An Analysis of the Effects of European and National Guidelines on the Implementation of New Knowledge Transfer Policies at Institutional and Member State Level; Knowledge Transfer Policy at the Universities and Other Public Research Institutions.

By Gert Vilhelm Balling

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Management Summary

This study presents a survey on the extent to which universities and other Public Research Organisations in the Member States have implemented new knowledge transfer policies.

Based on 10 primary EU and national guidelines/ code of practice and other knowledge transfer documents, a survey questionnaire has been developed.

Primary umbrella organisations of universities and other Public Research Organisations in the Member States as well as national Knowledge Transfer Networks have been approached and asked to provide input on behalf of their member institutions.

Respondents are distributed across 16 umbrella organisations and eight universities and other Public Research Organisations.[1] The respondents cover 537 universities and other Public Research Organisations, located in the following 16 Member States: Austria, Denmark, the Czech Republic, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Lithuania, the Netherlands, Slovenia, Spain, Sweden and the United Kingdom.[2]

The study presents trends and an overall estimation of the actual implementation of new knowledge transfer policy in the Member States, but is not comprehensive enough to map the implementation in detail. The analysis will therefore focus on the degree to which a certain percentage of Member States have implemented certain policies, and encompass examples on best practice. Main findings will be presented differentiated into five categories: Internal Policy, External Policy, Staff and Network, Collaborative and Contract Research, Development and Publication of Policies and Procedures.[3]

Internal Policy for Management of Own Intellectual Property

Of Member States present in the survey, based on respondents covering universities and other Public Research Organisations:
– 63 % rate policy to be highly in line with their institutions' overall mission and strategy.
– 50 % have implemented long-term knowledge transfer & Intellectual Property management strategy to a high degree.
– 88 % have general rules concerning disclosure and ownership of new ideas of commercial interest, whilst around 70 % have general rules on publication and dissemination policies as well as on policies on incentives for commercialising Intellectual Property.
– 31 % have implemented a knowledge transfer policy regarding conflict of interest to a high degree.

As regards internal policy, the main findings show a relative difference in the percentage of implementation of general policies and actual policies.

Only in slightly more than half of the present Member States universities and other Public Research Organisations have implemented a policy in line with their overall mission and

[1] Large Public Research Organisations count as one Public Research Organisation, even though their organisation and structure is that of an umbrella organisation.
[2] Respondents from more Member States have announced that they will join the survey, but were not able to supply the data in due time for the report. The background material for this report will be updated as data is received.
[3] Findings are calculated as a percentage of Member States present in the survey, based on respondents covering universities and other Public Research Organisations. See 1.3.1.

strategy and a long-term knowledge transfer and Intellectual Property management strategy and mission to a high degree. Although more than two thirds rate the implementation as medium to high degree, the institutional management framework and long-term strategy is a necessity for the development of a knowledge transfer dimension as imbedded in the institutional policies and general development plans.

However, general rules on specified knowledge transfer and Intellectual Property management activities seem to be implemented to a high degree. In 88 % of the present Member States universities and other Public Research Organisations seem to have general rules on disclosure procedures and management of ownership, while around 70 % have general rules on publication and dissemination policy as well as on policy on incentives for commercialising Intellectual Property.

Whereas the routines concerning core activities of knowledge transfer have a high implementation rate, the focus on Conflict of Interest is far less. An explanation could be that Conflict of Interest does not directly influence the daily work in the same way as disclosure procedures and ownership matters, or that it is a moral issue and can be ad hoc administrated at department level, and therefore not prioritised in the written policy.

External Policy for Management of Own Intellectual Property

Of Member States present in the survey, based on respondents covering universities and other Public Research Organisations:
– 69 % have general rules concerning engagement with third parties.
– 6 % rate the implementation of Intellectual Property Pools as high.
– 94 % have a policy on the creation of spin-offs.
– 81 % monitor Intellectual Property protection and knowledge transfer activities and promote them and 44 % have to a high degree implemented the internet as a way to present information on Intellectual Property..

As regards external policy, the main findings show a considerable difference in the percentage of implementation of relational policies and the internet as concerted outreach.

Spin-offs have the highest rate of implemented policies in the survey with 94 % of the present Member States, even though the policies vary in explicitness. Staff can engage themselves, but have to choose whether they want to work for the spin-off or for the institution. Regarding engagement with third parties it is desirable and somewhat expected that researchers engage themselves. In 70 % of the present Member States policies on engagement with third parties in relation to financing and ownership have been implemented, and respondents exemplify relational issues through references to codes of conduct ranging from general Customer Relation Management considerations to Model Agreement templates.

In 81 % of the present Member States respondents mentitor Intellectual Property protection, knowledge transfer activities and the promotion of them. Since most of the institutions seem to have local portals presenting Intellectual Property in relation to their institution website, and only in 44 % of the present Member States respondents rate the implementation of such activities as high, one would expect a relatively low output regarding access to national Intellectual property Portals. But apparently, there seems to be ambitious national portals presenting information on university and other Public Research Organisation Intellectual Property in a number of Member States as well as broader setups developed by several national Patent and Trademark Offices. An

explanation of the relatively low rating on internet activities could be that the universities and other Public Research Organisations, even though they have the possibility, do not prioritise being present at national or other platforms than the one offered by their own institution.

The tendency is that more Knowledge Transfer Offices report data to national and European surveys. This trend is supported along two different strings. On the one hand, more Member States are beginning to attach funding requirements to survey participation, so in the future, universities and other Public Research Organisations will be obliged to a higher degree than now to report performance data to national or international knowledge transfer surveys. On the other hand, the Commission Expert Group on KT Metrics (EU 2009b) recommended a European survey model to harmonise European surveys to improve the possibility for individual universities and other Public Research Organisations and Member States to monitor and compare knowledge transfer achievements against themselves and each other on a shared set of indicators, in order to identify trends and to support work on improvements if needed.

While all other issues in this part had the interest of most of the involved universities and other Public Research Organisations, there is a clear indication that respondents do not value Intellectual Property Pools as a useful tool for making an innovative idea to be attractive to the private sector in the sense that various universities and other Public Research Organisations cross-license their intellectual assets or otherwise throw the results of collaborative research in a joint pool. In almost half of the present Member States respondents rate the implementation of Intellectual Property Pools lowest possible, and only in 6 % of the present Member States a score higher than medium is given. Although the interest in the field is low and success stories are rather hard to find, the networking opportunity and obtaining of critical mass is fully in line with the potential of the Intellectual Property Pools and supports the idea of joining efforts where research institutions do not have the scope and volume of exploitable research results to justify the establishment of a Knowledge Transfer Office.

Staff and Network

Of Member States present in the survey, based on respondents covering universities and other Public Research Organisations:
– 70 % feel that training on awareness and basic skills to a high degree has been integrated into the knowledge transfer practice.
– 93 % have access to knowledge transfer services to fulfil their legal obligations.
– 80 % have Knowledge Transfer Networks for practitioners.

Training of Knowledge Transfer Managers and researchers is considered important, and in almost 70 % of the present Member States respondents feel that training on awareness and basic skills to a high degree has been integrated into the knowledge transfer daily practice. Looking at the supply of knowledge transfer training, it is clear that courses and other training activities mainly are focussed on Knowledge Transfer Managers.

In at least 93 % of the present Member States it seems to that universities and other Public Research Organisations have access to a minimum service to fulfil their legal obligations. This service is performed through in-house facilities in the form of Technology Transfer Offices or Knowledge Transfer Offices offering comprehensive services. It is though striking that in 38 % of the present Member States the respondents declare that their Knowledge Transfer Offices are not reviewed and in 46 % that they are. The survey

reveals three levels of review; metrics, external and internal quality control. Surveys seem to be the primary means of monitorisation of efficiency and effectiveness of the Knowledge Transfer Office, although focus tends to be more on measurable output than on processes and procedures.

In 81 % of the present Member States universities and other Public Research Organisations do have Knowledge Transfer Networks for practitioners. This survey has focussed on national practitioners' Knowledge Transfer Networks and not European or other international Knowledge Transfer Networks. With this delimination in mind, the number is impressive, even if Knowledge Transfer Networks are defined broadly by the respondents covering smaller, larger as well as more specialised Knowledge Transfer Networks.

Collaborative and Contract Research

Of Member States present in the survey, based on respondents covering universities and other Public Research Organisations:
– More than 75 % consider not only their own interests and objectives, but also those of potential partners from the private sector.
– 63 % declare that clarification and negotiation is in the hands of the Knowledge Transfer Office.
– Only 6 % do rarely clarify access rights to Intellectual Property at an early stage in the projects.
– 46 % use model agreements.

In a substantial percentage of the present Member States respondents express that they not only consider their own interests and objectives, but also those of potential partners from the private sector. There is general consensus concerning 'fair rules', which are also embedded in both national Model Agreements and national codes of practice. The general attitude is that the fairness principles are based on the Public Research Organisation's public and social mission.

The same rate of implementation goes for clarification of access rights to Intellectual Property, where consensus is that clarification is enforced at an early stage in the projects and at least before signature. In 46 % of the present Member States either local or national Model Agreements are used. The national Model Agreements are either (more or less) agreed upon by different stakeholders or elaborated on the basis of experience collected from the universities and other Public Research Organisations.[4]

A surprising result is that in only 63 % of the present Member States respondents declare that clarification and negotiation is in the hands of a Knowledge Transfer Office. As regards respondents where both Knowledge Transfer Offices and researchers are involved in the clarification and negotiation process, there seems to be two different scenarios: The first scenario is universities and other Public Research Organisations where there are no rules on this matter and where Knowledge Transfer Managers, researchers or other personnel can take the lead in a clarification and negotiation process. The second scenario is where researchers seem to be the natural choice, but they can contact Knowledge Transfer Managers if they need help. Member States with 'professor's privilege' belong to this category.

[4] See Annex B Model Agreements.

Development and Publication of Policies and Procedures

Of Member States present in the survey, based on respondents covering universities and other Public Research Organisations:
– 63 % declare that their government has adopted policies in order to make universities and other Public Research Organisations develop and publicise policies and procedures for the management of Intellectual Property.
– 75 % of the organisations have taken certain initiatives in order to make universities and other Public Research Organisations develop and publicise policies and procedures for the management of Intellectual Property.
– 37 % are highly aware of the recommendation (EU 2008b).
– 17 % of the governments have promoted the recommendation's code of practice (EU 2008b).

Both governments and organisations seem to be acknowledged by the respondents for taking initiatives to make universities and other Public Research Organisations develop and publicise policies and procedures for the management of Intellectual Property.

On the one hand a rich variety of policies and initiatives are mentioned: The implementation of Bayh-Dole inspired legislation, the steering mechanisms between government agencies and the universities, national funding schemes for the development of professional Knowledge Transfer Offices, funding of Proof of Concept programmes, national guidelines and codes of practice, codes of conduct for collaboration with industry, model contract tool kits, public grants addressed to universities and other Public Research Organisations for developing knowledge transfer infrastructure and promoting activities at local level etc.

The umbrella organisations and national Knowledge Transfer Networks seem to have added value at three levels. The Spanish Knowledge Transfer Network, RedOTRI, has produced a technical dossier about collaborative R&D and best practices for Intellectual Property Rights management; the Finish Knowledge Transfer Network, Research and Innovation Services, produces policy documents for the network members and carries out several benchmarking exercises involving all member institutions, and the Irish University Association contributed to the discussions around the code of practice.

DG Research has produced the *Commission Recommendation on the Management of Intellectual Property in Knowledge Transfer Activities and Code of Practice for Universities and other Public Research Organisations* (EU 2008b) with key recommendations to Member States for establishing or adapting Intellectual Property / knowledge transfer policies, and a code of practice for universities and other Public Research Organisations with operational principles for setting up institutional policies and knowledge transfer systems.

In 38 % of the present Member States respondents rate the awareness of the recommendation as high, which on the one hand must be considered a medium rating. However, if interpreted in the perspective of that only 17 % of the Member State governments seem to have promoted the code of practice yet, the awareness rate can be interpreted as relatively high.

Recommendations

This section provides recommendations for the EU Commission in relation to the findings of this study.

1. The present survey presents trends and an overall estimation of the actual implementation of a new knowledge transfer policy in the Member States and is not comprehensive enough to map the implementation in detail.

– It is recommended to carry through a more comprehensive study on the implementation of operational principles for setting up institutional policies and knowledge transfer systems at universities and other Public Research Organisations to confirm or disconfirm the findings and trends of the present survey.

2. Except for Conflict of Interest policies, general rules on core activities of knowledge transfer at the universities and Public Research Organisations have a high implementation rate, even though the institutional management framework and long-term strategy does not seem to be imbedded at the same level.

- It is recommended that the Commission encourage further implementation on operational principles for setting up institutional policies and knowledge transfer systems, particularly regarding institutional management framework and long-term strategies as well as Conflict of Interest policies.

3. Information on Intellectual Property is often presented on the local institution websites. However, cross national Intellectual Property Portals and in particular Intellectual Property Pools do not seem to be prioritized by the universities and other Public Research Organisations according to their potential.

- It is recommended that the Commission support a study on existing national Intellectual Property Portals and Intellectual Property Pools for universities and other Public Research Organisations in order to develop best practice, and to encourage Member States to support the implementation of such Intellectual Property Portals. Member States should also be encouraged to support Intellectual Property Pools where research institutions do not have the scope and volume of exploitable research results to justify the establishment of a Knowledge Transfer Office.

4. Most universities and other Public Research Organisations have access to a minimum service to fulfil their legal obligations through Knowledge Transfer Offices at the institution, even though Intellectual Property-related issues in collaborative and contract research not to a sufficient degree are clarified and negotiated by the Knowledge Transfer Managers. Given the importance of the Knowledge Transfer Office, it is remarkable that only a third of the offices are reviewed.

- It is recommended that the Commission encourage universities and other Public Research Organisations to use Knowledge Transfer Managers to secure contractual responsibilities for the institution towards third parties. Universities and other Public Research Organisations should also be encouraged to review Knowledge Transfer Office processes and procedures on a regular basis to secure optimal professionalism.

1. Introduction and Methodology

Protection and exploitation of Intellectual Property at universities and other Public Research Organisations is a relatively young field of activity in most of the EU Member States.

The exploitation of research is critical to economic growth. Knowledge transfer from the research sector to the commercial sector is essential to allow society to benefit from the results of research and extract value from research.

The European Commission Knowledge Transfer Forum Expert Group is a follow-up on the CREST IP Expert groups 2004 and 2006, the *Responsible Partnering Handbook* (EU 2005a), the *Commission Communication on Knowledge Transfer Improving KT Between Research Institutions and Industry in Europe + Voluntary Guidelines* (EU 2007a), the Initiative for a Charter for the Management of Intellectual Property from Public Research Institutions and Universities [*IP Charter]* (EU 2007c), the knowledge sharing axis of *European Research Area Green Paper* (EU 2007b) and the adoption of the *Commission Recommendation on the Management of Intellectual Property in Knowledge Transfer Activities and Code of Practice for Universities and other Public Research Organisations* (EU 2008b). This recommendation / code of practice promotes the development of Intellectual Property management policies at a Member State level and principles/practices for their management by Public Research Organisations.

This report focus on universities and other Public Research Organisations in the Member States. The study is based on a survey building on primary EU and national guidelines, codes of practice and other primary knowledge transfer documents. The study will present the extent to which universities and other Public Research Organisations in the Member States have implemented new knowledge transfer policies.

The report consists of three main sections:

1) Introduction and methodology

2) Presentation of results and analysis, part 1-5

3) Annexes
   - A) Commented EU and national based documents on guidelines and code of practice,
   - B) Model Agreements
   - C) Questionnaire
   - D) Links from primary publications
   - E) Links to Member State policy documents
   - F) References

1.1 Primary Publications

In order to compile an overview of the national and European initiatives regarding guidelines and code of practice related to new knowledge transfer policies for universities

and other Public Research Organisations, relevant publications on a European and a national level were collected, studied and used as a source to form a questionnaire.

10 primary publications have been selected through searches at the European Community Research and Development Information Service (CORDIS) using knowledge transfer keywords, through references in publications and in accordance with advice from the Knowledge Transfer Forum Expert Group and DG Research. Further documents have been implemented during the survey, where respondents have been requested to add links to policy documents, guidelines and/or codes of practice that have influenced their own implementation of new knowledge transfer policies.

The 10 primary publications are categorised according to whether the publications are produced in an EU or a national context and according to chronology. All listed publications are described in more detail in Annex A and are linked to full versions:

1. European Commission, Expert Group on the Management of IPR (EU 2004a), *Management of Intellectual Property in Publicly-Funded Research Organisations: Towards European Guidelines*

2. European Commission (EU 2007b), *European Research Area Green Paper*

3. European Commission (EU 2007a), *Commission Communication on Knowledge Transfer Improving KT between Research Institutions and Industry in Europe + Voluntary Guidelines*

4. European Commission (EU 2007c), *Initiative for a Charter for the Management of Intellectual Property from Public Research Institutions and Universities* [*IP Charter]*

5. European Commission, DG Research (EU 2008b), *Commission Recommendation on the Management of Intellectual Property in Knowledge Transfer Activities and Code of Practice for Universities and other Public Research Organisations*

6. AURIL (AURIL 2001), *Partnerships for Research and Innovation between Industry and Universities*

7. Auril/UUK/Patent Office (AURIL 2002b), *Managing Intellectual Property – A Guide to Strategic Decision-Making in Universities*

8a. AURIL (AURIL 2002a), *Handbook of Intellectual Property Management*

8b. *Murgitroyd & Company* (M&C 2002)*, THEROS Intellectual Property Guidelines*

9. Irish Council for Science (ICS 2004), *National Code of Practice for Managing Intellectual Property from Publicly Funded Research*

10. Irish Council for Science (ICS 2005), *Code of Practice for Managing Intellectual Property from Collaborative Research, Technology and Innovation*

1.2 Survey

1.2.1 Structure and Content of Questionnaire

The questions in the questionnaire are formulated over the guidelines and codes of practice extracted from the above listed primary publications to gather information on how and to what extent universities and other Public Research Organisations in the Member States have implemented new knowledge transfer policies.

The questionnaire has been discussed internally in the European Commission by the Knowledge Transfer Forum Expert Group as well as DG Research. Both have contributed with useful input to the design and content of the questionnaire, and the number of questions has been reduced, 1) in order to focus on questions one would expect the respondents to be able to answer, and 2) with due respect for the fact that too long questionnaires have a tendency to not be completed.

The questionnaire consists of 26 questions and 36 sub questions and covers the following five thematic areas:

1. Internal Policy for Management of Own Intellectual Property
2. External Policy for Management of Own Intellectual Property
3. Staff and Network
4. Collaborative and Contract Research
5. Development and Publication of Policies and Procedures

The design of the questionnaire is a mixture of a quantitative and a qualitative approach:

The qualitative element is important in order to be able to collect the unprompted opinions with no predetermined set of responses, where the participants are free to answer whichever way they choose. An obvious advantage is that the variety of responses is wider and more truly reflects the opinions of the respondents. This increases the likelihood of receiving unexpected and insightful suggestions, since it is impossible to predict the full range of opinions.

Quantitative questions take the form of multiple-choice questions in this survey. Obviously, there needs to be sufficient choices to cover the range of answers fully, but not so many that the distinction between them becomes blurred. With quantitative questions, it is easy to calculate percentages and to filter out useless or extreme answers that might occur in the qualitative format.

This survey includes quantitative questions that make it possible to map the implementation of new knowledge transfer policy in diagrams. Additionally, qualitative questions have been included to make room for greater freedom of expression. There is relatively little bias due to the open-ended format and the opportunity to qualify and clarify answers.

Report data was collected during the first half of 2009. Questionnaires were sent out July/August 2009 and data collected in August and September this year.

1.2.2 Respondents and Representivity

Primary umbrella organisations of universities and other Public Research Organisations in the Member States as well as potential national Knowledge Transfer Networks have been approached. Some of the umbrella organisations have answered the questionnaire on behalf of their members, while others have either collected information from the members or distributed the questionnaire to their members and asked the institutions to complete it themselves.

Umbrella organisations have been identified through European knowledge transfer-organisations, members of the Knowledge Transfer Forum Expert Group and DG Research. The questionnaire was sent out electronically by email directly to the contact persons or organisations.

The questionnaire has been sent out to 80-100 organisations and through knowledge transfer capacities in the individual Member States. Respondents are distributed across 16 umbrella organisations and eight universities and other Public Research Organisations and located in the following 16 Member States: Austria, Denmark, the Czech Republic, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Lithuania, the Netherlands, Slovenia, Spain, Sweden and the United Kingdom. 16 out of 27 Member States correspond to a representation of 59 %.[5]

According to research by *ERAWATCH* (EU 2008c), the 27 Member States have an estimated 864 public universities and 1,850 other tertiary education institutions such as technical colleges. Research activities are concentrated in less than 500 of these institutes, most of which are public universities. The 2006 Proton Europe's annual survey on knowledge transfer activities included 325 institutions in four countries and ASTP's included 140 institutions in 22 countries. The present survey is based on input from respondents that cover 537 universities and other Public Research Organisations[6] distributed across 16 Member States.

To obtain validity, the number of covered universities and other Public Research Organisations is important, but even more important for the analysis is the fact that the Member States present not only represent the elite, but also broadly cover a sampling group of the EU27. The group of Member States represented through the respondents to this survey has been compared to three different recent segmentations according to 1) knowledge transfer metrics, 2) number of researchers and 3) innovation performance. The result is that the present survey is based on a sampling group that to a relatively high degree represents the diversity of EU27:

1) In the expert report *Metrics for Knowledge Transfer from Public Research Organisations in Europe* (EU 2009b), table 6.1 presents the number of Member States where knowledge transfer data were available for the fiscal year 2006: Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Latvia, the Netherlands,

[5] Respondents from more Member States have announced that they will join the survey, but were not able to supply the data in due time for the report. The background material for this report will be updated as data is received. One respondent have only respondet to very few questions. The questions not answered are categorised under the category "No answer".

[6] Large Public Research Organisations, regardless of their number of research institutes, count as one Public Research Organisation.

Portugal, Slovenia, Spain, Sweden and the United Kingdom.

The present survey includes more than 75 % of all Member States where knowledge transfer data were available in 2006. Furthermore, it includes three of the remaining Member States, where knowledge transfer data were not available in 2006.

In the Metrics report, table A4.1 on 'Universities – raw country level results, 2006' (EU 2009b) presents data from the following Member States: Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal, Spain, Sweden and the United Kingdom.

If the results are categorised as: 'high performance', 'medium performance' and 'low performance', according to licences executed and to licence income earned, the present survey has several Member States represented in each of the three categories.

2) In the report *A more research-intensive and integrated European Research Area* (EU 2008a), table I.2.1 presents the total number of researchers (FTE) per thousand people in the labour force, 2000 – 2006 in all 27 Member States.

If the results from 2006 are categorised as 'high percentage', 'medium percentage' and 'low percentage', this survey matches more than 75 % of the Member States in the two first categories, and more than 10 % in the last.

3) In the *European Innovation Scoreboard 2008* (EU 2009c), 'Figure 2, a summary innovation index' lists Member States according to the following categories: 'Innovation leaders', 'Innovation followers', 'moderate innovators' and 'catching up countries'. Furthermore, 'Table 2, Innovation Growth Leaders' lists Member States according to the following categories: 'growth leaders', 'moderate growers' and 'slow growers'.

The present survey covers several Member States in each category of both figure 2 and table 2.

1.3 Analysis

1.3.1 The Relation between Respondents and Member States

The distribution of universities and other Public Research Organisations per Member State is relatively wide covering from less than 10 to more than 100. Since knowledge transfer policies develop in collaboration between Member State level and institutional level, they are assumed to be relatively homogeneous within the individual Member States. Percentages presented in the survey analysis are therefore calculated on the basis of Member States, where respondents have completed the questionnaire (16 = 100 %). No differentiation has been made between the amount of covered organisations/institutions, unless there has been a significant difference between answers from other Public Research Organisations than universities.

1.3.2 Source of Errors

A few umbrella organisations that did not have information at hand on members' knowledge transfer policy distributed the questionnaire and asked institutions to send in

material on their own. It was not anticipated and it produced a potential source of error, since the questionnaires were directed at umbrella organisations and not individual universities and other Public Research Institutions. As a result, responses from individual units have been carefully examined to avoid possible misunderstandings of the questions.

A non-response analysis can help to reveal if there is a certain pattern in the group of respondents that did not answer the questionnaire. This survey though, does not encompass a non-response analysis because the known reasons for not participating are manifold: The organisation

a) did not receive the questionnaire because umbrella organisations could not be identified.

b) did not answer the questionnaire because the needed background knowledge was not at hand at the organisation and there was not enough time to collect information from member institutions.

c) did answer the questionnaire, but did not manage to do it in time.

d) did not respond to the invitation to take part in the survey.

No umbrella organisations for universities and other Public Research Organisations that cover knowledge transfer have refused to participate in the survey, but in several Member States, it has not been possible to identify umbrella organisations for universities and other Public Research Organisations covering knowledge transfer. The limitation therefore seems to lie in the survey model. When approaching umbrella organisations, it is possible to obtain a high volume of covered universities and other Public Research Organisations from Member States where umbrella organisations with a knowledge transfer focus exist. But, since some Member States do not have umbrella organisations for universities and other Public Research Organisations or do not have umbrella organisations for universities and other Public Research Organisations with insight into knowledge transfer policy at institutional level or the resources to collect the information, it is difficult to obtain a full or even distribution of covered universities and other Public Research Organisations; some data may also have relative validity.

Umbrella organisations have done their very best to support this survey. They have done it on a voluntary basis, at relatively short notice and on behalf of a vast amount of universities and other Public Research Organisations. For these reasons, it would not be feasible to demand that these organisations should produce documentation for compiled answers. To secure the highest possible validity, questions posed and multiple choice answer categories have been selected to appear as simple, clear, unambiguous and non-leading as possible. However, in a few instances, due to misunderstandings, extreme or misleading answers have been erased.

1.3.3 Level of Analysis

Based on the representation of Member States, the number of covered universities and other Public Research Organisations as well as the coverage of different segmentations, the present survey will be able to present trends and an overall estimation of the actual implementation of new knowledge transfer policy in the Member States. Due to the uncertainty related to the number of present Member States, the number of respondents

and the validity of the aggregated answers, this survey is though not comprehensive enough to map the implementation in detail.

The analysis will therefore focus on the degree to which a certain percentage of Member States has implemented certain policies. Specific Member States will in general only be mentioned in relation to certain best practices that can be highlighted for inspirational purposes.

2. Analysis

2.1 Analysis Part 1, Internal Policy for Management of Own Intellectual Property

The first part focuses on Intellectual Property management and knowledge transfer policy within the institution.

2.1.1 Strategy and Mission

Public Research Organisations' mission statements focus not only on teaching and research, but also on components that strengthen knowledge transfer for the benefit of society. The Knowledge Transfer Office is often the focus point for this, facilitating the transfer of publicly funded discoveries into new products and services for public use and benefit.

One of the general pieces of advice in guidelines and codes of practice is that an Intellectual Property management strategy for universities and other Public Research Organisations should have a written policy on knowledge transfer and commercialisation of research that relates to and supports the overall mission of the institution. Such an approach could support a long-term strategy as well as include details on the actual implementation in the form of activities.

One of the first EU based texts on the matter, *Management of Intellectual Property in Publicly-Funded Research Organisations: Towards European Guidelines* (EU 2004a) states that "the corresponding policy should be to protect inventions and diligently develop inventions only when this would not be expected to occur by simply putting the results in the public domain. If we define innovation as the process that converts discoveries from research into the development of new products, the mission of the Knowledge Transfer Offices is to help Public Research Organisations to take a pro-active role in the innovation process."

Q: To what degree do universities and other Public Research Organisations that are part of your organisation have a long-term knowledge transfer and Intellectual Property management strategy and mission? **(Figure A)**
– Where was it debated?
– Which organisations or people contributed to developing it?
– What examples/models are used from which Member State?

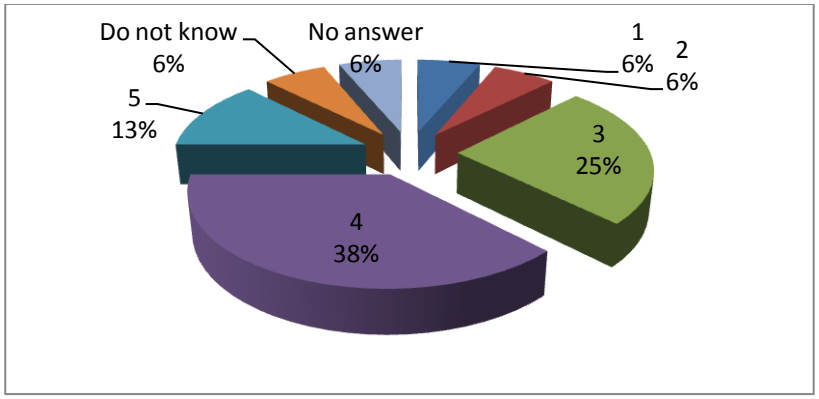

Figure A (1 is the lowest and 5 is the highest degree)

In around 50 % of the present Member States respondents gave explicit high scores, and 76 % rated the degree as medium to high, meaning that universities and other Public Research Organisations to a relatively substantial degree have implemented a long-term knowledge transfer and Intellectual Property management strategy and mission.

Some of the Member States with a longer knowledge transfer experience have a set of national codes of practice, backed up by knowledge transfer strategies at each institution, while others in the voice of a respondent: “organise yearly events where researchers and managers [Knowledge Transfer Managers] can meet and as a result develop mechanisms at national and institutional levels”.

The debate on long-term knowledge transfer and Intellectual Property management strategy and mission seems to have been involving a long range of knowledge transfer players. Naturally, universities and other Public Research Organisations are mentioned in most of the responses, since they decide on overall institutional strategy processes (board members, senior staff etc.). Besides that, the debate involves knowledge transfer players such as national Knowledge Transfer Networks, relevant ministries, regional authorities, local business development organisations, patent offices etc. National expert groups functioning as influential professional government advisory groups were also mentioned as contributors to the debate.

Q: To what degree have the universities and other Public Research Organisations that are part of your organisation developed a policy in line with their overall mission and strategy regarding identification, possible exploitation and protection of Intellectual Property? **(Figure B)**

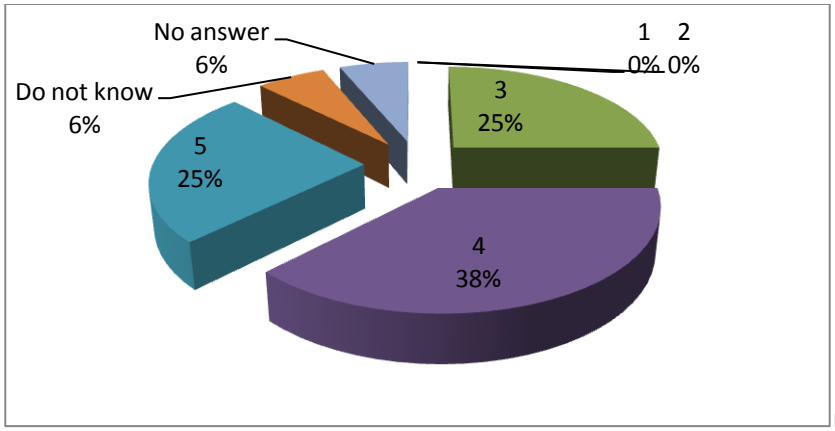

Figure B (1 is the lowest and 5 is the highest degree)

Where the long-term knowledge transfer and Intellectual Property management strategy

and mission in general scored high, it was to be expected that the question on the degree to which the policy was in line with their overall mission and strategy regarding identification, possible exploitation and protection of Intellectual Property would follow the same pattern.

In 63 % of the present Member States respondents give the universities and other Public Research Organisations a high rating on policy implementation (regarding identification, possible exploitation and protection of Intellectual Property) in line with their overall mission and strategy, and more than 88 % rate it as medium and higher, it is clear that the great majority of the institutions in general seems to have their overall knowledge transfer policy in place, related to institution mission and strategy.

For Member States such as Germany, Italy and Sweden it should be noted that the knowledge transfer landscape differs from that of the other Member States: Germany differs because each of the 'länder' has a Ministry of Research & Education and therefore the Member State has more heterogenic conditions nationwise, while Italy and Sweden still have 'professor's privilege' (as opposed to institutional ownership) and researchers therefore do not have to disclose their findings to local Knowledge Transfer Offices, but act in more heterogeneous and more complex landscapes of knowledge transfer players.

Denmark, France, Germany, Sweden, Switzerland and the United States are mentioned as being inspirational models on general knowledge transfer policy.

2.1.2 Disclosure

A policy on disclosure of new ideas with commercial interest should provide clear rules for researchers and students.

Many universities and other Public Research Organisations have a formal procedure for the disclosure of new ideas/discoveries with commercial potential by researchers to the Knowledge Transfer Offices. In most Member States, it is mandatory for the researchers at universities and other Public Research Organisations to disclose patentable inventions to their university.

To facilitate this activity, there are easily accessible standard invention disclosure forms. These forms are available through several of the listed guidelines / codes of practice, e.g. *Auril Handbook of Intellectual Property Management* (AURIL 2000a). To make this process work as swiftly as possible, the *Commission Communication on Knowledge Transfer Improving Knowledge Transfer between Research Institutions and Industry in Europe* (EU 2007a) suggests that a clear system of information exchange be used to prevent unnecessary disturbance of the research activity.

Q: Are there general rules at the universities and other Public Research Organisations that are part of your organisation concerning disclosure of new ideas of commercial interest? **(Figure C)** – What are the general rules?

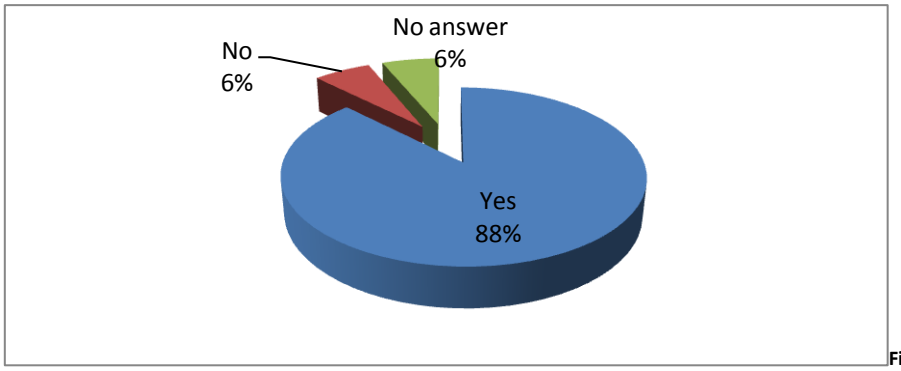

Figure C

In 88 % of the present Member States universities and other Public Research Organisations seem to have general rules concerning disclosure of new ideas of commercial interest.

Rules are set out in national codes of practice, Higher Education Acts as well as statutes of universities and other Public Research Organisations or the like. In some Member States, national rules are optional and the individual institutional development plan contains the specific rules concerning disclosure.

The general rule seems to be that researchers are obliged to disclose inventions with commercial potential to the Knowledge Transfer Office prior to publication. The Knowledge Transfer Office then has to decide whether they want to pursue the idea or not. Some name it a GO or NO GO policy, and others call it an INVEST or DIVEST policy. The general rule seems to be that if the university or other public research organisation decides for DIVEST/NO GO, then the initiative is given back to the inventor for him or herself to decide whether they want to exploit the idea independently of the institution.

Q: Are the general rules on disclosure of new ideas of commercial interest [Figure C] mandatory or optional to follow? **(Figure D)**

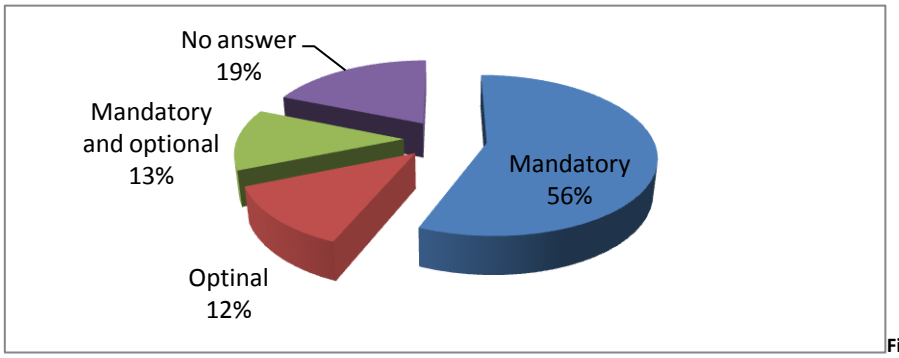

Figure D

In at least 56 % of the present Member States respondents (i.e. 69 % of the 81 % of the present Member States where respondents answer that they do have general rules) state that it is more or less mandatory to follow these rules and in some cases, funding agencies have made them binding obligations in the grant terms and conditions.

The respondents' description of the general rules can be categorised as these topics: 1) agreements, 2) contracts, 3) patents and 4) software. Member States with 'professor's privilege' influence the relation between 'mandatory' and 'optional', since the inventor does

not have to disclose findings to a Knowledge Transfer Office at the university and other Public Research Organisations.

2.1.3 Ownership of Research Results

Q: Are there general rules at the universities and other Public Research Organisations that are part of your organisation concerning ownership of research results? **(Figure E)**
– What are the general rules?
– Are these generally similar or do individual organisations differ markedly in their policies?

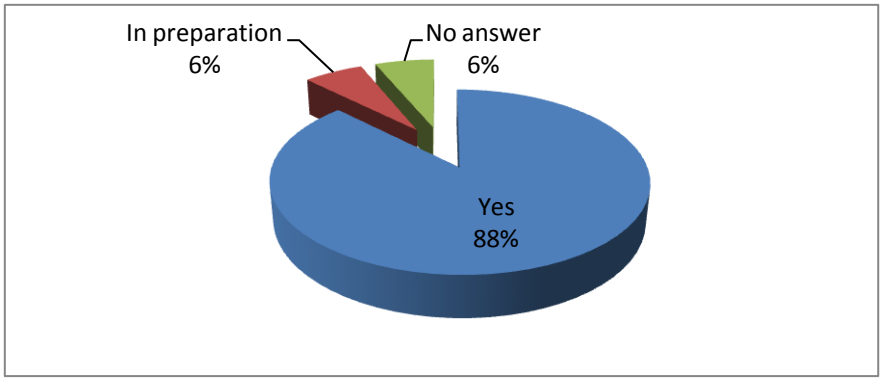

Figure E

A policy on the ownership of research results should provide clear rules for staff and students. The great majority of the Member States have general rules stating that ownership belongs to the university and other Public Research Organisations, here in the words of a respondent: “Intellectual Property arising from publicly funded research shall be owned by the Public Research Organisation.”

Even if the invention is owned by the university or other public research institution, several respondents point to the fact that the researchers have a right to appear as inventors. In one case, the university and other Public Research Organisations and the researchers even share the ownership of the research results.

The institutions waive their rights if they do not see a commercial potential in the inventor's idea. In Denmark, the Knowledge Transfer Office has two months to find out whether the institution wants to invest in the invention or waive the right and give it back to the inventor. A respondent formulated it this way: “Results of publicly founded research belong to the institution unless the institution waives its [right].”

Ownership is influenced by ‘professor’s privilege’, but in one of the two Member States where this is relevant, it is stressed that even if national law is applied, most university researchers give ownership to universities.

All but one of the present Member States seem to have general rules on ownership, while one is in the process of implementing this. Ownership of research results therefore seems to be dealt with in more or less the same way across most of the present Member States.

2.1.4 Publication and Dissemination

Universities and other Public Research Organisations could benefit from reserving the

right to publish, because they are expected and often obliged to publish the results of research projects.

Q: Are there general rules at the universities and other Public Research Organisations that are part of your organisation concerning publication and dissemination policy? **(Figure F)**
– What are the general rules?
– How many have 'Open access' policies in place?
– At what level is it decided which publications are to be put into the public arena?

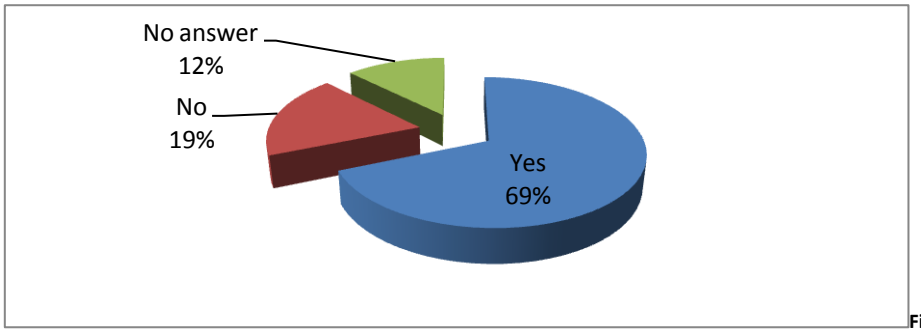

Figure F

In 69 % of the present Member States there seems to be general rules at universities and other Public Research Organisations on publication and dissemination policy. Among the respondents, there is a clear commitment towards the publication of new ideas and scientific findings, "Dissemination of knowledge is the highest priority for us," as one respondent formulates it. Several respondents, however, emphasise that results must be protected before publication and that publication can be postponed in case of sensible Intellectual Property Rights. This can be quite extensive, for as one respondent exemplifies: "When there is a legitimate interest of the particular student or researcher (this could also be an economic interest) the application of the theses can be suspended for no longer than five years "

In the survey material, two differences appear as regards publication and dissemination policy: One point made by one of the Public Research Organisations other than university is that neither contract reports nor technical reports are disseminated to the public at large, only technical publications, indicating that this category is not as common as it is for universities. Another point is that although there seems to be consensus regarding the formulation of general rules, it is not the same as to say that these rules decide how the game is to be played. A respondent states that it is becoming increasingly difficult to make the researchers hold back the publications until the protection is secured, and adds: "Now it is publish or perish."

Open access is not only a global trend in the world outside the universities and other Public Research Organisations, but seems to be turning ever more popular inside institutions working for open access to research data and publications. This is to ensure both that researchers can exchange information freely and that citizens have easy access to knowledge produced at universities and other Public Research Organisations. Open access extends the need for necessary policies and efficient mechanisms to identify inventions with commercial potential, so that inventors can publish immediately or protect their work before publication.

For some respondents, the open access discussions have just begun, while others are in the process of implementing open access policies and yet others experience open

access as a requirement for certain funding programmes. Nevertheless, even if open access is appreciated generally, it is emphasised that "academic journals are considered very important because that's how the academic community works."

One of the questions asked was who decides whether publications are to be put into the public arena. For some respondents there does not seem to be any restrictions in this respect, and several respondents name individual researchers as the authority who should decide. Others mention that people at stakeholder and institutional level have to be consulted, which is natural as soon as a third party is involved. At the other end of the scale, we find Public Research Organisations other than universities where each publication is reviewed by management (advised by referees) to determine whether it contributes to the institution's mission and goals and the interests of the sector.

2.1.5 Conflict of Interest

The Commission Communication on Knowledge Transfer Improving KT between Research Institutions and Industry in Europe (EU 2007a) states that "research institutions should publish a clear conflict of interest policy for staff engaged in situations that could lead to their obligations to the research institution being influenced, in order to ensure that the research institution's scientific objectiveness and academic independence are not affected, and that the research institution does not engage in activities which conflict with its basic missions and values."

Two main points are made: On the one hand, it should be mandatory for the researchers to notify their Head of Department as well as the Knowledge Transfer Office when they are going to be engaged in projects or activities that could lead to a conflict of interest in the dilemma between their considerations of personal gain and their obligations to the research institution. On the other hand, it would be appropriate if the department/institution helped the researchers to be able to recognise a conflict of interest. In that way, conflicts of interests can be avoided or at least managed and resolved where they occur and hopefully at an early stage (EU 2007a).

Q: To what degree have the universities and other Public Research Organisations that are part of your organisation developed a policy on how to manage conflicts of interest between university/public research organisation, department and inventors/research staff? **(Figure G)**

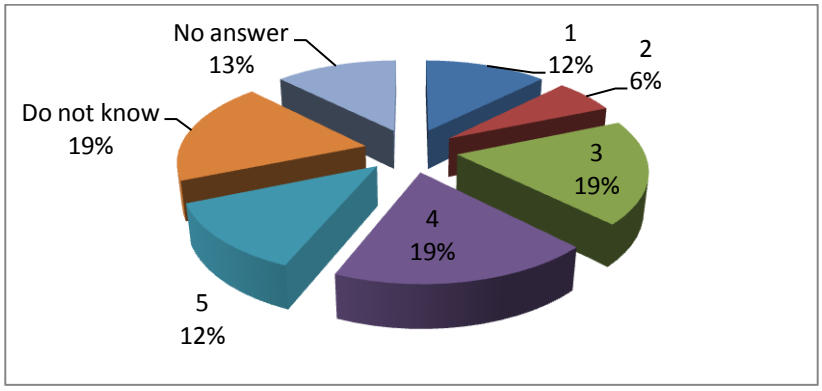

Figure G (1 is the lowest and 5 is the highest degree).

In only 31 % of the present Member States respondents feel that universities and other Public Research Organisations to a high degree have implemented a knowledge transfer

policy regarding Conflict of Interest, while in 18 % of the present Member States the respondents feel that universities and other Public Research Organisations to a low degree have implemented a knowledge transfer policy regarding Conflict of Interest.

The result is rather striking since the research institutions' scientific objectiveness and academic independence are at stake, as well as the general reputation of the institutions.

In Denmark, some universities and other Public Research Organisations have a written policy of Conflict of Interest. In an attempt to inspire those that do not have, examples on Conflict of Interest policies from international and national universities and other Public Research Organisations, are displayed at the homepage of the national technology transfer network for inspiration.

2.1.6 Incentives and Split of Returns

Management of Intellectual Property in Publicly-Funded Research Organisations: Towards European Guidelines (EU 2004a) as well as the *Commission Communication on Knowledge Transfer Improving Knowledge Transfer between Research Institutions and Industry in Europe* (EU 2007a) state that it is important that appropriate incentives are put into place for the scientists to reward the additional effort they may be required to make in addition to their teaching and research duties. It is also vital that their academic reputations are enhanced by traditional publishing activities.

Q: Are there incentives at the universities and other Public Research Organisations that are part of your organisation for commercialising Intellectual Property? **(Figure H)**
– What are the incentives?
– For institutions/institutes/inventors?
– Are they fairly similar or are there differences across different types of universities or different regions?

Q: How were a) the licensing policies, b) the split of returns from knowledge transfer revenues between institution, department and inventor developed by universities and other Public Research Organisations that are part of your organisation?

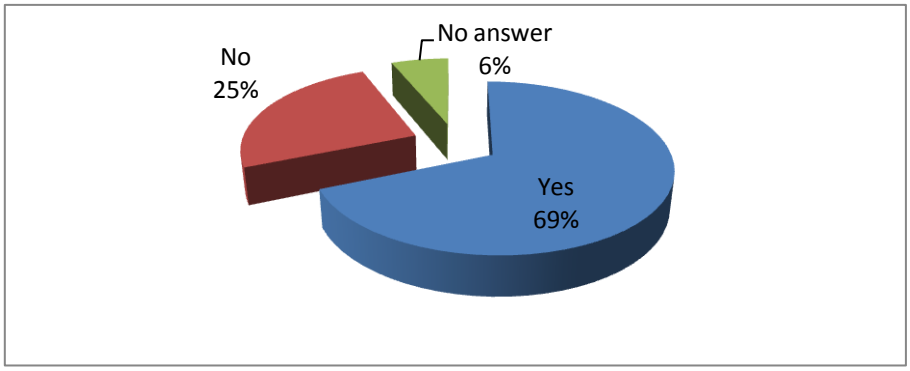

Figure H

In almost 70 % of the present Member States there sems to be incentives at the universities and other Public Research Organisations for commercialising Intellectual Property.

On the one hand, universities and other Public Research Organisations receive funding through funding schemes for development and operation of knowledge transfer by refund of university patenting costs, public grants for invention disclosures or for collaboration

projects. This funding is explicitly knowledge transfer related and used in the commercialisation process. On the other hand, both departments and institutions often receive a part of the revenue. The reason for this is to be found in universities as complex and richly faceted units. Since only some areas at an institute/department at a university and other Public Research Organisations are successful in exploiting Intellectual Property, the *Managing Intellectual Property – A Guide to Strategic Decision Making in Universities* (AURIL 2002b) states the importance of distributing income within the institution to avoid fragmentation.

Many universities and other Public Research Organisations have adopted a formula-based approach to the allocation of financial returns from licensing revenues, e.g. 50-25-25 or 33-33-33 for the inventor, department and institution, respectively – or a guaranty of a minimum of the net income ranging from 20 to 23 %.[7] In more than 60 % of the present Member States respondents mention revenue sharing in one way or another, but with a variation in benefit sharing schemes.

For inventors in Finland, patents etc. may be taken into account when salary levels are determined, and in Slovenia, there is even a small reimbursement at invention disclosure as well as additional valuation points at the academic habilitation process.

The Knowledge Transfer Offices are not mentioned when it comes to economic incentives, neither as a department nor concerning individual Knowledge Transfer Managers, but as one of the respondents comments, the Knowledge Transfer Offices have "moral incentives"…

When asked if the development of split returns on knowledge transfer revenues was debated at the level of organisation, practitioner or government, there was an overwhelming unity in the perception that the organisations were the main drivers.[8] In only 12 % of the present Member States respondents mentioned practitioners as taking part in the debate, and in only 19 % government participation is mentioned.

2.2 Analysis Part 2, External Policy for Management of Own Intellectual Property

This part focuses on knowledge transfer policy and Intellectual Property management by focusing more specifically on the active transfer and exploitation.

2.2.1 Engagement with Third Parties

While universities and other Public Research Organisations are obliged to protect and to exploit their own Intellectual Property, it can be helpful to face that third party also have a

[7] Concerning spin offs, the researchers involved often receive a share of the equity. First of all to acknowledge that they have to spend a considerable amount of time on the spin off in the start up phase, and second to ensure that the researchers keep a continuing interest in supporting the development of the spin off.

[8] Although the question is relatively clear, there may be respondents marking 'organisations' while meaning individual institutions. There has, however, only been one clear example of this misunderstanding.

legitimate interest in Intellectual Property Rights and expedient to find a proper balance. This course of action seems to be pursued by the majority of the respondents.

Q: Are there general rules at the universities and other Public Research Organisations that are part of your organisation concerning engagement with third parties? **(Figure I)**
– What are the general rules?
– Is national guidance in place?
– Is engagement an expectation of academic staff?

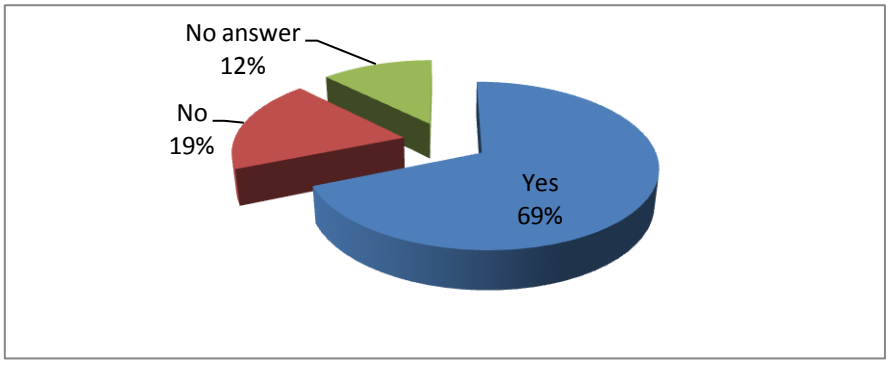

Figure I

Respondents from 69 % of the present Member States claimed that there are general rules concerning engagement with third parties.[9]

The general rules are described in relation to laws and regulations concerning the position of the university or other Public Research Organisations as publicly funded institutions, which is why state aid rules are rated high. However, Non-Disclosure Agreements and national Model Agreements are also mentioned.

Several of the respondents regard general rules in the perspective of the relationship between financing and ownership of Intellectual Property. The standard comment here is that researchers' results belong to third parties when they cover the whole cost of the project, if not, ownership is shared.

When respondents comment on code of conduct, they refer to three different levels of guidelines: The most general is Customer Relation Management the more specific on a general level is the code of conduct agreements, e.g. *Contacts, Contracts and Codices* (DI 2004) in Denmark, a code of conduct agreed upon by the Danish Rector's Conference and the industry organisation DI. Finally, the national Model Agreements such as the Lambert Agreements are very specific.

In around 50 % of the present Member States respondents think that national guidance is in place, but Germany, for instance, has numerous regulations at 'länder' level even though national 'Musterverinbarungen' are in place, which makes national guidance difficult.[10]

Regarding the engagement of the academic staff, several respondents hold that researchers are urged to support engagements with third parties, but that it is not explicitly a part of the employment terms and conditions. One respondent states that it is "desirable,

[9] One respondent answers that there were general rules, but that they are not codified. This answer was interpreted as a "yes".
[10] See Annex E.

but not an expectation […] but can be alluded to in the promotion policies of the individual public research organisation."

2.2.2 Intellectual Property Portals

For Intellectual Property to be accessible, it needs to be attainable. Internet portals seem to provide a new and easy accessible platform for presenting information on local or national Intellectual Property portfolios to potential licensees and buyers.

Q: To what degree have universities and other Public Research Organisations that are part of your organisation made Intellectual Property easily accessible, for example on the internet? **(Figure J)**
– Are there local portals (at the institutions), regional portals or a central portal for all the universities?
– Do universities and other Public Research Organisations that are part of your organisation use cross-national non-profit portals?
– Do universities and other Public Research Organisations that are part of your organisation use cross-national commercial portals?

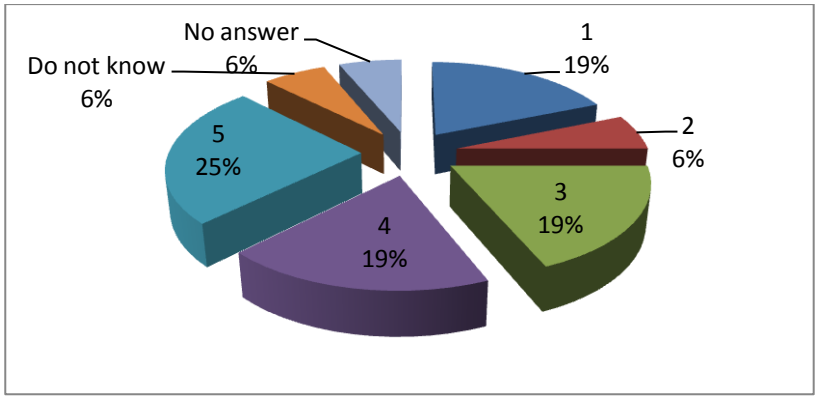

Figure J (1 is the lowest and 5 is the highest degree)

There is no tendency in the responses that indicates that the use of the internet, as a way to present information on Intellectual Property, is only applied at a moderate level.

Most of the institutions seem to have local portals in relation to their university webpage. In only 44 % of the present Member States respondents rate the implementation of such activities high. One should therefore expect a relatively low output regarding access to national portals. However, apparently there are national portals in a number of Member States: In Germany, Technologie Allianz www.technologieallianz.de facilitates database access to Intellectual Property generated at universities and other Public Research Organisations in Germany. The Irish Expertise Ireland www.expertiseireland.com links to experts, funding sources and Intellectual Property from universities and other Public Research Organisations in Ireland. The French France Transfert Technologies www.f2t.fr gives access to Intellectual Property from universities and other Public Research Organisations in France. In Denmark, the Danish patent exchange www.patentexchange.dk presents the national Intellectual Property portfolio from the universities and other Public Research Organisations.

Broader setups beyond universities and other Public Research Organisations are developed by the national Patent and Trademark Offices, e.g. in Slovenia, Spain and Denmark. EU initiatives such as the Enterprise Europe Network, previously known as

Innovation Relay Centres are also mentioned.[11]

One interpretation of the rather moderate rating could be that it is due to the fact that the universities and other Public Research Organisations do not prioritise being present at national or other platforms than the one offered by their own institution, even though they have the possibility of doing so.

2.2.3 Intellectual Property Pools

Small and medium sized universities and Public Research Organisations often have a limited Intellectual Property portfolio. Some of them collaborate on setting up so-called Intellectual Property Pools including Intellectual Property from more than one research organisation.

An Intellectual Property Pool can help create a critical mass of Intellectual Property, which is necessary for an innovative idea to become attractive to the private sector. It is a way to attract attention to the universities and other Public Research Organisations involved.

Creating an Intellectual Property Pool around an innovative idea or a technological area can, on the one hand, offer the research party an advantage in the negotiation phase and, on the other hand, offer the interested party a better overview.

Besides creating better links between industry and universities and other Public Research Organisations involved, it can also lead to the creation of stronger relationships between Knowledge Transfer Offices and provide a basis for further inter-institutional collaboration.

Q: To what degree have the universities and other Public Research Organisations that are part of your organisation set up Intellectual Property Pools in the sense that various universities under the umbrella organisation cross-license their intellectual assets or otherwise throw the results of collaborative research in a joint pool? **(Figure K)**
– For what purpose have these pools been established?
1) For profit oriented purposes?
2) To enable access by creating a strong patent portfolio with the purpose of granting non-exclusive licenses?
3) Other considerations?

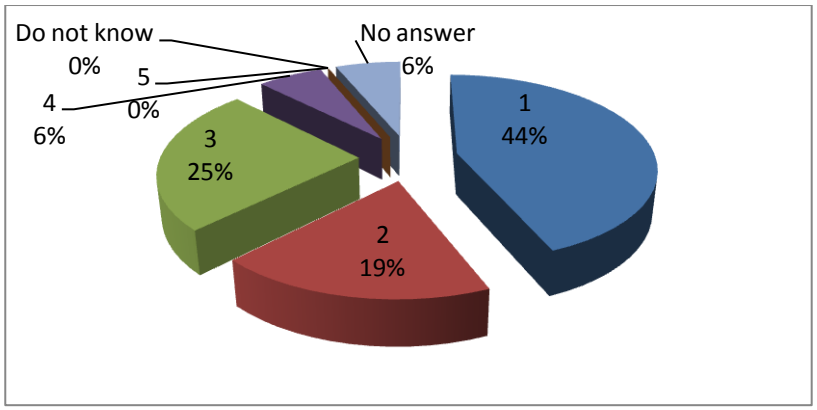

Figure K (1 is the lowest and 5 is the highest degree).

[11] The answer is broader than the question asked, because it includes international initiatives. The answer is, however, relevant although it is impossible to say to what degree the other respondents are aware of and use platforms like the one mentioned.

There is a clear indication that respondents do not value Intellectual Property Pools as a useful tool for making an innovative idea attractive to the private sector. Almost in half of the present Member States respondents rate the implementation of the Intellectual Property Pools as low as possible, and only in 6 % of the present Member States respondents give a score higher than medium. Looking at the reasons for not having established Intellectual Property Pools, most respondents point out that they have not (yet) established any Intellectual Property Pools, some would rather work on a case to case basis in collaborative research agreements and finally some set up national Intellectual Property Portals instead.

Only a few respondents comment on experience with the use of Intellectual Property Pools, mainly leaving the impression of the lack of success in doing so. When asked to point out the purpose of establishing pools, profit is the main motive in 26 % of the presented Member States followed by "the wish to strengthen the Intellectual Property portfolio with the purpose of granting non-exclusive license" with 12 %. When respondents point out a motivation factor on their own, they mention network creation and the wish to obtain critical mass.

Even though the interest in the field is rather low and success stories are rather hard to find, the networking opportunity and the obtaining of critical mass are fully in line with the potential of the Intellectual Property Pools, and support the idea of joining efforts where universities and other Public Research Organisations do not have the scope and volume of exploitable research results to justify the establishment of a Knowledge Transfer Office. These research institutions will probably not get the same attention joining an Intellectual Property Portal.

2.2.4 Spin-Offs

Universities and other Public Research Organisations may benefit from a policy for the creation of spin-offs, allowing and encouraging the public research organisation's staff to engage in the creation of spin-offs where appropriate, and clarifying long-term relations between spin-offs and the public research organisation.

Q: Do the universities and other Public Research Organisations that are part of your organisation have a policy for the creation of spin-offs? **(Figure L)**
– If yes, does it allow the staff to engage in the creation of spin-offs?
– If yes, does it clarify long-term relations between spin-offs and the institution?

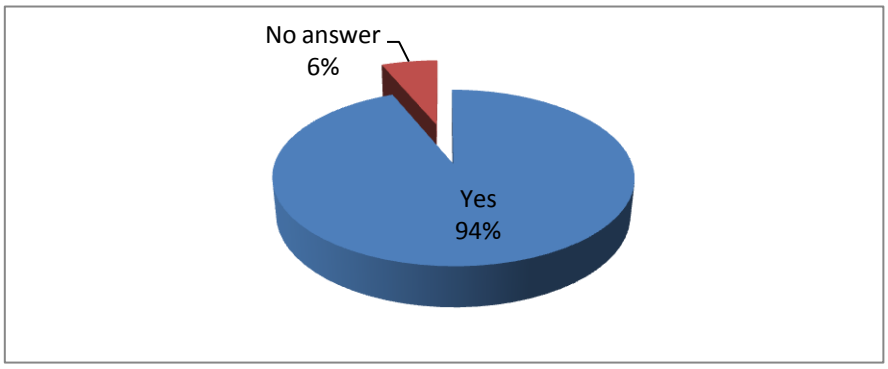

Figure L

In at least 94 % of the present Member States respondents have a policy on the creation of spin-offs, although some respondents reply that the policy may vary in explicitness. A classic setup corresponding to more respondents is that the spin-off policy is a part of the Intellectual Property policy. A spin-off is created and a researcher move over from the university and other Public Research Organisations. The spin-off is formed around the commercialisation of the Intellectual Property. Typically, the institution only takes a relatively small percentage of the equity and is therefore 'diluted' fairly early in the spin-off's development phase. The universities and other Public Research Organisations normally do not intend to run the spin-off, but rather to provide a framework in which they can develop.

Different actions are taken to promote the foundation of spin-offs. Austria's Universities of Applied Sciences are involved in so-called A+B start-up centres (e.g. tech2B in Upper Austria) developed by the Austrian Research Promotion Agency (FFG). In Denmark, universities have been allowed to organise technology transfer activities in the form of subsidiary companies since 2005. One of those is Science Ventures Denmark, established by the University of Southern Denmark. As the first commercial company founded by a Danish university, it invests in young companies with the aim of helping inventions from universities and other Public Research Organisations mature to a level where they can either be sold to established industries, or form the basis for companies' own business areas.

In Lithuania, some universities have science parks and business incubators, but in 2009, the universities and other Public Research Organisations have initiated an impressive project in creating five science valleys.

On the question regarding whether staff is allowed to engage in the creation of spin-offs, the respondents seem to agree that researchers can engage themselves in the creation of the spin-off. However, several respondents point out that because of conflicts of interest, researchers and professors will have to resign or go on leave while working for the spin-off. Even so, that does not necessarily end the conflict of interest, because an institution appointed director and former professor would be in a dilemma between the interests of the shareholders and the university.

As regards long-term relations between spin-offs and the institution, the formal rules seem to define the relations, but the sale of shares etc. is often up to the universities and other Public Research Organisations. A Public Research Organisation other than university presents an example of such an individual exit strategy, where spin-offs, based on what is considered non core technologies to the research institution, have to be diverted within five years.

2.2.5 To Promote and to Monitor

Q: Do universities and other Public Research Organisations that are part of your organisation monitor Intellectual Property protection and knowledge transfer activities and promote them? **(Figure M)**
– If yes, how do they promote them?
– Has there been any national level evaluation?
– Are there any national level marketing and promotion tools?

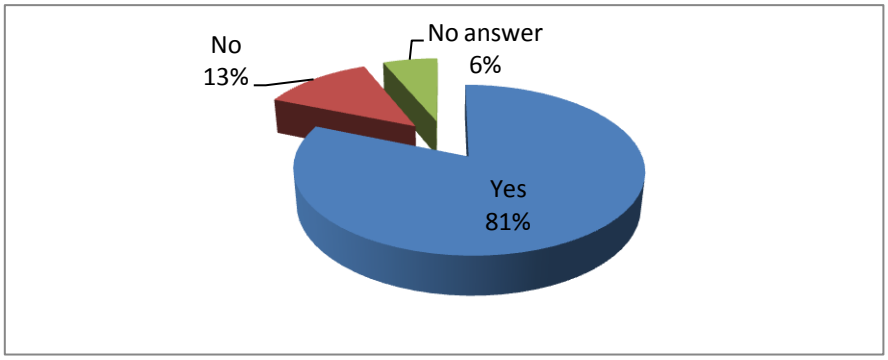

Figure M

In 81 % of the present Member States respondents monitor Intellectual Property protection and knowledge transfer activities and promote them.

The respondents describe three levels of promotional efforts:

1) The first level is internal campaigns at the university and other Public Research Organisations, formulated with the target of encouraging researchers to get involved in knowledge transfer. Respondents not only refer to poster campaigns, but also add training programmes and career progression as parts of the campaign. And just as career progression is now becoming an argument for making the individual researcher engage in knowledge transfer, commercialisation events seem to become more visible and broadly accepted at the individual institutions. One respondent emphasises that companies are now invited to awareness events at the research institution.

2) The second level is external campaigns and outreach: a) Events for social interaction cover conferences, conventions, marketplaces etc. where people meet face to face; b) distribution of PR material for knowledge transfer in the form of books, 'portfolio wrap-ups', calendars etc. and c) a virtual package related to the internet, covering direct mail campaigns, technology offers at institution websites, national websites or national virtual patent exchanges etc.[12]

3) The third level is quite different. Universities and other Public Research Organisations produce data for either governmental evaluation programmes or national/international surveys in order to benchmark themselves. The surveys are run by government agencies, national Knowledge Transfer Networks or international Knowledge Transfer Organisations.

Monitoring, evaluating and promoting the activities can strengthen the effectiveness of the management of knowledge transfer activities in order to promote their exploitation. Performance indicators can be a convincing argument because they document that universities and other Public Research Organisations are able to manage Intellectual Property effectively. If not, the indicators can also be helpful in identifying problems as well as opportunities not taken. Finally, the indicators can be a way to rethink budgets as well as strategies and measure whether the actual activities seem to be in line with more general policies.

More Member States are joining national and European surveys. Data on knowledge

[12] Examples on national Intellectual Property portals in 2.2.2.

transfer is available for 13 individual Member States[13], and Proton Europe and ASTP, the two large European Knowledge Transfer Organisations, collect data from more than 20 Member States. Although umbrella organisations to a large degree do not know what surveys their member institutions join, cf. question 14, the tendency is that more Knowledge Transfer Offices report data to national and European surveys. This trend is supported along two different strings. On the one hand, several Member States are beginning to attach funding requirements to survey participation, so that in the future, universities and other Public Research Organisations to a higher degree than now will be obliged to report performance data to national or international knowledge transfer surveys. On the other hand, the Commission Expert Group on KT Metrics has recommended a European survey model to harmonise European surveys.

The strategy of the Expert Group on KT Metrics was to identify some core indicators, and agree on a harmonised set of definitions and formulated questions. The purpose was to improve the possibility for individual universities and other Public Research Organisations and Member States to monitor and compare their achievements in this field against themselves and each other on a shared basis, in order to identify trends and to support work on improvements if needed. The Expert Group on KT Metrics has come up with seven core performance indicators and six supplementary indicators:[14]

Performance indicators:

- Research agreements
- Invention disclosures
- Patent applications
- Patent grants
- Licences executed
- License income earned
- Spin-offs established

Supplementary indicators:

- Knowledge transfer involving SMEs
- Knowledge transfer involving domestic firms
- Knowledge transfer involving the research organisation's own region
- Exclusive licenses
- Share of valid patent portfolio that has ever been licensed
- Patent share of license income
- Technology areas for patenting

2.3 Analysis Part 3, Staff and Network

This part will focus on principles for a knowledge transfer policy and Intellectual Property management by focusing more specifically on staff and network.

[13] Expert Group on KT Metrics (2009b): *Metrics for Knowledge Transfer from Public Research Organisations in Europe*, table A4.1 on 'Universities – raw country level results, 2009'.

[14] Definitions and formulated questions can be found in the report Expert Group on KT Metrics (2009b): *Metrics for Knowledge Transfer from Public Research Organisations in Europe*.

2.3.1 Training Staff and Researchers

Training in basic skills regarding Intellectual Property and knowledge transfer helps to raise awareness for research staff as well as researchers on doing the business properly.

Basic topics could include the process of identifying and protecting Intellectual Property, understanding patentability and the patenting process etc.

Training may be provided by professional international providers like Proton Europe, ASTP, LES etc., but can also be organised based on collaboration with local knowledge transfer environments.

On a European level the CERT-TTT-M initiative aim to create a pan European knowledge transfer program on certifying Knowledge Transfer Managers.[15]

Q: To what degree do the universities and other Public Research Organisations that are part of your organisation train staff and researchers on Intellectual Property awareness and basic skills in Intellectual Property and knowledge transfer? **(Figure N)**
– Who initiates the training?
– Who finances the training?

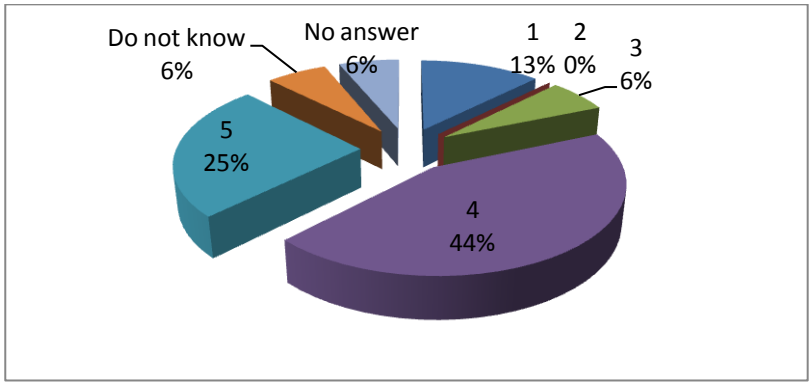

Figure N (1 is the lowest and 5 is the highest degree).

Training of Knowledge Transfer Managers and researchers is considered important, and in almost 70 % of the present Member States respondents feel that training in awareness and basic skills to a high degree has been integrated into the knowledge transfer daily practice. The question has a built-in ambivalence, since it addresses both research staff and researchers. There is no knowledge of Member States that train researchers but not research staff in Intellectual Property and knowledge transfer. So, the 70 % definitely relate to the Knowledge Transfer Managers.

More Member States and international organisations like Proton Europe and ASTP do, however, also train researchers in Intellectual Property awareness and basic skills in Intellectual Property and knowledge transfer. Some Member States have specific researcher orientated activities, e.g. introduction courses on Intellectual Property and commercialisation, PhD courses on commercialisation taught by the national Patent and

[15] www.ttt-manager.eu

Trademark Offices as well as entrepreneurship training programmes.

When asked who initiates the training, the universities and other Public Research Organisations seem to be the absolute main drivers. In the Member States where the institutions do not initiate training alone, it is mainly organisations that assist. Here, it is presumed that these organisations are typically national Knowledge Transfer Networks, umbrella organisations etc.

When it comes to financing, the universities and other Public Research Organisations also seem to be the main drivers, but with a range of contributors. Both organisations and national authorities are mentioned as important contributors, and in some Member States, the national authorities support training activities through funding of national Knowledge Transfer Network activities.

2.3.2 Knowledge Transfer Competences

In order to perform knowledge transfer, universities and other Public Research Organisations have to have access to professional resources. The most typical setup is in the form of Technology Transfer Offices / Knowledge Transfer Offices, for either individual institutions or clusters thereof.

The Irish *National Code of Practice for Managing Intellectual Property from Publicly Funded Research* (ICS 2004) identifies two types of Knowledge Transfer Offices, where the first functions as a service organisation, and the second also acts as a strategic exploitation office authorised to generate, protect and enforce Intellectual Property Rights.

Most guidelines and codes of practice offer lists of specific responsibilities and priorities for Knowledge Transfer Offices. In the *Commission Communication on Knowledge Transfer Improving KT between Research Institutions and Industry in Europe* (EU 2007a) there is a standard set of characteristics for a Knowledge Transfer Office:

- "Is staffed by professional knowledge transfer experts, including – or with access to – legal, financial and Intellectual Property advisors;
- Develops and executes the research institution's strategy in respect of working with industry and users of research results, and the exploitation of Intellectual Property;
- Helps identify, evaluate and – where appropriate – protect Intellectual Property;
- Advises on commercial and Intellectual Property issues, in particular in the negotiation of research contracts;
- Promotes the use of inventions and other R&D results, in particular by negotiating technology transfer agreements or facilitating the creation of spin-offs;
- Disseminates information – in particular to potential users – regarding what Intellectual Property the research institution owns and what is available for licensing;
- Administers license agreements and equity participations, collects and distributes the revenues."

Q: Do the universities and other Public Research Organisations that are part of your organisation have their own knowledge transfer unit or do they have access to a professional knowledge transfer service to advice on legal, financial and commercial perspectives on knowledge transfer? **(Figure O)**

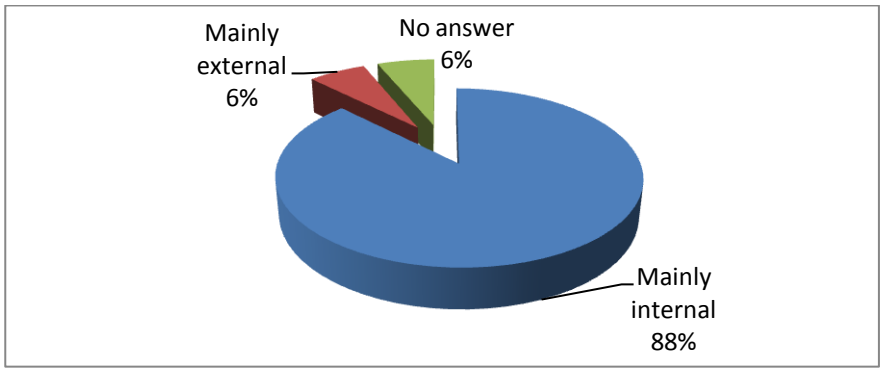

Figure O

In at least 93 % of the present Member States universities and other Public Research Organisations seem to have access to a minimum service to fulfil its legal obligations. This service is performed through in-house facilities in the form of Technology Transfer Offices or Knowledge Transfer Offices offering comprehensive services. The offices are normally located at the individual institution, but some have regional offices and national associations as well to assist in offering services in this regard. When it comes to Member States with 'professor's privilege', the field of knowledge transfer services is more complex regarding both numbers of players and interrelations. Nevertheless, in addition, all offices, also the comprehensive ones, rely on a wide network of their own partners for business development, licensing etc.

Since the in-house facility is so common it is, however, striking to see that the level of evaluation is relatively low.

The most common way of monitoring a Knowledge Transfer Office is to measure its output. This is done by the national knowledge transfer surveys in e.g. Denmark, Italy, Spain and the United Kingdom, and the international knowledge transfer surveys conducted by Proton Europe and ASTP. One might argue that these surveys do not include quality control and evaluation, but focus on measurable quantitative outputs instead of processes and procedures.

– Have these arrangements been reviewed to see which is most successful? If so, which organisation initiated the review? **(Figure P)**

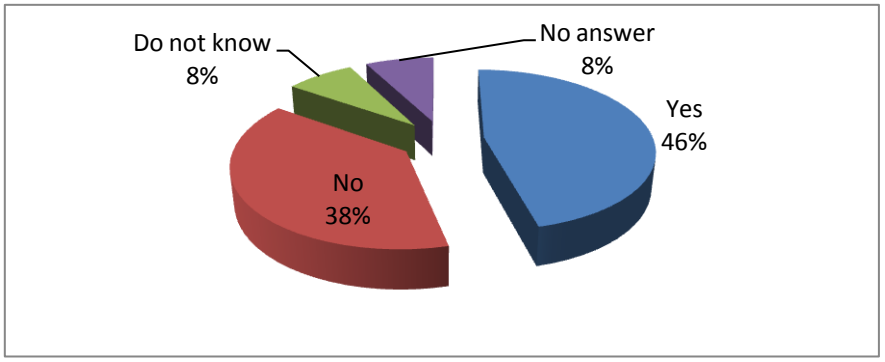

Figure P

In 38 % of the present Member States respondents declare that there is no review of their

Knowledge Transfer Office and in 46 % the respondents declare that they have reviews.

The reviews described by the respondents are conducted at three different levels:

1) Metrics: International and national metrics as a benchmark tool
2) External quality control: Review with the external quality assurance organisation
3) Internal quality control: Internal monitoring of efficiency and effectiveness

There seems to be a wide range of initiatives at international, national, regional and internal levels with the aim of clarifying the efficiency of knowledge transfer. However, four factors make it difficult to aim at a recommendable type that fits all. First of all, the field is relatively young and experts still need to experiment with different structures and models, secondly, the knowledge transfer communities in the Member States vary quite substantially in length of experience, amount of funding etc. Thirdly, the universities and other Public Research Organisations in Europe are very diverse, also in size, so that it is unlikely that one particular type of arrangement can be recommended for them all. Finally, one can add the span between the Knowledge Transfer Office as service organisation and strategic exploitation office mentioned in the beginning of this chapter.

As an example of structural changes, France is now introducing 14 regional structures with emerging regional organisations.

2.3.3 Practitioner's Knowledge Transfer Network

In some Member States, there are practitioners' Knowledge Transfer Networks. They typically offer training to develop knowledge transfer competences among administrative staff and facilitate knowledge exchange, present news and events on the global knowledge transfer stage as well as disseminate relevant information from national agencies, the EU Commission etc.

Individual Knowledge Transfer Offices can become members of Knowledge Transfer Networks in their respective countries, but many Knowledge Transfer Offices also participate, as members or non members, in activities facilitated by international Knowledge Transfer Organisations like Proton Europe, ASTP, AUTM, LES etc., and thereby become members of the international knowledge transfer community. Some are individual members, some are institutional members and others are members of national Knowledge Transfer Networks with a seat on the board of an international Knowledge Transfer Organisation, e.g. Proton Europe. The number of memberships of the international organisations is considerable, and alone Proton Europe's memberships includes 220 Knowledge Transfer Offices and a network of 10 national partner associations comprising over 500 Knowledge Transfer Offices.

Q: Is there a knowledge transfer practitioners' network in your country with which you work on matters of policy and process? **(Figure Q)**

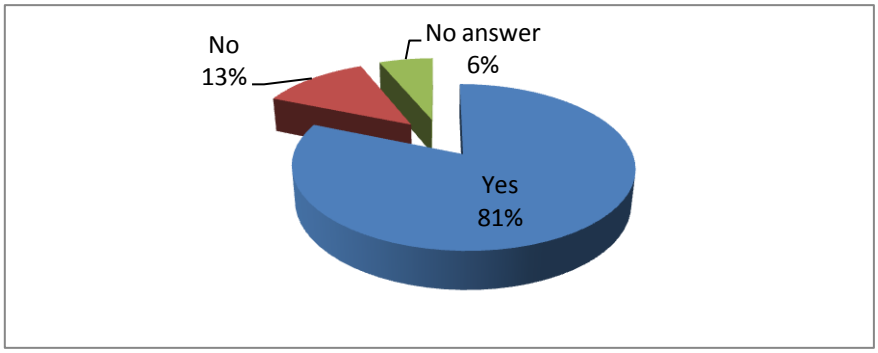

Figure Q

This survey has only asked about national practitioners' Knowledge Transfer Network and not European or other international Knowledge Transfer Networks. With this restraint in mind, it is impressive that there seem to be Knowledge Transfer Networks for practitioners in 81 % of the present Member States. An explanation for the relatively high coverage could be that networks are defined broadly covering small, large as well as more specialised networks.

Some of the minor networks are described as either informal[16] or at the level of an Research & Development committee within the organisation. This group, however, only accounts for around 6 of the 81 % related to a Knowledge Transfer Network.

Some national Knowledge Transfer Networks are also major players in the global knowledge transfer community. AURIL in the United Kingdom, Reseau C.U.R.I.E. in France and RedOTRI in Spain not only act within their own borders as networks and influential interest groups, but also play an important role in relation to the international Knowledge Transfer Organisations, interest groups and the EU Commission.

Some Knowledge Transfer Networks enter into partnerships for the benefit of their members. Technologie Allianz in Germany have partnerships with BDI e.V. (Federation of German Industries), DQS GmbH (German company for certification of management systems) and SIGNO (government funding scheme for universities, businesses and private inventors), besides partnerships with the two Knowledge Transfer Networks Reseau C.U.R.I.E. and Proton Europe.

The Knowledge Transfer Networks also differ in terms of funding. Some have substantial subsidies from regional or national authorities, while others have to base their level of activity on member fees. Therefore, there is a wide span in number and the art of activities and projects they facilitate or produce. The most active national Knowledge Transfer Networks set up several courses, conferences, experience groups, workshops etc. every month.

Some of the more advanced national Knowledge Transfer Networks have an elaborate strategic political profile as well as an internet profile for outreach purposes. On the level of policymaking, they collaborate with the central administration in form of government agencies and other social and economic bodies to strengthen the relations between universities and companies. As regards outreach, some networks run extensive bilingual websites. The Danish Knowledge Transfer Network's website includes a news portal with daily updates, newsletter service, knowledge transfer event calendar, list of Knowledge Transfer Offices, personal profiles of knowledge transfer personnel, access to guidelines,

[16] Did not count as a Knowledge Transfer Network in the survey.

Acts, legal documents, Model Agreements and a national virtual patent exchange. In line with AUTM's better world project, new success stories are disseminated in a popular format once a month at the website.

2.4 Analysis Part 4, Collaborative and Contract Research

This section covers research activities conducted or funded jointly by a university and other Public Research Organisations and the private sector in the form of collaborative research (where all parties carry out Research & Development tasks) and contract research (where Research & Development is contracted out to a public research organisation by a private company).

2.4.1 Interests and Objectives

In the *Commission Recommendation on the Management of Intellectual Property in Knowledge Transfer Activities and Code of Practice for Universities and other Public Research Organisations* (EU 2008b), it is stated that "the rules governing collaborative and contract research activities should be compatible with the mission of each party. They should take into account the level of private funding and be in accordance with the objectives of the research activities, in particular to maximise the commercial and socio-economic impact of the research, to support the public research organisation's objective to attract private research funding, to maintain an Intellectual Property position that allows further academic and collaborative research, and avoid impeding the dissemination of the R&D results".

Definitions of contract research and collaborative research are manifold, which is why the definitions displayed in the *Recommendation* (EU 2008b) will be displayed here:

""Contract research" (cf. § 3.2.1 of the Framework on State Aid18) means research contracted out to a public research organisation ("agent") by a private-sector entity ("principal"), and whose costs are fully paid by the latter and where the principal carries the risk of failure. In this case the terms and conditions are usually specified by the principal.[17]

"Collaborative research" (cf. § 3.2.2 of the Framework) is when at least two partners participate in the design of the project, contribute to its implementation, and share the risk and the output of the project. In particular, should there be any financial contribution from the public research organisation, this would be considered as a collaborative research situation and not as "contract research" in the context of the Code of Practice." (EU 2008b)

In the *Initiative for a Charter for the Management of Intellectual Property from Public Research Institutions and Universities* (EU 2007c), six good pieces of advice are

[17] The *Recommendation* (EU 2008b) also state that parties are free to "negotiate different agreements, concerning ownership of (and/or possibly user rights to) the Foreground", e.g. the Recommendation use an example from contract research, "where some of the Foreground can be kept by the university and other public research organisation, if agreed and negotiated so with the private sector party." Agreements are subject to compliance with any relevant legislation, such as the Community Framework for State Aid for Research and Development and Innovation.

presented concerning the split between responsibilities and roles in relation to contract research and collaborative research:

Contract research:
"• The partners will reach a written agreement about the status of the owner, about publication and about the rights of use of the research results.

• Provisions governing the use of the available know-how will be agreed in writing.

• Contractual arrangements will be made regarding the remuneration of researchers for their work and inventions."

Collaborative research:
"• The party generating the research results will be the owner of such results or have the right to use them pursuant to the applicable law.

• All partners should benefit from favourable conditions for the transfer of rights of use and for mutual claims. The cooperation partners will, for example, agree on whether or not to file a patent for an invention.

• Public fund providers should remain neutral with regard to the exploitation of Intellectual Property but should at the same time ensure that equal consideration is given to the interests of all cooperation partners."

Q: Do the rules at the universities and other Public Research Organisations that are part of your organisation consider not only their own interests and objectives but also those of potential partners from the private sector? **(Figure R)**

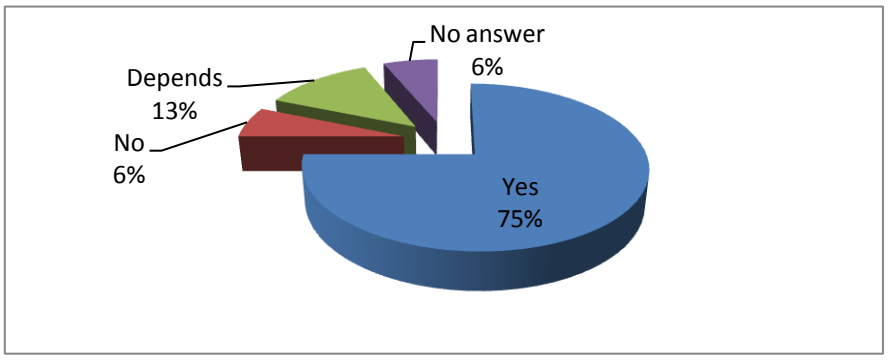

Figure R

In nearly all present Member States respondents express that they not only consider their own interests and objectives, but also those of potential partners from the private sector.

The respondents from the present Member States that have national Model Agreements or national codes of practice refer to the principle that 'fair rules' should take account of the interests of all parties and that Intellectual Property should be owned by the partner that invented it, be it the research institution, a company or a joint venture. The general attitude is that the fairness principle is based on the university and other Public Research Organisations' public and social mission. A respondent describes it as a win-win situation, also considering the interests of the university and other Public Research Organisations, researchers and those of society in general. Another respondent sharpens the private

sector focus by stating that Intellectual Property first has to serve the economy, but has to be balanced against state aid rules to ensure optimal use of Intellectual Property.

However, a third respondent emphasises that national legislation about Intellectual Property management at universities on the one hand was designed to contribute to technology transfer as such, but on the other hand, also was designed to "protect Public Research Organisations' Intellectual Property from being illicitly transferred to corporate entities." Today this relationship is by some respondents still considered one between unequal partners: "The private sector usually enforces its own contractual research terms."

2.4.2 Clarification and Negotiation

Who actually negotiates the conditions related to collaborative and contract research – is it the Knowledge Transfer Office or is it individual researchers or other persons or organisations?

Q: Are the Intellectual Property-related issues at universities and other Public Research Organisations that are part of your organisation in collaborative and contract research clarified and negotiated by the Knowledge Transfer Office or by individual academics or by another person or organisation? **(Figure S)**

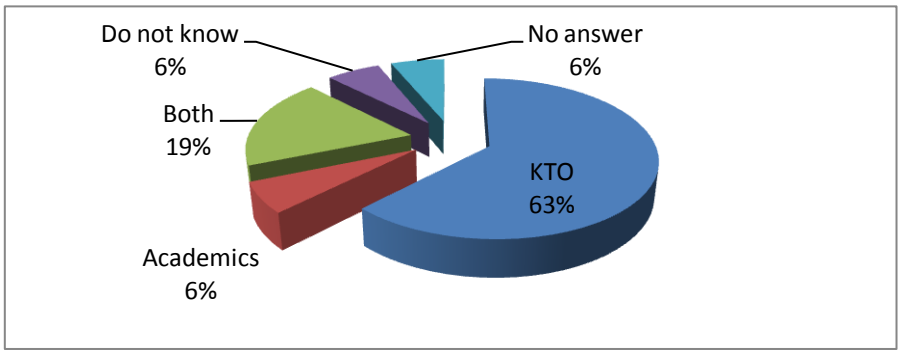

Figure S

In 63 % of the present Member States respondents declare that clarification and negotiation is in the hands of the Knowledge Transfer Office.[18]

As regards respondents where both Knowledge Transfer Offices and researchers are involved in the clarification and negotiation process, there seems to be two different scenarios. The first scenario is universities and other Public Research Organisations where there are no rules and where Knowledge Transfer Managers, researchers or other personnel can take the initiative in a clarification and negotiation process. The second scenario is where researchers seem to be the natural choice, but they can contact Knowledge Transfer Managers if they need help. Member states with 'professor's privilege' belong to the categories where researchers or both Knowledge Transfer Offices and researchers are involved.

However, although there are rules as to who is responsible for these matters, a respondent describes a situation that may be familiar to other Knowledge Transfer Managers: "In principle a knowledge transfer officer should carry out all negotiations. In

[18] One respondent refer to the "general manager of the university of applied sciences in co-operation with a research coordination office." This answer in interpreted in favour of the Knowledge Transfer Office category, because the difference is marked towards researchers.

practice, however, this may not always be the case". In cases like these it is a relief that agreements normally have to be signed by representatives of the central administration or Knowledge Transfer Office, before it is binding on both parties.

2.4.3 Access Rights to Intellectual Property

The *Commission Communication on Knowledge Transfer Improving Knowledge Transfer between Research Institutions and Industry in Europe* (EU 2007a) states that "agreements should clearly delineate the distribution of rights between the parties, including ownership of the background knowledge brought to the project, and ownership and access rights in relation to inventions, results and know-how arising from the partnership (and any associated Intellectual Property Rights)."

Q: How and when would access rights to Intellectual Property at universities and other Public Research Organisations that are part of your organisation be clarified in a project?

Nearly all respondents clarify access rights to Intellectual Property at the very early stage in the projects and at least before signature, but concerning the second half of the question relating to procedures, the answers can be categorized into three levels, where the first is based on simple statements describing what they do, the second relates procedures to national Acts and finally the third, where universities and other Public Research Organisations base their policies and procedures on an actual strategy.

In the first category respondents describes that in "collaborative research an Intellectual Property agreement is put in place" or that "contract research can be described in two steps: 1) general framework negotiated in a context of research collaboration, and 2) if research outputs are convincing, there will be a elaboration and negotiation of a licensing agreement."

In the second category respondents describe how universities and other Public Research Organisations are required to establish adequate procedures for the management of Intellectual Property in relation to contract research and collaborative research. And even if detailed policies and procedures for management of Intellectual Property may vary from institution to institution, several respondents refer to procedure obligations in relation to National Acts, e.g.: "Preferentially, all background that is either included or excluded should be listed in the agreement before the project. During the project particular attention is paid to identify the projects that any invention disclosure may be related to; this is also an obligation coming from the Act on the Rights in Inventions made a Higher Education Institutions."

The third category belongs to the universities and other Public Research Organisations of a size and research capacity where Intellectual Property strategies are formulated in more detail. One example is the Fraunhofer Society, a German research organization with 59 institutes spread throughout Germany, each focusing on different fields of applied science. In their intellectual strategy *Competitive – Today and Tomorrow; Intellectual Property Strategy for Contract Research* the section on *Intellectual Property Strategy* is formulated like this: "Ownership of the products, prototypes or other material objects developed on behalf of a client is transferred to that client. Moreover, the client is granted rights to Fraunhofer IP that permit utilization of the development. Such rights usually consists of application-based, non-exclusive or exclusive rights to use foreground IP and, if applicable, rights to use background IP. In exceptional cases, the client is granted outright

ownership of unrestricted exclusive rights to foreground IP of the Fraunhofer-Gesellschaft. The key criterion in this case is the assessed potential value within the patent and technology portfolio of the institutes.

This strategy

- increases Fraunhofer's innovative potential

- permits wide range application of Fraunhofer IP,

- protects the client – through the possibility to secure exclusive rights,

- improves the competitive position of the Fraunhofer-Gesellschaft and its clients – both today and in the future."

Model agreements have been drawn up to assist universities and other Public Research Organisations, industry and in particular small and medium enterprices, to collaborate more effectively. In 46 % of the present Member States universities and other Public Research Organisations use Model Agreements. Some use national Model Agreements, e.g. Denmark, Germany, Spain and the United Kingdom. Some of these are agreed upon by different stakeholders, while others are elaborated based on experience collected from the universities and other Public Research Organisations.[19]

Respondents that have a more sceptical approach to the Model Agreements have either tried the more authorised Model Agreements, but generally think the agreements have to be negotiated on a project to project basis with certain provisions being common across agreements, or they seem to use locally developed Model Agreements as a starting template.

All three perspectives do, however, get inspiration, either from Model Agreements from organisations within their own Member State or from Lambert Agreements and toolbox and "US TTO".

2.5 Analysis Part 5, Development and Publication of Policies and Procedures

This part will focus on knowledge transfer policy and Intellectual Property management by focusing more specifically on policies and initiatives to develop and publicise policies and procedures.

2.5.1 Government Policies and Organisation Initiatives

Q: Has your government adopted policies in order to make universities and other Public Research Organisations develop and publicise policies and procedures for management of Intellectual Property?

[19] Model Agreements from Denmark, United Kingdom and Germany are presented in Annex B.

(Figure T)
– Has it been debated?
– Did many have such policies and processes in place or not?
– Were incentives offered – e.g. funding for knowledge transfer?

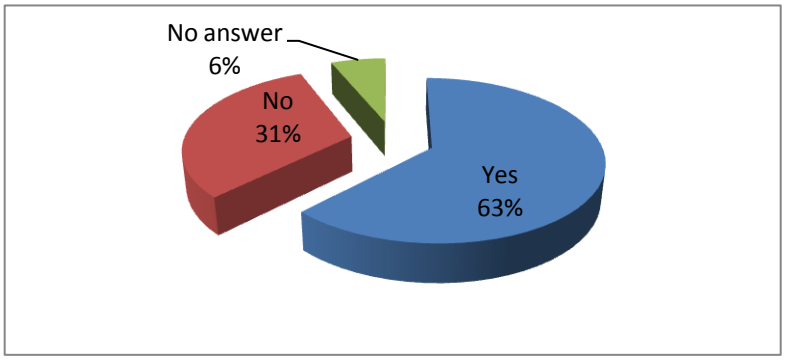

Figure T

In 63 % of the present Member States respondents declare that their government has adopted policies in order to make universities and other Public Research Organisations develop and publicise policies and procedures for management of Intellectual Property.

A rich variety of policies and initiatives are mentioned: The implementation of Bayh-Dole inspired legislation including institutional Intellectual Property ownership, the steering mechanisms between government agencies and the universities, national funding schemes for the development of professional Knowledge Transfer Offices, funding of Proof of Concept programmes, European and national guidelines and codes of practice, codes of conduct for collaboration with industry, model contract tool kits, public grants addressed to universities and other Public Research Organisations for developing knowledge transfer infrastructure and promoting activities at local level etc.

Two inspirational initiatives from 2004 will be mentioned:

1) The Irish code of practice (ICS 2004) is a very clear practical guide that is widely acknowledged. The code addresses each aspect of the management and transfer of research and development results from universities, institutes of technology and other Public Research Organisations to the commercial marketplace. In particular, it stresses the need for a real commitment from universities and other Public Research Organisations and funders to the timely exploitation of research and to ensuring that the necessary resources and expertise are provided for commercialisation.

2) The government of the Netherlands stimulated the implementation of 'Knowledge Valorisation' at universities by several grant schemes. Knowledge Valorisation can be translated into the art of converting scientific knowledge into economic and/or social value. Since 2004, it has been a formal core activity of universities, alongside education and research. Knowledge Valorisation in form of policy statements can be found on the homepage of several universities from the Netherlands.

In around 50 % of the present Member States respondents state that there has been a debate on the implementation of policies. The debates have included parliament, institutions and other stakeholders. However, even though a majority of stakeholders take part in the debate and maybe even contribute to the development of policy, this does not necessarily lead to the implementation of the very same policy: Where some major universities and other Public Research Organisations had institutional policies in

place at a rather early stage, a respondent points out that it is actually still a challenge for small universities. Beside government focus and grants, size and nature of the research at the institution matters and small universities do not necessarily have neither the commercial research capacity nor the resources to sustain a Knowledge Transfer Office.

Q: Has your organisation taken certain initiatives in order to make universities and other Public Research Organisations that are part of your organisation develop and publicise policies and procedures for management of Intellectual Property? **(Figure U)**
– Has it been debated?
– Have the initiatives taken been influenced by European and/or other countries' policies?

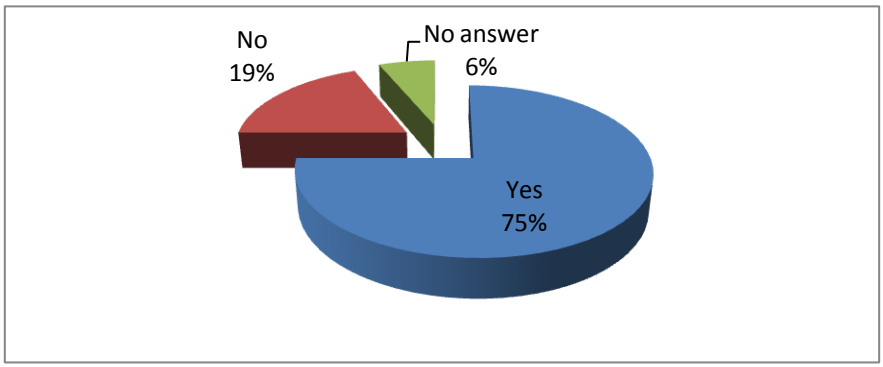

Figure U

In 75 % of the present Member States organisations have taken certain initiatives in order to make universities and other Public Research Organisations that are part of their organisation develop and publicise policies and procedures for management of Intellectual Property.

The umbrella organisations and national Knowledge Transfer Networks seem to have added value on three levels. The Spanish network, RedOTRI, has produced a technical dossier about collaborative R&D and best practices for Intellectual Property Rights management. The Finish network, Research and Innovation Services, produces policy documents for the network members and carry out several benchmarking exercises involving all member institutions, and the Irish University Association contributed to the discussions around the code of practice.

In more than 60 % of the present Member States respondents indicate that organisations like their own have contributed to the debate. The debate has taken place at different levels in the organisations, with sessions of the plenary board as well as broader workshops or working groups. As inspirational initiatives, the respondents mention EU publications such as 'Responsible Partnering' (EU 2005a), Commission Communications (EU 2007a), but national networks AURIL, AUTM and Reseau C.U.R.I.E. are also mentioned.

2.5.2 2008 Commission Recommendation and Code of Practice

The 2008 *Recommendation on the Management of Intellectual Property in Knowledge Transfer Activities and Code of Practice for Universities and other Public Research Organisations* (EU 2008b) promotes the development of Intellectual Property management policies at a Member State level and principles/practices for their management by

universities and other Public Research Organisations.

Q: To what degree are the universities and other Public Research Organisations that are part of your organisation aware of the 2008 Commission Recommendation on the management of Intellectual Property in knowledge transfer activities and Code of Practice for universities and other Public Research Organisations? **(Figure V)**

Has your government taken initiatives to promote the Code of Practice or other methods for improving knowledge transfer to universities and other Public Research Organisations that are part of your organisation?

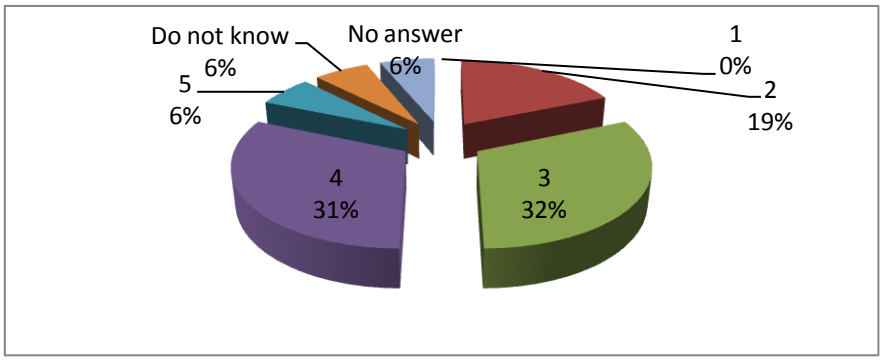

Figure V(1 is the lowest and 5 is the highest).

The respondents state that the university and other Public Research Organisations awareness on the recommendation is medium, with an average score of 3.5. However, if seen in the light of that only 17 % of the present Member States governments seemingly have promoted the code of practice, the awareness rate can be interpreted as relatively high. It would therefore be interesting to know how many of the umbrella organisations, national Knowledge Transfer Networks and international Knowledge Transfer Organisations have distributed information on the Recommendation and code of practice on their own initiative.

3. Annexes

Annex A Commented list of and links to available reports

Annex B Model Agreements

Annex C Questionnaire

Annex D Links from Primary Publications

Annex E Links to Member State Policy Documents

Annex E References

3.1 Annex A. Commented List of and Links to Available Reports

3.1.1 European Commission, Expert Group on the Management of IPR (2004): Management of Intellectual Property in Publicly-Funded Research Organisations: Towards European Guidelines.

http://www.protoneurope.org/news/news_archive/files/iprrep

The report reviews the knowledge transfer processes and its development over the last 30 years.

The traditional Licensing Model is here supplemented by a more active policy of collaborative research with industry, and by a pro-active involvement in the creation of spinout companies.

The report reviews the practical issues in defining the objectives, the missions, the functions, the funding and the resources and makes recommendations on how they can be resolved.

The report includes a list of guidelines for collaboration between industry and public research organizations in Europe.

3.1.2 European Commission, European Research Area Green Paper (2007)

http://ec.europa.eu/research/era/consultation-era_en.html

European Research Area is to play a still more important role in the development of the European knowledge society. The requirements are that research, education, training and innovation are going to be exercised at a very high level to be able to succeed in overcoming the economic, social and environmental challenges that lies ahead.

The ERA concept combines:

a) European "internal market" for research, where researchers, technology and knowledge freely circulate.

b) Effective European-level coordination of national and regional research

activities, programmes and policies

c) Initiatives implemented and funded at European level.

3.1.3 European Commission, Commission Communication on knowledge transfer improving KT between research institutions and industry in Europe + voluntary Guidelines (2007).

http://www.euractiv.com/en/science/eu-pushes-better-knowledge-transfer/article-171564

A number of policy orientations are presented as a basis for common EU knowledge transfer framework. Member States and stakeholders will be encouraged to implement them on a voluntary basis, taking into account national situations. The goal is to harmonize the knowledge transfer activities in order to make the commercialisation of research results more effective.

The voluntary guidelines give advices to good practice for universities and other Public Research Organisations in the commercialization process. For most institutions that refers to their technology transfer activities in the realm of Intellectual Property Rights and collaborative research.

The reports are written by DG Research with recommendations made by Proton Europe.

Guidelines issue policies relating to Intellectual Property Rights, incentives, and Conflict of Interest as well as good practice relating to contractual arrangements.

3.1.4 European Commission, Initiative for a Charter for the Management of Intellectual Property from Public Research Institutions and Universities [*IP Charter]* (2007).

http://www.euractiv.com/en/science/ip-charter-manage-public-private-research-operation/article-163441

Universities and other Public Research Organisations need to professionalize their management of Intellectual Property. The German Presidency has taken the up the challenge, which has lead to the proposal of an Intellectual Property Charter for this purpose.

The strategy is that awareness of the importance of professional knowledge transfer management will make the universities and other Public Research Organisations more focussed in trying to achieve the standards proposed by the charter.

The Intellectual Property Charter includes the following basic principles and guidelines, on which the cooperation partners could voluntarily base their research cooperation:

- Careful and responsible management of research results and inventions
- Promotion of long-term and sustainable research cooperation
- Mutual respect, understanding and transparency in research cooperation
- Creation of organizational structures and mechanisms for professional Intellectual Property management
- Further training for researchers to raise awareness of Intellectual Property issues in research cooperation and to prevent an uncontrolled know-how drain
- Promotion of the commercialization and public exploitation of protected inventions to increase competitiveness and economic success
- Promotion of the exploitation of research results through start-ups and spin-offs.

The implementation of the basic principles are positioned partly through “international research cooperation”, because the management of Intellectual Property has to meet special requirements in the context of globalisation and international research cooperation. Partly through a framework of code of conduct, because the Intellectual Property charter should stipulate minimum requirements for the management of Intellectual Property as means of voluntary self regulation and because it provides the basis for good, professional and efficient cooperation between participants.

3.1.5 European Commission, DG Research (2008): Commission Recommendation on the Management of Intellectual Property in Knowledge Transfer Activities and Code of Practice for Universities and other Public Research Organisations.

http://ec.europa.eu/invest-in-research/pdf/ip_recommendation_en.pdf

Key recommendations to Member states for establishing or adapting Intellectual Property/ knowledge transfer policies:

a) Ensure that Public Research Organisations define knowledge transfer as strategic priority and develop and publicise respective policies and procedures.

b) Support the development of knowledge transfer capacities and skills, also among students.

c) Promote broad dissemination of research results while enabling protection of Intellectual Property.

d) Cooperate and take steps to ensure coherence of ownership regimes and to facilitate cross-border collaborations and knowledge transfer.

e) Ensure equitable and fair treatment of all participants in international

research & development collaborations (ownership and access rights to Intellectual Property).

Code of practice for universities and other Public Research Organisations with operational principles for setting up institutional policies and knowledge transfer systems (Annex I):

a) Principles for an internal Intellectual Property policy for effective management of their own Intellectual Property (policy, rules, procedures, incentives, awareness, training, ...).

b) Principles for a knowledge transfer policy focussing on active transfer and exploitation of Intellectual Property (exploitation strategies and policies, including for licensing and spin-offs; access to professional knowledge transfer services; sharing of financial returns; monitoring of knowledge transfer activities.

c) Principles regarding collaborative and contract research (basic principles for Intellectual Property ownership and access rights.

List of best practice examples for Member States to support implementation of the recommendations (Annex II).

3.1.6 European Commission, (2008): Council Resolution on the management of Management in Knowledge Transfer Activities and on a Code of Practice for Universities and other Public Research Organisations.

http://www.era.gv.at/space/11442/directory/11784/doc/11787.html

a) Member States are invited to actively support the recommendation, and to promote the effective take-up of the code of practice by universities and other Public Research Organisations, while fully respecting their autonomy in dealing with Intellectual Property Rights;

b) All universities and Public Research Organisations are called upon to pay due regard to the content of the Commission's code of practice and to implement it according to their specific circumstances, including appropriate flexibility for contract research.

c) Member states are invited to establish, in partnership, light and effective governance arrangements, including the monitoring and evaluation of the take up and impact of the recommendation and code of practice, on the basis of indicators, the exchange of best practices with active involvement of stakeholders, which could lead to the definition of further guidelines on specific issues of common interest where justified.

3.1.7 Irish Council for Science (2004): National Code of Practice for Managing Intellectual Property from Publicly Funded Research.

http://www.forfas.ie/publication/search.jsp?ft=/publications/2004/Title,827,en.php

The Code addresses each aspect of the management and transfer of research and development results from universities, institutes of technology and Public Research Organisations to the commercial market place. In particular, it stresses the need for a real commitment from universities and other Public Research Organisations and funders to the timely exploitation of research and to ensuring that the necessary resources and expertise are provided for commercialisation.

Specifically the code provides guidance on the following areas:

- Intellectual Property management strategy (Demand for written policies)

- Technology Transfer Offices (as integral part of the research institutions)

- Identification and Disclosure of Intellectual Property (development of formal and informal procedures)

- Protection and Ownership of Intellectual Property (ownership is not an end in itself)

- Commercialization (partnerships)

- Sharing of benefits (incentives policy)

3.1.8 Irish Council for Science (2005): Code of Practice for Managing Intellectual Property from Collaborative Research, Technology and Innovation.

http://www.forfas.ie/publications/2005/title,785,en.php

The key objectives of the code of practice are to foster collaborative research between enterprise and academia in Ireland and the commercialisation of research output.

The code of practice provides guidelines for the management and commercialisation of Intellectual Property from collaborative research between industrial and academic partners. It provides a set of principles and a consistent starting point for negotiation that the partners should adopt in establishing collaborative research agreements, including a flexible approach to the issues of ownership and rights of exploitation of research outcomes.

For industry, this code aims to:

- Facilitate access to institutes, faculty and students that are aware of industrial needs and the processes through which knowledge acquires value

- Provide an approach to obtaining access to Intellectual Property that

supports strategic business investment and the inclusion of Intellectual Property in product development

Provide a starting point and clear principles and guidelines to manage the Intellectual Property aspects of collaborative research agreements

- help to ensure speed, simplicity and consistency in negotiating collaborative research agreements with Public Research Organisations

For the research community, this code offers:

- Endorsement of the need to grow and sustain research and teaching capabilities that are not internationally competitive

- Greater recognition of the strengths and results provided by the community

- A starting point and clear principles and guidelines to manage the Intellectual Property aspects of collaborative research agreements

- Speed, simplicity and consistency in negotiating collaborative research agreements with industrial partners

- An approach to securing the access to research results necessary for teaching, research, publication and building and sustaining research capabilities

- The opportunity to optimise benefits from commercial exploitation of research results and to attract further support from industry

3.1.9 AURIL, Partnerships for Research and Innovation between industry and universities; AURIL (2001)

http://www.auril.org.uk/pages/publications.php

Partnerships for Research and innovation is intended to look for mechanisms behind these partnerships, providing a guide to the process and best practice tips to improve the chances of success.

Entails chapters on why one should form partnerships, what types of partnerships there are, how to set up and managing a sound partnership and finally how to draft the agreement.

3.1.10 Auril/ UUK/Patent Office (2002): Managing Intellectual Property - A guide to strategic decision-making in universities.

http://www.auril.org.uk/pages/publications.php

This guide highlights key themes and good practices to be found in the broadly successful record of UK universities in managing Intellectual Property. The Guide identifies key issues that senior managers need to address in developing their strategies and illustrates a number of ways in which commonly encountered challenges can successfully be met.

Main chapters:

1. Why is Intellectual Property important? (benefits, need for strategic management and a strategic checklist)
2. Financial expectations and budget management (Risk and returns, handling uncertainty, realistic expectations and budgets)
3. Ownership of Intellectual Property and negotiations with sponsors
4. Incentives (To whom, how and relationship to other university policies)
5. Intellectual Property management functions (Responsibility and structure of the Knowledge Transfer Office, relationship with other university entities, on notification of inventions and other complexities in Intellectual Property management)
6. Implementation: working with others (Collaboration with universities and external organisations)
7. Monitoring and evaluation (Indicators, measures and ratios)

3.1.11 AURIL, Handbook of Intellectual Property Management; AURIL (2002).

http://www.auril.org.uk/pages/publications.php

The main goal is to raise awareness of Intellectual Property amongst staff for early identification of key innovations and to reduce the possibilities of accidental non-confidential disclosures that could prejudice successful Patent applications.

It entails chapters on:

- Intellectual Property Policy and Role og commercialisation Departments (includes key elements of Intellectual Property policy, role of Knowledge Transfer Office and sample procedure)

- Establishing Awareness of Intellectual Property (includes introduction to THEROS, Intelectual Property presentation slides, key information on patents, trademarks, design, copyright & confidential information))

- Identification and Tracking of Intellectual Property (includes Recordkeeping

procedures, guidelines for the use of laboratory notebooks, sample technical disclosure form)

- Evaluation of Intellectual Property (includes sample evaluation form)

- Protection of Intellectual Property (includes detailed information on patents, designs and trade marks)

- Marketing of Intellectual Property (includes use of patent information)

- Commercial Arrangements & Disputes (includes purchase, sale & review checklist)

- Sample Agreements (includes licensing agreement checklist)

- Spin Out Companies (includes contact details for UNICO)

- Intellectual Property Management and Review (includes sample management information schedule, patent summary questionnaire, sample internal report format)

- Ownership of Intellectual Property Rights (includes copyright and contracts of employment)

- Universities and the Internet (includes internet policy)

- Theros (includes sample copy)

3.1.12 *Murgitroyd & Company: THEROS Intellectual Property Guidelines* (2002).

http://www.murgitroyd.com/theros.html

The Theros Intellectual Property Guidelines are intended to assist in the effective management of such assets, whether the assets are developed by the universities and other Public Research Organisations alone or in association with other research groups or with funding authorities or with commercial companies. It provides guidelines for the identification of Intellectual Property Rights and is intended to indicate situations in which professional advice in the management of Intellectual Property Rights may be required.

Aim:

- Clear up some common misunderstandings about Intellectual Property Rights
- Draw attention to the importance and relevance of Intellectual Property Rights in academic and research work; and
- Indicate the areas where professional advice is required

3.2 Annex B. Model Agreements

3.2.1 Collaborative Business and University Research - Lambert Agreements (UK)

http://www.innovation.gov.uk/lambertagreements/

As a result of the Lambert Working Group a homepage was established 2005 to provide a toolkit for universities and companies wishing to undertake collaborative research projects.

The Model Agreements are the primary content. There are five model research collaboration agreements.

Guidance Notes help understanding the terms of the Model Agreements and some of the legal issues. Other tools are the Outline and Decision Guide. The Outline is designed to help identifying main issues to be discussed with collaborators, to ensure similar expectations for the proposed project.

3.2.2 Collaborative Business and University Research – Schlüter Agreements (DK)

http://en.fi.dk/innovation/model-agreements

The Johan Schlüter Committee Model Agreements provide a practical tool for private for enterprises and Public Research Organisations entering into research collaboration.

Inspired by the Lambert Agreements the Danish Agency for Science, Technology and Innovation initiated The Johan Schlüter Committee. This expert Intellectual Property committee was established to facilitate the negotiation of R&D-contracts between academia and industry by providing a practical toolbox of Model Agreements and accompanying manuals.

The Model Agreements offer practical guidance in respect to issues such as the management of Intellectual Property Rights, publication of research results and confidentiality on business secrets in joint research projects.

This internet toolbox was launched in 2008 and followed by an English translation of the basic Model Agreements in early 2009.

3.2.3 Germany[20]

The Berlin Contract

http://www.ipal.de/en/downloads_information/downloads/
Consists of two agreements, a contract research and a collaborative research model.

The Berliner Model Contract is based on the interests of the industrial sector. According to Schöpke the model does not offer much flexibility, as the agreements on the one hand do not provide options and on the other hand offer very specific provisions for the calculation

[20] The part on German Model Agreements is based on Tanja Schöpke's contribution to this expert group: *Options for a European-wide model agreement for contract research / collaborative research.* The comments here will therefore be very brief.

of licence fees. The model is not supported by academia and most universities and Public Research Organisations and is applied in only a few projects.

The Hamburg Contract

Model agreement for cooperations between universities and industry. According to Schöpke there is up front transfer and assignment of the ownership of all results and Intellectual Property Rights, when signing the agreement. At the same time the university and other Public Research Organisations may have to waive the right to any inventions arising from the research project. Like the Berlin contract the Hamburg contract is hard to accept for the universities and other Public Research Organisations due to the bias mentioned before.

Council for Innovation (BMWI), sample agreements for R&D cooperation

http://www.bmwi.de/BMWi/Navigation/Service/publikationen,did=217918.html
Four Model Agreements: 1 research cooperation agreement, 2 for contract research and 1 model for a service contract.

Contrary to the other Model Agreements, these sample agreements introduce a license model as well as a model for calculation of remuneration of licence fees. According to Schöpke universities and other Public Research Organisations appreciate the introduction of the licence model and, like the Danish and English agreements, they are based on the interests of the industry as well as the universities and other Public Research Organisations. The sample agreements are little known and not widely accepted.

3.3 Annex C. Questionnaire

Questionnaire on KT for umbrella organisations for universities and other Public Research Organisations as well as national networks of KT Please answer according to the 'average' institution in your organisation/ network, when possible. When answers refer to programmes/ reports/ policy papers, please set up a link or mail the PDF files (English is preferred).	
QUESTIONS	**ANSWERS**
Which organisation/ network do you represent?	
Which country do you come from?	
How many and what kind of institutions are member of your organisation/network?	
Part I	**- concerning principles for the internal policy for effective management of own Intellectual Property (policy, rules, procedures, incentives).**
1. A) To what degree do universities and other Public Research Organisations (PROs) that are part of your organisation have a long-term Knowledge transfer (KT) & Intellectual Property (Intellectual Property) management strategy and mission? A1) Where was it debated? A2) Which organisations or people contributed to developing it? A3) What examples/models are used from what Member State?	A) Please rate on a scale of 1-5 the degree to which you feel your member institutions have this, where 1 is the lowest and 5 is the highest. 1□ 2□ 3□ 4□ 5□ 6□ Don't know Please comment: A1) A2) A3)
2. A) Has universities and other Public Research Organisations that are part of your organisation made Intellectual Property easy accessible, for example at the internet?	A) Please rate on a scale of 1-5 the degree to which you feel your member institutions have done this, where 1 is the lowest and 5 is the highest. 1□ 2□ 3□ 4□ 5□ 6□ Don't know

A1) Are there local portals (at the institutions), regional portals or a central “portal” for all the universities? A2) Do universities and other Public Research Organisations that are part of your organisation use cross national non-profit portals? A3) Do universities and other Public Research Organisations that are part of your organisation use cross national commercial portals?	Please comment: A1) A2) A3)
3.1 A) Are there general rules at the universities and other Public Research Organisations that are part of your organisation concerning disclosure of new ideas of commercial interest? A1) What are the general rules? A2) If there are general rules, is it then mandatory or optional to follow these rules?	Please comment: A) A1) A2)
3.2 A) Are there general rules at the universities and other Public Research Organisations that are part of your organisation concerning ownership of research results? A1) What are the general rules? A2) Are these generally similar or do individual organisations differ markedly in their policies?	Please comment: A) A1) A2)
3.3 A) Are there general rules at the universities and other Public Research Organisations that are part of your organisation concerning engagement with third parties? A1) What are the general rules? A2) Is national guidance in place? A3) Is engagement an expectation of academic staff?	Please comment: A) A1) A2) A3)
3.4 A) Are there general rules at the universities and other Public Research Organisations that are part of your organisation concerning publication and dissemination policy? A1) What are the general rules? A2) How many have “Open access” policies in place? A3) At what level is it decided which	Please comment: A) A1) A2) A3)

publications are to be put into the public arena?	
4. - Have the universities and other Public Research Organisations that are part of your organisation developed a policy in line with their overall mission and strategy regarding identification, possible exploitation, protection of Intellectual Property?	Please rate on a scale of 1-5 the degree to which you feel your member institutions have done this, where 1 is the lowest and 5 is the highest. 1□ 2□ 3□ 4□ 5□ 6□ Don't know
5. A) Have the universities and other Public Research Organisations that are part of your organisation set up Intellectual Property Pools in the sense that various universities under the umbrella organization cross-license their intellectual assets or otherwise throw the results of collaborative research in a joint pool? B) For what purpose has these pools being established? B1) For profit oriented purposes? B2) To enable access by creating a strong patent portfolio with the purpose of granting non-exclusive licenses? B3) Other considerations	A) Please rate on a scale of 1-5 the degree to which you feel your member institutions have done this, where 1 is the lowest and 5 is the highest. 1□ 2□ 3□ 4□ 5□ 6□ Don't know Please comment: B) B1) B2) B3)
6. - Have the universities and other Public Research Organisations that are part of your organisation developed a policy on how to manage conflict of interest between university/Public Research Organisation, department and inventors/research staff?	Please rate on a scale of 1-5 the degree to which you feel your member institutions have done this, where 1 is the lowest and 5 is the highest. 1□ 2□ 3□ 4□ 5□ 6□ Don't know
7. A) Do the universities and other Public Research Organisations that are part of your organisation train staff and researchers on Intellectual Property awareness and basic skills in Intellectual Property and Knowledge Transfer?	A) Please rate on a scale of 1-5 the degree to which you feel your member institutions have done this, where 1 is the lowest and 5 is the highest. 1□ 2□ 3□ 4□ 5□ 6□ Don't know

A1) Who initiates the training? A2) Who finances the training?	A1) Please mark the box next to the statement you find most true with an X: □ institutions □ organisations □ regional authorities □ national authorities A2) Please mark the box next to the statement you find most true with an X: □ institutions □ organisations □ regional authorities □ national authorities
8. A) Are there incentives at the universities and other Public Research Organisations that are part of your organisation for commercialising Intellectual Property? A1) What are the incentives? A2) For institutions/ institutes/ inventors? A3) Are they fairly similar or are the differences across different types of universities or different regions?	Please comment: A) A1) A2) A3)
Part II	**- concerning principles for a KT policy (exploitation strategies, policy)**
9. A) Do the universities and other Public Research Organisations that are part of your organisation have a policy for the creation of spin-offs? A1) If yes, does it allow the staff to engage in the creation of spinoffs? A2) If yes, does it clarify long-term relations between spin-offs and the institution?	Please comment: A) A1) A2)
10. A) Do the universities and other Public Research Organisations that are part of your organisation have their own knowledge transfer unit or do they have access to a professional knowledge transfer service to advice on legal, financial, commercial perspectives on knowledge transfer? B) Have these arrangements been reviewed to see which is most successful? If so, which organisation initiated the review?	A) Please mark the box next to the statement you find most true with an X: □ Mainly in-house □ Mainly external Please comment: B)
11. - How were a) the licensing policies, b) the split of returns from KT revenues between institution, department and inventor developed by	Please mark the box next to the statement you find most true with an X: □ By debate at the level of your organisation

universities and other Public Research Organisations that are part of your organisation?	□ By debate among KT practitioners □ By government initiatives
12. - Is there a KT practitioners network in your country with which you work on matters of policy and process?	Please comment:
13. A) Do universities and other Public Research Organisations that are part of your organisation monitor Intellectual Property protection and KT activities and promote them? A1) If yes, how do they promote them? A2) Has there been any national level evaluation? A3) Are there any national level marketing and promotion tools?	Please comment: A) A1) A2) A3)
14. - Do universities and other Public Research Organisations that are part of your organisation monitor Intellectual Property protection and KT activities and join the annual Proton Europe or the ASTP surveys?	Please rate on a scale of 1-5 the degree to which you feel your member institutions have done this, where 1 is the lowest and 5 is the highest. 1□ 2□ 3□ 4□ 5□ 6□ Don't know
15. A) Have your government adopted policies in order to make universities and other Public Research Organisations develop and publicise policies and procedures for management of Intellectual Property? A1) Has it been debated? A2) Did many have such policies and processes in place or not? A3) Were incentives offered – eg funding for KT?	Please comment: A) A1) A2) A3)
16. A) Have your organisation taken certain initiatives in order to make universities and other Public Research Organisations that are part of your organisation develop and publicise policies and procedures for management of Intellectual Property? A1) Has it been debated? A2) Have the initiatives taken been influenced by European and/or other countries policies?	Please comment: A) A1) A2)
17.	

A) Are the universities and other Public Research Organisations that are part of your organisation aware of the 2008 Commission Recommendation on the management of Intellectual Property in knowledge transfer activities and Code of Practice for universities and other Public Research Organisations? B) Have your government taken initiatives to promote the Code of Practice, or other methods for improving knowledge transfer to universities and other Public Research Organisations that are part of your organisation?	A) Please rate on a scale of 1-5 the degree to which you feel your member institutions are aware of this, where 1 is the lowest and 5 is the highest. 1□ 2□ 3□ 4□ 5□ 6□ Don't know B)
Part III	**- concerning principles regarding collaborative and contract research (basic principles for Intellectual Property ownership and access rights)**
18. - Do the rules at the universities and other Public Research Organisations that are part of your organisation consider not only their own interests and objectives but also those of potential partners from the private sector?	Please comment:
19. - Are the Intellectual Property-related issues at universities and other Public Research Organisations that are part of your organisation in collaborative and contract research clarified and negotiated by the KT office or by individual academics or by another person or organisation?	Please comment:
20. - How and when would access rights to Intellectual Property Rights universities and other Public Research Organisations that are part of your organisation be clarified in a project?	Please comment:
21. A) Do the universities and other Public Research Organisations that are part of your organisation use model agreements for collaborative research? A1) If yes, have your model agreements been inspirited by model agreements from other Member States.	Please comment: A) A1)

3.3 Annex D. Links from Primary Publications

European Commission, Expert Group on the Management of IPR (EU 2004a), ***Management of Intellectual Property in Publicly-Funded Research Organisations: Towards European Guidelines***

OECD Report " *Turning Science Into Business: Patenting and Licensing at Public Research Organisations*"
April 2003 – http://oecdpublications.gfi-nb.com/cgi-bin/OECDBookShop.storefront/EN/product/922003021P1

Key figures 2002, *Towards a European Research Area*, ISBN 92-894-4205-0 – ftp://ftp.cordis.lu/pub/indicators/docs/ind_kf2002.pdf

Commission of the European Communities *Investing in Research : An Action Plan For Europe* COM(2003)226 – http://europa.eu.int/eur-lex/en/com/cnc/2003/com2003_0226en02.pdf

European Commission DG Research Third European Report on Science & Technology Indicators, 2003, ISBN 92-894-1795-1 – http://www.cordis.lu/indicators/third_report.htm

AUTM: *Licensing Survey: FY 2001* published 2003 – http://www.autm.net/surveys/01/01summarypublicversion.pdf

Nottingham University Business School *Annual UNICO-NUBS Survey on University Commercialisation Activities - Financial Year 2001*, 2002 – http://www.nottingham.ac.uk/business/research/TechTransfer

Presentation by Y. Tsukamoto at the TIP workshop on the Management of Intellectual Property Rights from Public Research on December 11, 2000 – http://www.oecd.org/dataoecd/13/39/1903874.pdf

The Bayh-Dole Act. A Guide to the Law and Implementing Regulations"
http://www.ucop.edu/ott/bayh.html

Leydesdorff, Dr Loet and Cooke, Philip and Olarazan, Mikel (2002) Technology Transfer in European Regions: Introduction to the Theme Issues. Journal of Technology Transfer 27(1):5-13 – http://dlist.sir.arizona.edu/archive/00000105/01/index.htm

The October 2002 special edition of Innovation & Technology Transfer includes a very useful glossary of terms; www.cordis.lu/itt/itt-en/02-spec01/glossary.htm

Historical overview made by Howard W. Bremer: *University Technology Transfer:Evolution and Revolution*. – 1998, Council On Governmental Relations – http://www.cogr.edu/docs/Anniversary.pdf (p. 13)

OECD *Patents and Innovation in the International Context* OCDE/GD (97) 210, 1997 – http://www.oecd.org/dataoecd/35/13/2101372.pdf

EC Expert Group Report on *Role and Strategic Use of IPR in International Research Collaborations* EUR 20230, 2002 – http://europa.eu.int/comm/research/era/pdf/ipr-eur-20230_en.pdf

"Lambert Review of business-university collaboration" – http://www.hmtreasury.gov.uk/media//06729/lambertemergingissues_173.pdf

Benchmarking Industry-Science Relations - The Role of the Framework Conditions - June 2001, http://www.benchmarking-in-europe.com/eu_initiatives/enterprise_dg/framework_conditions/isr.htm

This is one of the conclusions of the European Research Advisory Board document on "Improving innovation" published under the reference EURAB 02.053 final – http://europa.eu.int/comm/research/eurab/pdf/recommendations2.pdf

Business-Higher Education Forum: *Working Together, Creating Knowledge: The University-Industry Research Collaboration Initiative,* http://www.acenet.edu/bookstore/pdf/working-together.pdf

WIPO: http://www.wipo.org

There are different definitions of Spinout companies. For a typology and examples of different forms, see for example Clarysse et al *Spinning off new Ventures – typology of strategies in Europe,* 2002, available from http://www.iwt.be/obs/obsdef.htm

G*ood Practice in the Transfer of University Technology to Industry:* http://www.cordis.lu/eims/src/eimsr26.Htm

The Management of Intellectual Property in Higher Education – Production of a Good Practice Guide. A Project for UUK and AURIL with support from the DTI and the Patent Office – http://www.sqw.co.uk/data/IP.html

Centre for Economic Policy Research, *Incentives and Invention in PROs*, 2003, http://www.cepr.org/pubs/new-dps/dplist.asp?dpno=3916

Everett M. Rogers, Jing Yin and Joern Hoffmann : *Assessing the Effectiveness of Technology Transfer Offices at US Research PROs.* Journal of the Association of University Technology Managers, Vol. XII (2000) 47-80 – http://www.autm.net/pubs/journal/00/assessing.html

Public Investments in University Research: Reaping the Benefits. Report of the Expert Panel on the Commercialisation of University Research, May 4, 1999, http://acst-ccst.gc.ca/comm/home_e.html

Presentation of James W. Murray at the OECD Workshop on Management of Intellectual Property Generated from Public Funded Research, December 11, 2000 – http://www.oecd.org/dataoecd/13/41/1903892.pdf
A detailed analysis of skills and training needs can be found in the Oakland Innovation and Information Services report produced for the Department of Trade and Industry *Business Interface Training Provision (BITS) Review,* March 2002, info@oakland.co.uk

AURIL *Handbook of Intellectual Property Management,* http://www.patent.gov.uk/about/notices/ipguide.pdf

AURIL/UUK/Patent Office: *Managing Intellectual Property – A guide to strategic decision-making in Universities*, September 26, 2002, http://www.patent.gov.uk/about/notices/manip/index.htm

AUTM: *Technology Transfer Practice Manual*, revised 2003 edition, available from http://www.autm.net/index_ie.html

BBSRC: *Bioscience Exploitation Guide*. http://www.bbsrc.ac.uk/biobusiness_guide

IPR HelpDesk: http://www.ipr-helpdesk.org

European Commission (EU 2007b), *European Research Area Green Paper*

Eurobarometer: Europeans, Science and Technology, June 2005, http://ec.europa.eu/public_opinion

2006 EU Industrial R&D Investment Scoreboard, http://iri.jrc.es/research

2005 EU Survey on R&D Investment Business Trends, http://iri.jrc.es/research

Building in particular on the European Statistical System, which will be addressed in a forthcoming Commission Communication on Statistics on Science, Technology and Innovation, as well as on the ERAWATCH information system on national research policies (http://cordis.europa.eu/erawatch) and on the EU Industrial Research Investment Monitoring (http://iri.jrc.es).

Commission Communication on knowledge transfer improving KT between research institutions and industry in Europe + voluntary Guidelines

Europe currently has the highest per-capita numbers of science and engineering graduates and academic papers (Key Figures – http://ec.europa.eu/invest-in-research/monitoring/statistical01_en.htm)

AUTM survey – http://www.autm.net/events/File/FY04%20Licensing%20Survey/04AUTM-USLicSrvy-public.pdf

ProTon survey – http://www.protoneurope.org/news/2006/art2006/artjanmar06/2asfy2004/attachment_download/file

ASTP survey 2006 – http://www.merit.unu.edu/publications/docs/200605_ASTP.pdf

Moreover, efficient knowledge transfer in European research institutions is hindered by a range of factors, including: cultural differences between the business and science communities; lack of incentives; legal barriers; and fragmented markets for knowledge and technology: http://ec.europa.eu/invest-in-research/pdf/download_en/consult_report.pdf

ProTon Europe: http://www.protoneurope.org

See Irish report on technology transfer – http://www.universitiesireland.ie/news/techtransfer.php

Pooling resources. Belgian *VIB*: www.vib.be

Pooling can address a single industry sector (for example th *White Rose Consortium:* www.whiterose.ac.uk

Innovation Relay Centres (IRCs) network: http://irc.cordis.lu

Crest decision tree – http://ec.europa.eu/invest-in-research/policy/crest_cross_en.htm

Lambert agreements – http://www.innovation.gov.uk/lambertagreements

Danish code of conduct between industry and university: Contacts, contracts and codices – http://billed.di.dk/wimpfiles/lores/image.asp?objno=/686201.pdf

Responsible partnering: http://www.responsible-partnering.org

Various "creative commons"24 approaches (open access, open publications, open software, …) are increasingly endorsed by many universities: http://creativecommons.org

The Commission is currently funding a project to create a core set of training materials to raise awareness of the importance of IP management issues amongst a variety of actors: IP4Inno – http://www.proinno-europe.eu/ip4inno.html

It is therefore important that the appraisal criteria also take into account other activities such as patenting, licensing, mobility and collaboration with industry. EUA Vienna conference conclusions – http://www.eua.be/fileadmin/user_upload/files/EUA1_documents/report_web%20221006.1161606166446.pdf

Report of the CREST Expert Group "*Promote the reform of public research centres and universities in particular to promote transfer of knowledge to society and industry*" – http://ec.europa.eu/invest-in-research/pdf/download_en/final_crest_report_march2006.pdf

ITTE report on "Improving institutions for the transfer of technology from science to enterprises" – http://ec.europa.eu/enterprise/enterprise_policy/competitiveness/doc/itte_expertgroupreport.pdf

To fund novel ways to facilitate knowledge sharing between research institutions and companies, in particular for SMEs: www.europe-innova.org

There is a growing tendency towards open access to research data and publications: See http://europa.eu.int/comm/research/press/2004/pr1506en.cfm and http://www.oecd.org/document/15/0,2340,en_21571361_21590465_25998799_1_1_1_1,00.html

It is recommended that both parties consider the questions raised in the CREST decision guide (see Section 3.5 of the CREST report: 7 http://ec.europa.eu/invest-in-research/pdf/report_final_june28.pdf

EU and other international sources :
The *Responsible Partnering* initiative : http://www.responsible-partnering.org

Results of the first and second OMC cycles (EU) : http://ec.europa.eu/invest-in-research/coordination/coordination01_en.htm

Management of Intellectual Property in publicly-funded research organisations: Towards European Guidelines (EU) :
http://ec.europa.eu/research/era/pdf/iprmanagementguidelines-report.pdf

Turning science into business (OECD) : www.oecd.org

National sources :
Guidelines for Teaching Hospitals entering into Research Agreements (DK) :
www.forskningskontrakter.techtrans.dk/HS/viewPage.action?site=eng_HS&page=Manual%20in%20pdf

Contracts, Contacts and Codices – Research Cooperation Between Universities and Companies (DK) :
www.rektorkollegiet.dk/fileadmin/user_upload/downloads/Contacts__contrats_and_cod.pdf

Recommandations pour l'adoption d'une Charte de la propriété intellectuelle par les établissements publics d'enseignement supérieur et de recherche (FR) :
ftp://trf.education.gouv.fr/pub/rechtec/technologie/charte.rtf

National Code of Practice for Managing Intellectual Property from Publicly Funded Research (IE) : www.forfas.ie/icsti/statements/icsti040407/index.html

National Code of Practice for Managing Intellectual Property from Public-Private Collaborative Research (IE) : www.sciencecouncil.ie/reports/#ipcode04

Partnerships for Research and Innovation (UK) : www.auril.org.uk/publications/pfrai

A Guide to Managing Intellectual Property: Strategic Decision-Making in Universities (UK) : www.patent.gov.uk/about/notices/2002/manip/index.htm

Lambert Agreements – A toolkit for universities and companies wishing to undertake collaborative research projects (UK) : www.innovation.gov.uk/lambertagreements

Existing assistance services

Additional information and assistance with respect to IPR-related issues and support to innovation may be obtained from different sources, including:

The Innovation Relay Centres (http://www.innovationrelay.net), a network of more than 70 centres involving more than 240 organisations in 33 countries which provide assistance on marketing innovation, help venture capitalists find new technologies to exploit, and help companies source innovative solutions to satisfy a technological need.

The Cordis Marketplace service (http://www.cordis.europa.eu/marketplace), an online service where you can find RTD results and search for innovative business opportunities on emerging technologies.

Gate2Growth (http://www.gate2growth.com), which offers in particular a database of experts and service providers - ranging from incubators to patent lawyers, to accountants and training providers in every European country.

The ProTon network (http://www.protoneurope.org), a European association of technology transfer professionals.

The IPR Helpdesk (http://www.ipr-helpdesk.org), which assists potential and current participant in the EC research Framework Programmes on Intellectual Property Rights issues arising in this context ; they also publish a number of general-purpose papers on specific IPR issues.

The European Patent Office (http://www.european-patent-office.org), which grants European patents and offers additional services, e.g. training seminars and patent information products (CD-ROMs, on-line Espacenet database, etc.).

The World Intellectual Property Organisation (WIPO – http://www.wipo.int), whose website also contains specific information for SMEs ; it should also be noted that WIPO runs a mediation and arbitration facility (http://arbiter.wipo.int)

National Patent Offices (http://www.european-patent-office.org/onlinelinks/a/aa), which grant national patents and often provide additional services to local users.

The OECD – see in particular their Guidelines for the licensing of genetic inventions. (http://www.oecd.org/sti/biotechnology/licensing)

Intellectual Property from Public Research Institutions and Universities* [*IP Charter]

Management of Intellectual Property in publicly-funded research organisations: Towards European Guidelines (EU), http://ec.europa.eu/research/era/pdf/iprmanagementguidelines-report.pdf
Responsible partnering: http://www.responsible-partnering.org

CREST Report, Cross-border collaboration between publicly funded research organisations and industry and technology transfer training, http://www.patent.gov.uk/crestreport.pdf

Lambert Agreements – A toolkit for universities and companies wishing to undertake collaborative research projects (UK), http://www.innovation.gov.uk/lambertagreements/

Irish Council for Science (ICS 2004), *National Code of Practice for Managing Intellectual Property from Publicly Funded Research*

AUTM (US TT org.): http://www.autm.net

AURIL (UK TT org.): http://www.auril.org.uk

Theros Intellectual Property Guidelines: www.theros.co.uk

ProTon Europe (Public Research Organisations Technology Offices Network-Europe): www.gate2growth.com/ProTon.asp

EARMA (European Association of Research Managers and Administrators): www.earma.org

ASTP (Association of European Science and Technology Transfer Professionals): www.astp.net

LES (Licensing Executives Society-Europe including LES- Britain & Ireland): www.les-europe.org

AURIL Handbook of IP Management: http://www.auril.org.uk

Irish Council for Science (ICS 2005), *Code of Practice for Managing Intellectual Property from Collaborative Research, Technology and Innovation*
For more information on record keeping, please see or www.sciencecouncil.ie

For sample confirmatory assignment form, please see www.sciencecouncil.ie

For sample invention disclosure form, please see www.sciencecouncil.ie

3.4 Annex E. Links to Member State Policy Documents[21]

Austria

National Action Plan Innovation / Nationaler Aktionsplan Innovation - Beitrag zum nationalen Reformprogramm 2005 bis 2008

tp://www.bmwa.gv.at/NR/rdonlyres/B69A17DB-CB05-40AF-BAC9-B575D64CF047/19891/NAPInnovationEndbericht20051004.pdf

Research, Technology Development and Innovation in the Structure Funds Programmes 2007-2013 / Forschung, Technologieentwicklung und Innovation (FTI) in den Strukturfondsprogrammen 2007 bis 2013

http://www.rat-fte.at/view.mc?docid=91

Strategy 2010 - Perspectives for Research, Technology and Innovation in Austria / Strategie 2010 - Perpektiven für Forschung, Technologie und Innovation in Österreich - Weiterentwicklung des Nationalen Forschungs- und Innovationsplans

http://www.rat-fte.at/

The National Research und Innovation Plan / Nationaler Forschungs- und Innovationsplan

http://www.rat-fte.at/view.mc?docid=98

http://www.rat-fte.at/view.mc?docid=90

Belgium

Flanders: Innovation Pact for Flanders / Innovatiepact voor Vlaanderen

http://ewi-vlaanderen.be/documenten/Beleid_innovatiepact.pdf

Flanders: Policy letter 2008: Science & Innovation / Beleidsbrief 2008: Wetenschap &

[21] Incomplete list based on CORDIS and feedback from respondents.

Innovatie

http://ewi-vlaanderen.be/documenten/VR%202007%202610%20MED%2012-34Bis%20BB%20Economie%20Ondernemen%20Wetenschap%20Innovatie%20en%20Buitenlandse%20Handel

Memorandum: Science and Technological innovation 2004-2010 / Memorandum: Science and Technological innovation 2004-2010

http://www.vrwb.be/MFiles/Memorandum.pdf

Memorandum: Science and Technological innovation 2004-2010 / Memorandum: Wetenschap en Technologische Innovatie 2004-2010

http://www.vrwb.be/MFiles/Memorandum.pdf

Research, Technology and Innovation in Belgium: the Missing Links / Research, Technology and Innovation in Belgium: the Missing Links

http://www.belspo.be/belspo/h ome/publ/p ub_ostc/ind/ind07_en.pdf

Bulgaria

National Innovation Strategy / Национална иновационна стратегия

http://www.mi.government.bg/ind/inov/docs.html?id=97265

Operational Programme "Development of the Competitiveness of the Bulgarian Economy 2007- 2013" / Оперативна програма “Развитие на конкурентоспособността на българската икономика 2007 – 2013”

http://www.iaphare.org/en/content/index.php?id=763
http://www.iaphare.org/bg/content/index.php?id=181

Strategy for Encouraging Investment in Bulgaria 2005-2010 / Стратегия за насърчаване на инвестициите в Р България 2005-2010 г.

http://www.mee.government.bg/ind/doc_invest/Investment-strategy-JUNE-2005.pdf

Cyprus

NATIONAL STRATEGIC DEVELOPMENT PLAN 2007 – 2013 / ΣΤΡΑΤΗΓΙΚΟ ΣΧΕΔΙΟ

ΑΝΑΠΤΥΞΗΣ 2007 – 2013 / NATIONAL STRATEGIC DEVELOPMENT PLAN 2007 – 2013 / ΣΤΡΑΤΗΓΙΚΟ ΣΧΕΔΙΟ ΑΝΑΠΤΥΞΗΣ 2007 - 2013

Denmark

Progress, Innovation and Cohesion - Strategy for Denmark in the Global Economy / Fremgang, fornyelse og tryghed - Strategi for Danmark i den globale økonomi

http://www.globalisering.dk/multimedia/Pixi_UK_web_endelig1.pdf

http://www.globalisering.dk/

Progress, Innovation and Cohesion - Strategy for Denmark in the Global Economy / Fremgang, fornyelse og tryghed - Strategi for Danmark i den globale økonomi

http://www.globalisering.dk/multimedia/Pixi_UK_web_endelig1.pdf

http://www.globalisering.dk/

Estonia

Action Plan for Growth and Jobs 2005-2007. For implementation of the Lisbon Strategy / Eesti majanduskasvu ja tööhõive tegevuskava 2005-2007. Lissaboni strateegia rakendamiseks

http://www.riigikantselei.ee/failid/1.October_2005_Estonian_Action_Plan_for_Growth_and_Jobs.pdf

http://www.riigikantselei.ee/failid/2005_10_13_MTTK_L_pp.pdf

Estonian Action Plan for Growth and Jobs 2008-2011 For implementation of the Lisbon Strategy / Eesti majanduskasvu ja tööhõive tegevuskava 2008-2011 Lissaboni strateegia rakendamiseks

http://www.riigikantselei.ee/majanduskasv

http://www.riigikantselei.ee/majanduskasv

Knowledge-Based Estonia. Estonian Research and Development and Innovation Strategy 2007-2013 / Teadmistepõhine Eesti. Eesti teadus- ja arendustegevuse ning innovatsiooni strateegia 2007-2013

http://www.hm.ee/index.php?0&popup=download&id=5961

struktuurivahendite kasutamise strateegia 2007-2013 ja valdkondlikud rakenduskavad

http://www.struktuurifondid.ee/index.php?id=12034

http://www.struktuurifondid.ee/index.php?id=6473

Progress Report on the Action Plan for Growth and Jobs 2005-2007. For implementation of the Lisbon Strategy

http://www.riigikantselei.ee/majanduskasv
http://www.riigikantselei.ee/failid/EE_PROGRESS_REPORT_2006.pdf

Estonian Copyright Act

http://www.legaltext.ee/en/andmebaas/ava.asp?m=022

Finland

Government statement on Innovation Policy / Valtioneuvoston innovaatiopoliittinen selonteko eduskunnalle

http://www.innovaatiostrategia.fi/en/overview / http://www.tem.fi/files/20298/INNOPOL_SELONTEKO.pdf

Knowledge, innovation and internationalisation / Osaaminen, innovaatiot ja kansainvälistyminen

http://www.minedu.fi/OPM/Tiede/tiede-_ja_teknologianeuvosto/julkaisut/linjaus_2003.html?lang=en

http: //www.minedu.fi/OPM/Tiede/tiede-_ja_teknologianeuvosto/julkaisut/linjaus_2003.html

Review2008 / Linjaus 2008

http://www.minedu.fi/export/sites/default/OPM/Tiede/tiede-_ja_teknologianeuvosto/tiedotteet/STPC_press_2008.12.09_Linjaus2008.pdf

http://www.minedu.fi/export/sites/default/OPM/Tiede/tiede-_ja_teknologianeuvosto/julkaisut/liitteet/Linjaus2008_09.12.2008.pdf

Science, Technology, Innovation

http://www.minedu.fi/export/sites/default/OPM/Tiede/tiede-_ja_teknologianeuvosto/julkaisut/liitteet/Review_2006.pdf?lang=en

http://www.minedu.fi/export/sites/default/OPM/Tiede/tiede-_ja_teknologianeuvosto/julkaisut/liitteet/Review_2006.pdf?lang=en

France

1999 Law for Innovation and Research / Loi sur l''Innovation et la Recherche 1999

http://www.admi.net/jo/19990713/MENX9800171L.html

2003 Innovation plan / Plan innovation 2003

http://wwww.enseignementsup-recherche.gouv.fr/plan-innovation/planinnov.htm

2006 Yellow Paper on Research and Technological Development

Projet de Loi de Finance 2006, Etat de la recherche et du développement technologique

http://alize.finances.gouv.fr/budget/plf2006/DJAUNES.htm

Germany

Production of Knowledge Revisited: The Impact of Academic Spin-Offs on / Public Research Performance in Europe (PROKNOW)

www.proknow-eu.de

Hightech Strategy for Germany / Die Hightech-Strategie für Deutschland

http://www.bmbf.de/pub/bmbf_hts_en_kurz.pdf

http://www.hightech-strategie.de/de/273.php

Erfolgsfaktoren für Unternehmensausgründungen aus der Wissenschaft Endbericht für das Bundesministerium für Bildung und Forschung.

Leibniz Gemeinshaft: Vorschläge zum Katalog für Unterstützungsmaßnahmen zu Mitarbeiterausgründungen

Nano Initiative Action Plan 2010 / Nano Initiative Action Plan 2010

http://www.bmbf.de/pub/nano_initiative_action_plan_2010.pdf

http://www.bmbf.de/pub/nano_initiative_aktionsplan_2010.pdf

National Reform Program of Germany - "Moving forward with innovation - promoting security with change - completing German unification" / Nationales Reformprogramm Deutschland - „Innovation forcieren – Sicherheit im Wandel fördern – Deutsche Einheit vollenden“

http://ec.europa.eu/growthandjobs/pdf/2006_annual_report_germany_en.pdf#search=%22 2006_annual_report_germany_en.pdf%22

http://www.bmwi.de/BMWi/Redaktion/PDF/M-O/nationales-reformprogramm,property=pdf,bereich=bmwi,sprache=de,rwb=true.pdf

New Impulses for Innovation and Growth. 6 billion Euro programme for Research and Development / Neue Impulse für Innovation und Wachstum. 6 Milliarden Euro-Programm für Forschung und Entwicklung

http://www.bmbf.de/en/6075.php

http://www.bmbf.de/pub/6mrd-programm.pdf

White Biotechnology - Chances for new Products and environmetally sound Processes / Weiße Biotechnologie - Chancen für neue Produkte und umweltschonende Prozesse

http://www.bmbf.de/pub/weisse_biotechnologie.pdf

Mustervereinbarungen für Forschungs- und Entwicklungskooperationen
http://www.bmwi.de/BMWi/Navigation/Service/publikationen,did=217918.html

Förderrichtlinien zur Fortführung der Verwertungsoffensive Förderphase III (2008 – 2010) - *Strategieförderung*

http://www.patentserver.de/Patentserver/Redaktion/PDF/foerderrichtlinie-strategiefoerderung,property=pdf,bereich=patentserver,sprache=de,rwb=true.pdf

Greece

Bridging research and technological development with production (Law 2919/2001) / Σύνδεση της έρευνας και της τεχνολογικής ανάπτυξης με την παραγωγή

http://www.gsrt.gr/default.asp?V_ITEM_ID=2171

Financial support of knowledge-intensive businesses/spin-off companies (Presidential

Decree 17)/ Χρηματοοικονομική στήριξη των επιχειρήσεων έντασης γνώσης/ τεχνοβλαστών

http://www.gsrt.gr/default.asp?V_LANG_ID=2

http://www.gsrt.gr/

Legal framework for the development of scientific and technological research (Law 1514/85 and its amendments) / "Νομικό Πλαίσιο για την ανάπτυξη της επιστημονικής και τεχνολογικής έρευνας (Ν. 1514/85 και τροποποιήσεις του).

http://www.gsrt.gr/default.asp?V_LANG_ID=2

http://www.gsrt.gr/default.asp?V_ITEM_ID=2655

National Reform Programme 2005-2008: Implementation Report 2007 / Έκθεση εφαρμογής για το 2007 του Εθνικού Προγράμματος Μεταρρυθμίσεων 2005-2008

http://www.mnec.gr/export/sites/mnec/en/economics/reform_programme_2005-2008/Implementation_Report_2007x_Greece.pdf

http://www.mnec.gr/export/sites/mnec/el/economics/Ethniko_Programma_Metarrythmisewn_Gia_Thn_Anaptyksh_Kai_Thn_Apasxolhsh/Ekthesi_Efarmogis_18-10-2007.pdf

National Reform Programme for Growth and Jobs 2008-2010 / Εθνικό Πρόγραμμα Μεταρρυθμίσεων για την Ανάπτυξη και την Απασχόλιση 2008-20010

http://ec.europa.eu/growthandjobs/pdf/member-states-2008-2010-reports/HELLAS_NRP%202008_EN.pdf

http://ec.europa.eu/growthandjobs/pdf/member-states-2008-2010-reports/HELLAS_NRP_GR.pdf

Operational Programme "Competitiveness" / Επιχειρησιακό πρόγραμμα "Ανταγωνιστικότητα"

http://www.antagonistikotita.gr/epan/site/Home/t_section

Towards the knowledge Economy. Roles and Perspectives / Προς την οικονομία της γνώσης: προοπτικές & ρόλοι

http://www.gsrt.gr/

Hungary

Act XC. 2003 on the Research and Technological Innovation Fund / 2003. évi XC. törvény a Kutatási és Technológiai Innovációs Alapról

http://www.nkth.gov.hu/main.php?folderID=156&articleID=3963&ctag=articlelist&iid=1

http://www.nkth.gov.hu/main.php?folderID=397

Law on Research and Technological Innovation, Act CXXXIV/2004 / 2004. évi CXXXIV törvény a kutatás-fejlesztésrol és a technológiai innovációról

http://www.nkth.gov.hu/main.php?folderID=775; no specific info is availableon the Law in English

http://www.nkth.gov.hu/main.php?folderID=397;http://www.nkth.gov.hu/main.php?folderID=450&articleID=4033&ctag=articlelist&iid=1

National Reform Programme for Growth and Employment 2005-2008 / Nemzeti akcióprogram a növekedésért és a foglalkoztatásért 2005-2008

http://www.szmm.gov.hu/main.php?folderID=13950

http://www.szmm.gov.hu/main.php?folderID=13950

Higher Education Act, Ministry of Education and Culture of the Republic of Hungary

Budapest, 2008http://www.okm.gov.hu/letolt/nemzet/naric/act_cxxxix_2005.pdf

Ireland

Building Ireland's Knowledge Economy

http://www.entemp.ie/press/2004/20040809.htm

National Development Plan 2007-2013

http://www.ndp.ie/viewdoc.asp?fn=%2Fdocuments%2FNDP2007-2013%2Foverview.htm

National Reform Programme Ireland

http://www.taoiseach.ie/index.asp?docID=2264

National Reform Programme Ireland 2008-2010

http://193.178.1.117/index.asp?locID=601&docID=4113

Strategy for Science, Technology and Innovation 2006-2013

http://www.entemp.ie/science/technology/sciencestrategy.htm

Italy

National Reform Programme for Innovation, Growth and Employment (PICO)

http://www.politichecomunitarie.it/

Guidelines for Research, Technological Development and Innovation Strategy / Zinatnes, tehnologiskas attistibas un inovaciju strategijas pamatnostadnes

http://www.president.lv/pk/content/?cat_id=1147&lng=en

http://www.lza.lv/ZV/zv050900.htm

Guidelines for the Development of Higher Education, Science, and Technologies for 2002-2010 / Augstakas izglitibas, zinatnes un tehnologiju attistibas vadlinijas 2002.-2010.gadam

http://www.lzp.lv/latv/centr.htm

National Concept of the Republic of Latvia on Research Development / Latvijas Republikas Zinatnes attistibas nacionala koncepcija

http://www.lzp.lv/concept.htm

http://www.lzp.lv/latv/centr.htm

Lithuania

Lithuanian Science and Technology White Paper Implementation Programme / Lietuvos mokslo ir technologiju Baltosios knygos nuostatu igyvendinimo programa

http://www.ukmin.lt/

The Lithuania Long-Term Strategy for Research and Development / Ilgalaike moksliniu tyrimu ir eksperimentines pletros strategija

http://www.ukmin.lt/

Luxembourg

National plan for innovation and full employment / Plan national pour l''innovation et le plein emploi

http://www.odc.public.lu/publications/pnr/index.html

Report: "The R&D and innovation activities of the Great -Duchy of Luxembourg - Inventory of fixtures and suggestions" / Rapport: "Les activités d'innovation et de recherche au Grand-Duché de Luxembourg - État des lieux et pistes de réflexion

http://www.eco.public.lu/documentation/rapports/luxinnovation2005.pdf

Malta

National Strategic Plan for Research and Innovation 2007-2010 / National Strategic Plan for Research and Innovation 2007-2010: Building the R&I Enabling Framework

http://www.mcst.gov.mt/files/uploaded/R&Istartegy.pdf

http://www.mcst.gov.mt/files/uploaded/R&Istartegy.pdf

National Strategic Reference Framework (NSRF) 2007-2013 / National Strategic Reference Framework (NSRF) 2007-2013

http://www.mfin.gov.mt/page.aspx?site=MFIN&page=NSRF

http://www.mfin.gov.mt/page.aspx?site=MFIN&page=NSRF

Operational Programme I Cohesion Policy 2007-2013 / Operational Programme I Cohesion Policy 2007-2013: Investing in Competitiveness for a Better Quality of Life

http://www.ppcd.gov.mt/op1?l=1

http://www.ppcd.gov.mt/op1?l=1

Netherlands

National Reform Programme 2008-2010 Netherlands / National Reform Programme for the Netherlands 2008-2010

http://ec.europa.eu/growthandjobs/national-dimension/member-states-2008-2010-reports/index_en.htm

http://ec.europa.eu/growthandjobs/national-dimension/member-states-2008-2010-reports/index_en.htm

Poland

Directions for increasing innovativeness of the economy for 2007-2013, in the perspective of 2020. / Kierunki zwiekszania innowacyjnosci gospodarki na lata 2007-2013

http://www.mgip.gov.pl/NR/rdonlyres/D856997B-0AAD-4306-B83F-9F35A3C75133/19287/29042006Kierunkidokons_miedzyres_i_spolecznychpopr.doc

Operational Programme Innovative Economy, 2007-2013 / Program Operacyjny Innowacyjna gospodarka, 2007-2013

http://www.funduszestrukturalne.gov.pl/NSS/programy/krajowe/POIG/

Portugal

Technological Plan (Plano Tecnológico) / Plano Tecnológico - Uma estratégia de crescimento baseada no conhecimento, na tecnologia e na inovação

http://www.planotecnologico.pt/

Concept of national science and technology policy by 2005 / Koncepcia štátnej vednej a technickej politiky (do roku 2005)

http://www.veda-technika.sk/

Long-term Objective of the State S&T Policy up to 2015 / Dlhodobý zámer štátnej vednej a technickej politiky do roku 2015

http://www.rokovania.gov.sk/appl/material.nsf/0/1408B74D36D4B4B1C125734800300347?OpenDocument

The National Reform Programme of the Slovak Republic for years 2008-2010 / Národný program reforiem Slovenskej republiky na roky 2008–2010

http://www.rokovania.gov.sk/appl/material.nsf/0/80A7136468CAE5B0C12574DA00267103?OpenDocument

Slovenia

Resolution on National Research and Development Programme (NRDP) / Resolucija o nacionalnem raziskovalno razvojnem programu

http://www.mvzt.gov.si/en/legislation/legislation/

http://www.uradni-list.si/1/content?id=67936

Slovenian Development Strategy / Strategija razvoja Slovenije 2006-2013

http: //www.umar.gov.si/fileadmin/user_upload/projects/slovenia_development_strategy.pdf

http: //www.umar.gov.si/fileadmin/user_upload/projekti/02_StrategijarazvojaSlovenije.pdf

Spain

R&D&Innovation fiscal incentives / Incentivos fiscales a la I+D+i

http://www.minhac.es/Portal?cultura=en-GB

http://www.minhac.es/Portal

Sweden

Innovative Sweden - A strategy for growth through renewal / Innovativa Sverige - en strategi för tillväxt genom förnyelse

http://www.sweden.gov.se/content/1/c6/03/25/51/29e722a9.pdf

http://www.regeringen.se/content/1/c6/02/66/52/a6e1190a.pdf

United Kingdom
Annual Innovation Report 2008

http://www.dius.gov.uk/policy/annual_innovation_report.html

Innovation Nation

http://www.dius.gov.uk/publications/innovation-nation.html

Lisbon Strategy for Jobs and Growth: UK National Reform Programme

http://www.hm-treasury.gov.uk./documents/international_issues/european_economic_reform/int_lisbonstr

ategy_jobs.cfm

Science and Innovation Investment Framework - Annual Report 2007

http://www.dti.gov.uk/science/science-funding/framework/page9306.html

Science and Innovation Investment Framework, 2004 – 2014

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3.4 Annex F. References

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