminars specially addressed to Law specialists, not technicians. The seminars are co funded by student tuition and external sponsorship.
Romania	Undergraduate. 1. IP is taught in Faculties of law as stand - alone programmes. 2. The minimum duration of the IP teaching is one academic semester. 3 On average, 56 hours (28 hours per lecture + 28 hours per practical lecture) are dedicated to IP teaching per year. 4. The IP courses taught in the faculties of law are dealing mainly with: patents, know-how, design, integrated circuits, new varieties of plants, trademarks, geographical indications, licensing, copyright, neighbouring rights, etc. 5. The IP courses at the faculties of law are supported by the State Office for Inventions and Trademarks and Romanian Office for Copyright. 6. The IP courses at the faculties of law are funded entirely from HEIs own budget.
Germany	In part of HEI. 1), 2) IP can be taught as stand-alone programmes and as one-off seminars. 3) In technical courses: practically oriented, in non-technical courses: focus on economic aspects (commercialisation). 4) Introduction usually in higher (5th or 6th) semester, but basically open to all faculties without any restriction. 5) Ca. 28. 6) Different IPR, Internationalisation of IPR, IPC, use of IP-databases etc. 7) Scripts by lecturers, free materials e.g. by PO, brochures developed within the INSTI-project (funded by the Federal Ministry of Education an Research) and brochures, developed by institutions and initiatives who concern themselves professionally with IPR. 8) The state of Germany, the federal states, third party funds and HEI themselves. 9) Ca. 6.000. 10) Yes. If IP is taught as compulsory subject choice, they even get a mark. 11) Patent attorneys, patent junior judges, Professors of jurisprudence and other experts who concern themselves professionally with IPR.
France	Seminars and workshops within wider programmes of education- In most cases IP courses are provided In postgraduates programmes.

Country	Details of IP courses provided by HEI (either postgraduate or undergraduate)
Israel	There are very few courses in IP in the HEI. Most of the courses are given in law faculties and includes all aspects of IP. Some IP training is given in other faculties (life science, exact science, business administration, economy) but usually not as a stand alone issue but as part of courses teaching about economical aspects of R&D. Most of the courses are short (about 40 semester hours). When the courses are not given in the faculty of law or economy, it is usually intended for advanced students. The courses are funded by the HEI; in the faculty of law, the IP teachers are lawyers or professors specialising in the subject. There isn't any organised list of courses or IP training, and the list of courses changes from one year to another.
Slovak Republic	1. Stand - alone subject (IP) - Law Universities 2. Seminar within a wider programme - Technical, Business, Philosophical (Faculty of Journalism), Art Universities 3. IP is taught in the 3rd. - 4th. year of study, between 1-33 hours 6. Main aspects - Law Universities (IP Law), Technical Uni. (Patent, Design), Business Uni. (Technology Transfer, Trade Mark), Art Uni. (Copyright), Journalism (Copyright) 7. IP courses funds HEI 10. There is no certificate 11. teachers, lawyers, experts from Patent Office.
Austria	They are stand-alone seminars specially addressed to law specialists and to some technicians. There are only very few general seminars.
Norway	Mostly at postgraduate level. Some study programmes in law schools contain optional courses in IP. A few programmes in law schools have obligatory courses in IP. In business schools marketing programmes contain IP.
Ireland	Under-graduate legal studies only(8 universities) and post graduate courses/seminars for legal, MBA, business, MSc. Technology Management and research SET degrees (MSc & PhD), in larger universities only (TCD, UCD). Excellent programmes at UCD (Journey of an Entrepreneur serie and the NITM IPR module).
Italy	Most of the courses are given in law and economics faculties (as industrial law courses) usually in the second or third year and cover all items of IP but from a legal point of view.
Belgium (Flanders)	The specifics of the IP course vary with the specific HEI. The IP course covers most kinds of IP, including copyright, trademarks, design right and patent right and they are taught by members of the Faculty of Law at undergraduate level. They are taught at the Faculty of Law and also in some other Faculties (i.e. Medical Sciences, Engineering, etc.). At postgraduate level, there is a Master course in IP and several stand alone courses/programs exist, as for example organised by the TTO.
Finland	In case of undergraduate studies: general courses in IPR are given at least at faculties of law and faculties of technology. In case of postgraduate studies: more and more training and typically with tailor-made" content with regard to specific needs of the audience.
UK	Courses for IP lawyers are available at many institutions - IP law often being a module in a law degree and many other degrees now include IP awareness modules (esp. in science/ engineering subjects)

QUESTION 3: IP COURSES AT UNDERGRADUATE LEVEL:-	Austria	Belgium Walloon	Belgium Flanders	Cyprus	Denmark	Finland	France	Germany	Greece	Ireland	Israel	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	United Kingdom
3. Is there a general obligation on HEIs, at national level, to include IP courses in their undergraduate programmes?	○	┌	○	○	○	●	○	○	○	○	○	○	○	┌	○	○	○	○	● ¹⁷³	○ ¹⁷⁴	┌	○	○	○
In science/engineering courses?	○	┌	○	○	○	┌	○	○	○	○	○	○	○	┌	○	○	○	○	○	○	┌	○	○	○
In business schools?	○	┌	○	○	○	┌	○	○	○	○	○	○	○	┌	○	○	○	○	○	○	┌	○	○	○
In courses for lawyers?	○	┌	○	○	○	●	●	○	●	●	○	○	○	┌	○	●	○	○	○	○	┌	○	○ ¹⁷⁵	○
In other fields?	┌	┌	○	┌	┌	┌	┌	┌	┌	┌	┌	○	┌	┌	┌	┌	○	┌	┌	┌	┌	○	○	

¹⁷³ Romania: Yes (only faculties of law).

¹⁷⁴ Slovak Rep.: No, at a national level, part of HEI's own study programme.

¹⁷⁵ Sweden: There is an obligation to include civil law but IP law is not specified.

QUESTION 4; IP IN UNDERGRADUATE COURSES:-	Austria	Belgium Walloon	Belgium Flanders	Cyprus	Denmark	Finland	France	Germany	Greece	Ireland	Israel	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	United Kingdom
4. If IP is not normally provided in HEI undergraduate courses, is there an intention on the part of national authorities to introduce such training activities in the near future?	Note 1	-	○	○	○	● ¹⁷⁶	● ¹⁷⁷	-	● ¹⁷⁸	○ ¹⁷⁹	○	○	Note 2	-	○ ¹⁸⁰	○	○	● ¹⁸¹	-	○	-	● ¹⁸²	○	○
Which subjects are considered most relevant?	-	-	-	-	Note 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○	-	-	-	-
- Innovation							●					●	●		●	●			●			●	●	
- Technology transfer									●	●		●	●		●				●			●	●	
- Entrepreneurship									●	●		●	●		●	●			●			●	●	
- IP tools (patents; trade marks; designs; copyright; etc.)							●		●	●		●	●		●	●			●			●	●	
- IPR identification, protection and exploitation strategies										●		●	●		●									

¹⁷⁶ Finland: Yes, there is intention more and more to introduce (TT, entrepreneurship, IP tools) especially in the technical universities. But curriculum is decided by HEIs

¹⁷⁷ France: Yes – “Plan for innovation Fontaine/Haignere” objectives.

¹⁷⁸ Greece: There are discussions initiated by NPO.

¹⁷⁹ Ireland: No. Will be considered by the Implementation Group of the National Code of Practice on IPR.

¹⁸⁰ Luxembourg: In Luxembourg, university programmes are being set up – not yet defined. If IP courses will be introduced, question has to be reconsidered in one year.

¹⁸¹ Portugal: Yes, in the near future.

¹⁸² Spain: Yes, in technical school as a private project.

Note 1: Austria: The design of the courses is done by the academic senate, not by national authorities.

Note 2: Latvia: The Ministry of Education and Sciences does not control in the administrative way the content of curricula and study courses.

Note 3: Denmark: Curriculum decided by HEIs.

QUESTION 5: IP IN POSTGRADUATE COURSES:-	Austria	Belgium Walloon	Belgium Flanders	Cyprus	Denmark	Finland	France	Germany	Greece	Ireland	Israel	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	United Kingdom
5. If IP is not normally provided in HEI postgraduate (incl. Master, PhD), courses, is there an intention on the part of the national authorities to introduce such training activities in the near future?	Note 1	-	○	○	○	○	● ¹⁸³	-	● ¹⁸⁴	○ ¹⁸⁵	○	○ ¹⁸⁶	●	-	○ ¹⁸⁷	-	○	○ ¹⁸⁸	● ¹⁸⁹	○ ¹⁹⁰	-	-	○	○
Which subjects are considered most relevant?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- Innovation							●					●	●						●	●			●	
- Technology transfer							●		●	●		●	●						●	●			●	
- Entrepreneurship							●		●	●		●	●						●	●			●	
- IP tools (patents; trade marks; designs; copyright; etc.)							●		●	●		●	●						●	●			●	

¹⁸³ France: Yes: "Plan for innovation Fontaine/Haignere" objectives (2005: IP courses for 50% students in engineering courses and business schools).

¹⁸⁴ Greece: There are discussions initiated by NPO.

¹⁸⁵ Ireland: Is being considered by funders of research. Three-hour IPR seminar will be mandatory for some commercialisation funded researchers in 2004.

¹⁸⁶ Italy: NPO is in contact with some HEI's to set up masters in IP

¹⁸⁷ Luxembourg: In Luxembourg, university programmes are being set up. Not yet defined. If IP courses will be introduced, question has to be reconsidered in one year.

¹⁸⁸ Portugal: No, in the near future.

¹⁸⁹ Romania: Starting with 2005, the programme of the Law University shall include a course in the field of IP.

¹⁹⁰ Slovak Republic: At the HEI, no, but only Patent Office provides two year's accredited postgraduate course on IP and after completion of this course is given a certificate.

Note 1: Austria: The design of the courses is done by the academic senate, not by national authorities. There are some studies where IP is on the curriculum.

QUESTIONS 6 AND 7: OTHER IP COURSES:-	Austria	Belgium Walloon	Belgium Flanders	Cyprus	Denmark	Finland	France	Germany	Greece	Ireland	Israel	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	United Kingdom
6. Do any HEIs offer a Masters in IP for postgraduate students (and if yes give details)?	○	—	● ¹⁹¹	○	○	○	● ¹⁹²	● ¹⁹³	○ ¹⁹⁴	○ ¹⁹⁵	○	● ¹⁹⁶	○	—	○	● ¹⁹⁷	○ ¹⁹⁸	○	○	○	—	● ¹⁹⁹	● ²⁰⁰	● ²⁰¹
7. Are such activities being conducted (or considered) in secondary education?	○	—	○	○	○	○	● ²⁰²	● ²⁰³	● ²⁰⁴	● ²⁰⁵	○	○	●	—	○	○	○	1○	○	○	—	○	○	● ²⁰⁶

¹⁹¹ Belgium (Flanders): Yes. Mostly available for people with background of law – 10 hrs per week for 1 year – all kinds of IP are covered.

¹⁹² France: Yes. CEIPI (patent 560 hrs or trade mark 240 hrs); 250 students. Also, CFEPI (opening 2005). Also, about 10 university degrees awarded after five-year course of study (IP rights).

¹⁹³ Germany: Yes, e.g. FH Amberg-Weiden, Bavaria: Engineer in patent system.. In basic course: 75 hrs per week; in main course: 79 hrs per week plus 6 hrs of practice. Currently 100 students. Subjects: Basics in many fields of technics (e.g. electronics, mechanics), construction/CAD, IPR, patent investigation, patent law, patent system, patent management, market analysis, marketing etc..

¹⁹⁴ Greece: Not exclusively.

¹⁹⁵ Ireland: Not exclusively, as a core subject.

¹⁹⁶ Italy: Yes, usually together with patent consulting offices. 15/20 students, 10/12 months; copyrights, patents, trade marks, TT, designs, international and national laws.

¹⁹⁷ Netherlands: Yes, at the Technical University in Eindhoven. 20 students, 3 months M Sc course in IPR.

¹⁹⁸ Norway: No (not complete Masters courses, but some Masters include substantial elements of IP).

¹⁹⁹ Spain: Yes. Approx. 20 students, over 400 hrs, dealing with patents, trade marks, TT, designs, international and national laws.

²⁰⁰ Sweden: Yes, but in Sweden a Master is part of undergraduate studies.

²⁰¹ UK: no standard requirements beyond the usual format of a masters degree.

²⁰² France: Yes. About 1000 IP lectures per annum in secondary schools.

²⁰³ Germany: Such activities have been conducted since 1995 within the scope of the project “INSTI-Inventors Clubs”. About 80 of the Inventors Clubs are located at schools, where pupils get familiar with the basics of the patent system.

²⁰⁴ Greece: In broad sense, yes.

²⁰⁵ Ireland: In broad sense, yes, to encourage science uptake, entrepreneurship and innovation. Not specifically IPR.

²⁰⁶ UK: Yes. The Patent Office has produced a highly popular teaching package called the "THINKkit"

QUESTION 8: TRANS-NATIONAL INITIATIVES

Country	Are you aware of any trans-national initiatives?	Which bodies partake/what do they cover in such an initiative?
Luxembourg	Leonardo/DIPS project: New e-learning course on IP: IP-rights, valorisation, use of IP-information. LIIP-project (5th framework program) development of IP awareness creation material, diffusion actions.	LIIIP: National IP-offices of 5 countries, partner institutions. DIPS: IP-consultant, universities, public research centres, private companies, e-learning experts
Netherlands	EU DG- Innovation, World Intellectual Property Organisation- Division SMEs and universities, European Patent Office, Academy.	IP law and rationale, procedures on granting, costs, patent literature, patent strategy
Denmark	"ScanBalt IP-Region" is under development as an educational network for the Scandinavian and Baltic Countries for training of IP-professionals.	The initiative is sponsored by The Nordic Innovation Centre and intended to involve a variety of regional, national and international actors
Spain	There is a consortium between CEIPI (Université Robert Schumann), Queen Mary and Universidad de Alicante.	
Latvia	The National Innovation Programme, mentioned in the first batch of answers	
Germany	In Japan IPR are compulsory at HEI and in secondary education. There are currently considerations, to introduce IPR in primary schools.	The state of Japan, HEI, secondary and primary schools.
France	Project : European IP Academy	European Patent Office, National Patent Office and IP teaching institutes - Training for new and current professionals, IP judges, managers in business.
Slovak Republic	1. WIPO Academy (2002), 2. WIPO Distance Learning, 3. EPO Academy	1. WIPO+Faculty of Law+Patent Office 2. IP professionals 3. IPO SR personnel
Austria	Training for researchers as part of the programme called uni:invent	HEIs itself Patent attorneys (as part of their self marketing), tecma (a part of awa)
Ireland	Membership of ProTon, AURIL and ASTP gives technology materials but this is not aimed at graduates or undergraduates	

Country	Are you aware of any trans-national initiatives?	Which bodies partake/what do they cover in such an initiative?

Romania	<ol style="list-style-type: none"> 1. There is an ongoing regional cooperation program concluded with the European Office for Patents, which involves the organisation of seminars and other assistance means related to IP. 2. Cooperation agreement with OHIM based on which a cooperation program between OSIM and OHIM is developed in order to prepare the getting over to the European mark and design. 3. The cooperation program with WIPO based on which WIPO grants assistance to the Law University. 4. The National Plan for Research, Development and Innovation – INVENT Program 5. WIPO Distance Learning 	Romanian State Office for Inventions and Trademarks, Ministry of Education and Research, Law Faculty, other administrative organisations, WIPO.
Italy	<ol style="list-style-type: none"> 1. In the framework WIPO/Italy cooperation: a Law Master in IP and a specialisation course (9 months) for professionals and academics who already have a grounding in IP at the Internationalisation Training Centre of ILO (Turin, Italy); the curriculum is intended to provide an in depth examination of the classical topics of IP law as well as a specialised analysis of the latest developments in the field, protection of IP both at national and international levels, infringements and remedies, antitrust. 2. LIIP-project (Linking Innovation Intellectual Property) in the framework of 5th program: development of IP awareness creation material, diffusion actions. 3. Always in the framework of 5th program there is the project: “Co-operation Platform for National Patent Offices and Innovation supporting Organisations by developing and using an IPR-Guide for SMEs (IPR-Guide) contract n° IPS-2001-40010”. 	<ol style="list-style-type: none"> 1. WIPO World Wide Academy, University of Turin, International Labour Organisation (ILO) 2. LIIP: National IP-offices of 5 countries (Luxemburg, Greece, Ireland, Italy, Spain). 3. IPS-2001-40010: IP-consultant, universities, public research centres, private companies, e-learning experts. Anyway, these initiatives are aimed at SMEs and PROs.
Finland	There are occasionally international initiatives with the Finnish participation especially under the aegis of WIPO	National Patent Office organises on an occasional basis trans-national courses
Portugal	<ol style="list-style-type: none"> 1. WIPO – Distance Learning 2. Project ‘Valorisation of IP system’ part of a programme at the Economie Ministry support by EU. 	Training in IP for people that work in the universities, private business associations and technological centres – the training is given by the National IP office. The National Office gives classes and organises seminars to disseminate IP from different universities
UK	Notable is the European IP Academy which has academics as one of its target audiences	Patent offices in Europe; EPO

Appendix E

Possible Issues to be Addressed in the Next Cycle (should it exist)

The group suggests that the following areas be considered by the next cycle, if one is established. The group had insufficient time to consider each of these points, but recommends that they are the issues which CREST should take into account when considering the scope of the work plan for the next cycle (should it exist). It should be noted that these issues are not listed in any particular order of priority.

Some of these issues may require expertise in areas which the next group do not have, and we would therefore recommend that each issue below be considered by the group with the most appropriate expertise.

1. Implementation of Recommendation 1: IPR [ownership systems](#) :

While the group acknowledges that the existence of three broad groups of ownership systems can be a source of some confusion, the discussions led to the agreed opinion that all relevant IPR guidelines should highlight the fact that these three broad groups of ownership systems exist, when developing IPR guidelines for working with other countries. It should be noted that there was a concern expressed by some countries regarding this subject 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 (should it exist) and be considered a “cross cutting” issue with other OMC groups (public policy).

2. Implementation of Recommendation 1: Draft guidelines currently being developed by EIRMA, EARTO, ProTon and EUA (see: [EIRMA](#) etc)

The group supports the development of guidelines in respect of the management and exploitation of IPR, such as those being prepared by EIRMA, EARTO, Proton and EUA. However, the success of such guidelines is dependent upon the validation and support of stakeholders. The group would like to recommend to EIRMA etc. that, once the guidelines have been drafted, that they are brought to the next cycle of the OMC and for members of the group to conduct a validation and review process.

3. Implementation of [Recommendation Three](#): Sufficiently resourced professional technology transfer systems

The implementation of this recommendation requires further work by the next cycle (should it exist). Specific examination of current funding and technology transfer systems needs to be made (nationally, regionally and trans-nationally) to identify how to create critical mass to achieve professionalisation and expertise. The group has identified that this is not a straightforward matter. The group therefore recommends that the next cycle (should it exist) consider the possible criteria for allocation of funding to Technology Transfer Organisations and Offices. The group recognises that a key factor of the US system is the incentivisation of Public Research Organisations in respect of technology transfer.

4. Implementation of Recommendation 3: [ITTE Project](#)

The outcome and recommendations made in the ITTE Project could be considered by the next cycle.

5. Implementation of Recommendations 3 and 4: Possibility of EU-wide certification and training programme for [technology transfer](#) professionals (see page 25 of report)

The group recognises that many technology transfer personnel come from different areas of expertise (e.g. science, law, business), and agree that this is good, as there is a need for varying expertise in this role. In developing and implementing recommendations 3 and 4, the group recommends that the next cycle look to the professionalisation of other careers where professionals are sourced from a number of different disciplines, for guidance. Examples of these career structures include marketing, institutes, controllers and administration.

6. Implementation of Recommendations 8 and 9: Technology transfer training and awareness (see [awareness training](#))

In their deliberations, the group noted that the lack of systematic monitoring of technology transfer training and awareness initiatives and their impact (many recent activities), leads to an inability to really understand the impact of awareness training. The group considers this a very important aspect of awareness training and concludes that the next cycle should specifically address the impact assessment and the issues surrounding course development.

Appendix F

Recommendations:	Target audience	Scope	Impact	Support	Feasibility
1. The group recommends the creation of clear and operational rules regarding: ownership, disclosure, compensation, and the sharing of profits to be created for all stakeholders <u>at a national level</u> .	Policy makers, European inno community in general	Broad clarification / understanding of guidelines on National environment; aim to set minimum elements of frameworks to ensure best practices etc taken up	Long term	Average	High
2. The group recommends the development of <u>European guidelines</u> , with respect to the management and exploitation of IPR, such as those being prepared by several EU-based professional associations (EIRMA, EARTO, ProTon and EUA).	Policy makers in countries with no guidelines, technology transfer staff in both ind and academia	Average Simplify interaction between Higher Education Institute and industry	Average – up to two yrs	Average	Very high, subject to non-gov/EC-funded orgs listening to proposed way fwd
3. 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 - The need for Technology Transfer Organisations to be well organised with critical mass - The need for incentives throughout the technology transfer chain (incl career structure and rewards for professionalism) - The need for dedicated (earmarked) funding - Incentivised links and collaboration between sectoral, national, European, and international networks (without creating additional pan-European associations)	Policy makers Nat and EC level with scope to make technology transfer system effective	v. Broad - To promote National or European guidelines, professionalisation is necessary in the first instance.	Mixed short and long term impact	High	High, subject to political support and finance
4. The group recommends that professionalisation of Technology Transfer Organisations should be improved through IP/ technology transfer training.	Technology transfer community	v. Broad - professionalisation of technology transfer.	Mixed short and long term impact	High	High, subject to political support and finance
5. The group recommends that awareness initiatives be focussed more effectively to ensure a higher impact across Europe and develop an “awareness multiplier” across our innovation system	Nat and EC level	v. Broad	Mixed short and long term impact	High	High, subject to political support and finance
6. The group recommends that Europe should have a single world-class professional association/network for technology transfer. All member states and the Commission should promote cooperation between Technology Transfer Associations and networks, without creating additional pan-European associations.	Policy makers Nat and EC level with scope to make technology transfer system effective	Narrow Creation of a single body to inform policy makers and collate data	Requires several years to show effectiveness	High	High, if incentivised. Requires several years to show effectiveness

7. The group recommends the development of IPR performance indicators in order to balance academic and commercial priorities in Public Research Organisations.	policy makers Nat and Ec level with scope to make technology transfer system effective	Narrow to permit policy makers to identify best practices etc	Medium term (to get quality data)	High	Medium. Requires several years to establish benchmarks
8. The group recommends the development, at EU level, of programmes for general IP/ technology transfer training and awareness which can then be tailored at national level.	European inno community in general	v. broad increase training + general awareness – macro issue	Long term	Average	Average / high Dependent on sustained investment (results will be indirect)
9. The group recommends that the EU promote co-ordinated IP/ technology transfer awareness initiatives for undergraduate students at a national level	all undergrad students	v. Broad awareness of IPR/ technology transfer for all undergraduate student	Short term	Average	Average/high Hard to monitor

Appendix G

Glossary of Terms

ASTP: Association of European Science & Technology Transfer Professionals

AURIL: Association for University Research & Industry Links

AUTM: Association of University Technology Managers

COREP: Consorzio Per La Ricerca e l'Educazione Permanente

CREST: Committee for Scientific and Technical Research

EARMA: European Association of Research Managers and Administrators

EARTO: European Association of Research and Technology Organisations

EIRMA: European Industrial Research Management Association

EUA: European University Association

Higher Education Institutes: This generally includes universities and higher education providers.

IP: Intellectual Property.

IPR: Intellectual property rights. Includes patents; copyright; database rights; registered designs and trademarks.

OMC: Open Method of Coordination

Public Research Organisations: Generally, this is considered to include both (a) universities which undertake research and (b) dedicated research institutes. Note: In several countries, policies relating to IPR may differ between university and other PRO state research organisations.

Technology Transfer: The four phases of the technology transfer process, namely, the IP creation phase, the IP identification phase, the IP protection phase, and the IP exploitation phase.

Technology Transfer Association: This includes networks and professional organisations that link together in respect of various technology transfer activities (e.g. AUTM; ASTP; AURIL; PROTON).

Technology Transfer Office: Generally, this is the department within university/ Public Research Organisation which is responsible for technology transfer. In some countries, Technology Transfer Offices may be responsible for activities of several universities or Public Research Organisations.

Technology Transfer Organisations: Centralised groups, which employ personnel to undertake technology transfer (e.g. national technology transfer organisations (e.g. Innovation Relay Network).

Appendix H

Comments received from Latvia 3 June 2004

As usual, I am summarising my reflections on the last WG meeting. After 3-4 May, I would like to draw your attention to the following.

About the TT: there are different types of TT (Attachment 1), at least two

- transfer of tested technology/products/equipment from one place/company to another;
- transfer from laboratory/demonstration line to the company, producing, marketing, etc.

The second (TT II) type of TT could/must be boosted by IPR, but it isn't a simple trade IP procedure. The TT comprises several specific steps, for example, seen in Attachment 2 and 3. It is impossible to finance TT II by public funds (PF). So, I still don't agree with the WG that TT must be funded mainly from public sources. Countries have plenty of possibilities to support TT II, PF included, but only partially to support/promote.

Of course, there is a practice that TT offices at universities (HEI) are financed by PF, but, in such a way, we will not catch up with USA. TT II requires a lot of money. And in the "3% initiative", 2% is envisaged from industry, but only 1% from PF.

Regarding IRC: Jeffrey's objection that IRC' main goal is not TT. I am sending by post some brochures about IRC to all addresses. The TT goal is recommended there. My suggestion is to continue utilising the existing IRC system for TT. Of course, the WG could recommend to improve the practice, but it is still acting and has been successfully utilised. And the trend is to self-financing of IRC.

Regarding professionalism. I don't think that TT should be taught as a profession. It isn't just the same, whether TT is performed in pharmacy or in machine building. For example, students should have a basic speciality, studying also at specific TT courses.

I have read the Irish "National Code of Practice for Managing Intellectual Property from Publicly Funded Research". There are a lot of useful suggestions. A part of them should be applied in our recommendations. It is especially that Ireland is progressing rapidly.

And I still remind that the USA experience isn't analysed by the WG. We still don't analyse, how our main competitor works.

The WG recommends to develop only guidelines (EU, national). Probably, on the basis of these guidelines, further elaboration of action plans and their enforcement should be recommended.

It would be desirable to add a glossary to the final report. For example, the key word TT is treated very differently, especially when reading "The Journal of Technology Transfer". In a similar way – other terms, which will be used in the final report.

Yours sincerely,

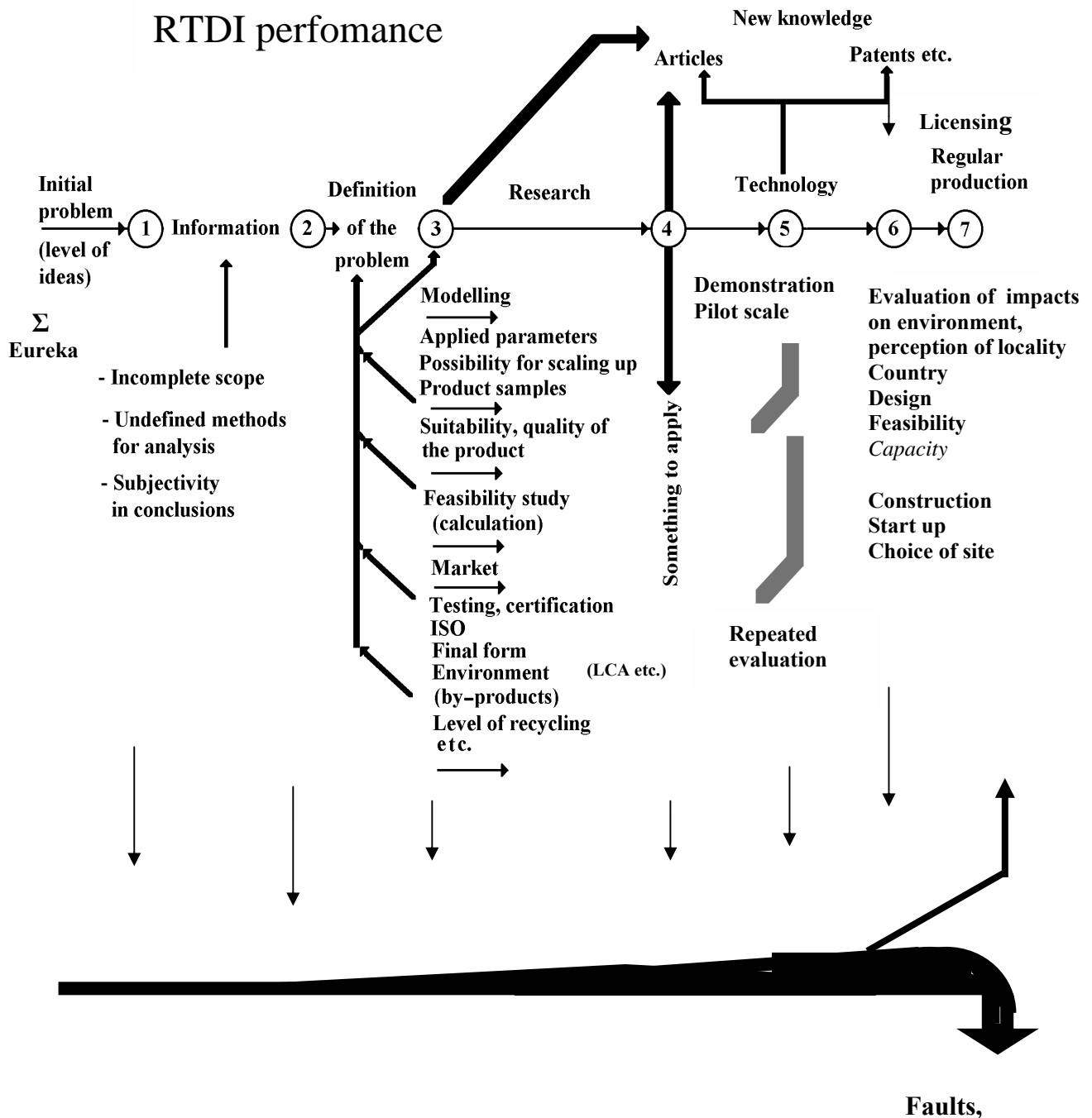
Prof. Uldis Viesturs

3 main ways of development

1. Transfer of new technologies (the goal of IRC, for example); TT.
2. Multiplication of the well-known approved technologies; TM.
3. Innovations: creation and marketing of new/improved technologies, equipment, products, services.

Development of really new technologies, products. Real innovations demanding the activation of the full scale ERTDI complex. Problems of intellectual property protection/trade arise simultaneously. Grants, subsidiaries, donations, venture capital are required. Special instruments, science parks, technological centers/incubators, specific SMEs should be created and supported by special legislation and financing (NIP, etc.) IPO must arise via NASDAQ, for example.

Conventional stages of R and D and implementation of results (IP)



Losses, Disappointments, Bankruptcy

Possible shortening of performance's stages speeds up the development, but increases the risk.

Demonstration projects (EU terminology)

