Initiatives in Europe Facilitating Collaboration of Publicly-funded Research Organizations (PROs) with Businesses by Model Contracts and IPR Rules

Initiativen in Europa zur Unterstützung der Kooperation von öffentlich finanzierten Forschungseinrichtungen mit Wirtschaftspartnern durch Vertragsmuster und Regelungen für geistige Eigentumsrechte

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Part I

ABSTRACT

Effective and efficient technology transfer by collaborative R&D between universities or other publicly-funded organizations and businesses is partly hampered. Negotiation of terms and conditions often prove to be a challenge if partners don’t go for long-term oriented win-win relations. Contracts have to correspond to the mission of all parties and their contribution within the collaboration. Furthermore all legal requirements need to be met as well.

Different initiatives in Europe aim to facilitate the negotiation and the contracting by implementation of supranational and development of national codes as well as model contracts. Focusing on the model contracts the contractual relationship between for-profit companies und knowledge oriented publicly-funded research organizations will be analyzed systematically.

ZUSAMMENFASSUNG

Verschiedene Initiativen in Europa verfolgen die Intention, die Verhandlung und den Vertragsabschluss durch die Implementierung internationaler, sowie durch die Entwicklung von nationalen Regelwerken als auch von Vertragsmustern zu unterstützen. Fokussiert auf die Vertragsmusterinitiativen werden die Vertragsbeziehungen zwischen profitorientierten Unternehmen und erkenntnisorientierten öffentlich finanzierten Forschungseinrichtungen systematisch analysiert.

I. INTRODUCTION

A. Relevance of collaborative R&D

As a consequence of financial and economic crises economic realities of increased competition due to globalization are more obvious. Mostly, it is not size that matters but the ability for agile adoption to change. Companies’ best of class are even proactive. By creating new business models and developing new markets change can be initiated. Before new rules are applied to them they tend to influence the establishment of new rules. Therefore, these companies are also called game changers.

A prerequisite for an active or proactive attitude is that companies are excellent in attracting and motivating those rare talents that make the difference during idea creation, R&D and translation of results into viable products. In the high-tech arena even international companies with their resources nowadays fail to hire and to motivate the best and brightest. The answer to that challenge is open innovation\(^1\). By accessing the best available expertise worldwide synergies with own resources are yielded. Mutual collaboration with universities or in general with public research organizations PROs, enables companies to scout for talents, for new ideas, technologies and IPRs. If these are combined with suitable business cases a sound source for innovation is created. Consequently, sustainable business development goes along with innovation creating new jobs, dynamic growth and international competitiveness.

Companies like Procter & Gamble, General Electrics, 3M, IBM, Google, Microsoft, DuPont, Honeywell and Whirlpool are frequently presented as role

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models\(^2\). In the corresponding case studies it is demonstrated how \textit{open innovation} is able to rejuvenate the product portfolio and, consequently, to contribute significantly to the revenue streams. The collaborative thinking that goes along with \textit{open innovation} has improved over the years but is not understood and implemented throughout industries and regions.

The \textit{not-invented here syndrome} is still a challenge. Endorsed by the hope that research done in-house by own means could result in the innovations required for being competitive, companies still try to innovate alone. This is limiting the innovation potential, especially in Europe.

If the publication output is applied as a metric for generation of new insights, ideas and knowledge, Europe holds the first position since many years compared to the USA and Asia–Pacific, although the latter region is catching up quickly\(^3\).

The \textit{Global Innovation Scoreboard} report (GIS\(^4\)) allows a more thorough comparison of the EU 27 to the other major R&D spenders and emerging economies by applying a set of indicators. This comparison draws a quite opposite picture demonstrating that the EU has an innovation gap compared to major competitors. Europe is catching up towards the US, is keeping pace compared to Japan but lacks the dynamic of the Asia-Pacific region.


\(^4\)www.proinno-europe.eu/page/european-innovation-scoreboard-2008
EU 27 is quite diverse in its achievements. The European Innovation Scoreboard (EIS) provides a comparative assessment of the innovation performance of EU Member States. There are the so-called innovation leaders (green), with innovation performance well above that of the EU 27 and all other countries. Then there are the innovation followers (yellow), the moderate innovators (orange) and the catching-up countries (blue).

Compared on a national level there is an obvious broad performance range and, therefore, a lot room for improvement for a major part of the nations. The European commission has set ambitious goals and strategies to address this challenge.
Particularly promising is the potential of collaboration of companies with PROs. Based on the experience in Anglo-American nations and in the US in particular, it is widely understood that universities are able to contribute significantly to the innovation performance and, therefore, to the prosperity of a society. The boom of patents generated by US-universities is attributed to the Bayh-Dole Act from 1980. It gave US universities, small businesses and non-profits control of the intellectual property that resulted from government funding of their research. Consequently, over the years the contribution of university research to the innovation record has increased steadily.

According to the ATUM survey\(^5\) for the US universities just in 2008 research did result into 18,949 US and 848 non-US patent filings, 3,280 US patents issued, 5,039 license and options executed, 648 new commercial products introduced, 595 new companies formed. Collaboration with industry resulted in $51.47 billion total sponsored research expenditures. In the recent study by the Biotechnology Industry Organization\(^6\) the economic benefits of university patent licensing from 1996 to 2007 are estimated to have had a $187 billion impact on US gross domestic product, a $457 billion impact on US gross industrial output with 279,000 new jobs created.

Behind those numbers are innovations which have improved the quality of life for people around the world. Examples include the hepatitis B vaccine, the prostate-specific antigen test, Google, and the influenza vaccine FluMist. AUTM’s Better World Report tells on a yearly basis the real life stories connected to PROs contribution\(^7\).

\(^6\)www.bio.org/ip/techtransfer/BIO_final_report_9_3_09_rev_2.pdf
\(^7\)www.betterworldproject.org/
The economic impact and success stories like those mentioned above have created awareness worldwide for the described impacts of technology transfer and their underlying mechanisms. Consequently governments started the transformation process by setting up the basis for a suitable legal and funding framework worldwide. In the EU legal regulations have been adopted and the commission developed a several of programs, tools and recommendations.

THE COMMISSION OF THE EUROPEAN COMMUNITIES:
(1) When re-launching the Lisbon Strategy in 2005, the Heads of State or Government stressed the key role that better links between public research organisations, including universities, and industry can play in facilitating the circulation and use of ideas in a dynamic knowledge society and in enhancing competitiveness and welfare.
(2) An effort should be made to better convert knowledge into socio-economic benefits. Therefore, public research organisations need to disseminate and to more effectively exploit publicly-funded research results with a view to translating them into new products and services. Means to realise this include in particular academia-industry collaborations – collaborative or contract research conducted or funded jointly with the private sector –, licensing and the creation of spin-offs.
(3) Effectively exploiting publicly-funded research results depends on the proper management of intellectual property (i.e. knowledge in the broadest sense, encompassing e.g. inventions, software, databases and micro-organisms, whether or not they are protected by legal instruments such as patents), on the development of an entrepreneurial culture and associated skills within public research organisations, as well as on better communication and interaction between the public and private sector.
(4) The active engagement of public research organisations in intellectual property management and knowledge transfer is essential for generating socio-economic benefits, and for attracting students, scientists and further research funding.
(5) Member States have in recent years taken initiatives to facilitate knowledge transfer at national level, but significant discrepancies between national regulatory frameworks, policies and practices, as well as varying standards in the management of intellectual property within public research organisations, prevent or hamper trans-national knowledge transfer across Europe and the realisation of the European Research Area.
B. General regulations with impact on the relationship between PROs and businesses

In Europe changes of national and EU legislation during the last decade introduced basic rules for cooperation and thus do have a great impact on the way how companies and universities are able to cooperate.

1. Ownership of IP generated

In the US the Bayh-Dole Act\(^8\) is seen as milestone of legislation dealing with IP arising from federal government-funded research. The simplicity of the regulation hits the complex core of the mechanism behind IP-commercialization.

\[\text{“Certainty of title to inventions made under Federal funding has (amongst others) one significant benefit: it protects the right of scientists to continue to use and to build on a specific line of inquiry. This is fundamentally important to research-intensive institutions because of the complex way in which research is typically funded, with multiple funding sources. The retention of title to inventions by the institution is the only way of ensuring that the institution will be able to accept funding from interested research partners in the future. This is a critically important benefit of the Bayh-Dole Act that is not widely understood”, stated the Council on Governmental Relations in a review in 1999.}\]

At the European level there is unfortunately no consistent system of IP ownership applied to the results of publicly funded research. On a national level law reforms mostly in the form of public research acts were implemented with the effects of the Bayh-Dole Act in mind. The intention is to facilitate the exploitation of publicly-funded research results. While there are a large number of issues involved in achieving this task, mostly just one key issue common to all jurisdictions is the option for ownership of the inventions\(^9\). Those reforms abolished the professor’s privilege\(^10\) prevalent at universities in most nations of continental Europe in favor of institutional ownership. Consequently, inventions created by researchers are owned or may be claimed by the institution where the researcher works and not the researcher personally. For the first time universities were enabled to manage IP centrally which


\(^9\)Generally, these acts relate to inventions only. The ownership principles for the remainder of the different types of IPR are left to general labor or IP laws to decide.

their employees have created. Although the change has taken place in nearly any jurisdiction of the EU 27 in Sweden and Italy\(^\text{11}\) the former rules still apply.

Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Italy, Ireland, the U.K., Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Portugal, Slovak Republic, Slovenia, Spain, Sweden are covered by the survey, whereas Bulgaria, Hungary, Poland and Romania are omitted.

Romania is currently working on a new legislation (oral communication by Alexandru Strem from Romanian State Office for Inventions and Trademarks, May 11th 2010).

Switzerland - as not being part of the EU 27 - was not covered by the survey either. In Switzerland it was not a law change but the increased independence of the universities introduced by the cantons in the middle of the nineties which triggered the exploitation of university IP (oral communication by Bruno dalle Carbonare from the BDC Business development company AG, May 31th 2010).

The national systems of institutional ownership are substantially different from each other. On the one hand there is the automatic ownership, with the PRO as first owner of the IPR, and on the other hand the pre-emption right, with the employee inventor being the first owner but the right of the PRO to claim and thereby acquiring the invention (most usually within a specified period of e.g. 3 or 4 months). These systems also differ from each other on the issue of “if, how, and when” researchers should be compensated for transferring the IP to the PRO.

Many stakeholders involved in changes of national legislation regarding universities’ IPR were aiming for a development like in the US. Nevertheless regulations on a national level still might result in IP ownership fragmentation. Almost all European nations operate a system of national funding (usually via different agencies with special focus areas) which attach their conditions to the results of publicly funded research\(^\text{12}\). The grants systems enable member states to indirectly preserve or implement different IP provisions than existing under that Member States’ domestic statute and case laws. As a result IP-ownership of funding agencies but also of collaborating businesses fragments and, therefore, this counteracts the goal of “concentrating IP in the realm of its generation”. In some instances, countries required the results of research to be commercialized (or remain) in one Member State alone, (and not on a cross border basis). At a minimum, this may present a

\(^{11}\text{Ibid: In Italy the professor’s privilege was reintroduced but with the obligation that universities participate if the inventors commercialize successfully.}\)

\(^{12}\text{Ibid: The Member States surveyed provided some information in relation to grant regimes but the information available does not demonstrate any regional patterns in grant practice.}\)
barrier to cross border collaboration and prevents free movement of intellectual capital. The conditions laid down in grant agreements (and the penalties for case of breaching them) mean that under the contract laws of many Member States, ownership and exploitation of research IPR might be made subject to another layer of regulation.

While the laws on state aid can lessen the effect in some cases, their presence adds to the complexity of IP ownership rules and, by doing so, hamper commercialization of research results.

In comparison to the US situation with the Bayh-Dole Act, in Europe more time has to be invested in contract diagnosis and negotiations. This is required to obtain full control of ownership of IP as a basis for future R&D and consequent commercialization.

On the other hand regarding the transfer of ownership to third parties, most regulations in Europe are much more flexible than in the US. Especially multinational corporations appreciate the fact that as part of a win-win deal IPRs can be assigned to them.

The law changes in Europe mostly did go along with the new mission for PROs to support the commercialization of IP by translation of R&D results into innovations that are successful in the marketplace\textsuperscript{13}. Consequently, PROs did become a more attractive partner as companies co-operating with PROs can nowadays rely on the fact that PROs are able to pursue ownership of the IP created by their employees and that more care is taken to file patents for relevant inventions prior to their publication in scientific literature, take confidentiality serious, keep adequate laboratory notebooks etc. Complementary to the legal regimes PRO's policies often specify in more detail IP matters which may have an impact on the resulting ownership, protection and exploitation of IP at a given PRO. This may give rise to interinstitutional differences within jurisdictions which might not be evident from an analysis of the legal regime alone. For example, scientists not employed by the university (e.g. visiting academics, students, etc.) are not bound by the law defining institutional ownership but PRO's policies might specify that the mere use of the universities infrastructure will result in certain ownership claims, opting-in offers

\textsuperscript{13}Examples: In Germany the BMBF federal ministry for education and research developed an action scheme called "Knowledge creates market" in order to improve the commercialization of R&D results. www.bmbf.de/pub/wsm_englisch.pdf

In Austria the BMWF federal ministry of science and research calls the sustainable knowledge transfer as the third pillar of the activities of universities besides research and teaching. www.bmwf.gv.at/neuigkeiten/zur_zukunft_der_universitaeten/
encourage transfer of rights to the PRO in exchange of equal treatment with employed scientists, software developers are motivated by equal treatment with inventors etc.\textsuperscript{14} The IPR Help desk is providing support and checklists concerning employees' creations in R&D projects\textsuperscript{15}.

Proof of concept of positive long term effects of ownership improvements can be found not only in the US, Canada\textsuperscript{16} and Australia\textsuperscript{17} but also in a variety of PROs in Europe. In the UK universities always have been entitled to obtain ownership. Nevertheless kick-off for commercialization required a policy change in 1985 that paralleled the Bayh-Dole Act. The UK Government withdrew the National Research and Development Corporation’s first right of refusal on university IP and returned to the universities the responsibility for managing and exploiting IP. In continental Europe the first ones to commercialize IPRs were those PROs that have the same ownership regulations in place like for profit companies. This made everything much easier and was a pre-requisite for broad stimulation and commercialization of IP. At the same time their regulatory and governing framework put more emphasis on cost-benefit aspects than it was used to be with most of the universities. Well known examples are the commercialization activities of Max Plank Innovations (since 1979\textsuperscript{18}) and Frauenhofer-Gesellschaft (since 1995\textsuperscript{19}).

\section{Public funding}

European commission, national governments and their funding programs for collaborative research placed university-industry collaboration higher on the priority list in the last years. Nations such as Germany, Austria\textsuperscript{20} and the UK have initiated long term governmental programs to support university-industry collaboration financially as well as administratively in order to promote technology transfer between the PROs and industry.

\textsuperscript{14}Guideline of Graz University of Technology for commercialization of R&D results, mbla.tugraz.at/06_07/Stk_8/8.htm#81
\textsuperscript{15}Helpdesk on Intellectual Property Rights related issues in EU-funded projects published a basic information about employees creations: www.ipr-helpdesk.org/documents/EmployeesCreationsinRTDprojects_0000002917_00.xml.html
\textsuperscript{17}Funding bodies in Australia, such as the ARC, recognize the Common Law right of universities as employers to retain the intellectual property arising from grant funded research.
\textsuperscript{18}www.max-planck-innovation.de/
\textsuperscript{19}www.innovations-report.de/html/profile/profil-167.html
\textsuperscript{20}www.ffg.at, http://www.cdg.ac.at
Public co-funding of industry R&D has to avoid distortion of competition. Therefore, due to the deminimis cap for the cash equivalent, a company may obtain as subsidies not more than 200,000,- Euro in a three years period\textsuperscript{21}.

Collaboration with universities could result in indirect subsidies for companies. As an interpretation of competition law European Commission has published the Community Framework for State Aid for Research and Development and Innovation\textsuperscript{22}. The Commission will automatically, i.e. without any notification requirement, consider that no indirect State aid is granted to the private partner by the PRO if the conditions set out in the Community Framework for State Aid for R&D\&I\textsuperscript{23} are fulfilled.

In case of contract research or research services market price\textsuperscript{24} or full costs\textsuperscript{25} plus a reasonable margin need to be paid if the company will obtain the results. In analogy, in case of R&D collaborations the full cost approach or a compensation equivalent to the market price for the intellectual property rights transferred to the company is required.

\section*{C. Challenges for Collaborative R&D}

Despite the high potential technology transfer between PROs and companies is not always without complications. Collaboration between curiosity driven research in PROs and business oriented development in companies has to cross cultures and to yield synergies for all parties involved. Prohibited publications on the one side and patent filings impeded by prior-art publications of the inventors on the other side are examples of bad practice. There is also the issue of conflicts of interest and commitment in cases where actors are having different roles with different goals\textsuperscript{26}. Misunderstood missions, regulations and legal requirements are nowadays resulting in additional barriers. Companies tend to assume that having paid taxes not only hiring of scientist and engineers educated by universities but also their IPRs have to be for free. Universities tend to oversee that companies major interest within the

\begin{itemize}
\item \textsuperscript{21}de-minimis aid: europa.eu/legislation_summaries/competition/state_aid/t26121_en.htm
\item \textsuperscript{22}ec.europa.eu/competition/state_aid/reform/archive_docs/rdi_frame_en.pdf
\item \textsuperscript{23}Ibid: OJ No C323 of 30.12.2006 – in particular 3.2.1 and 3.2.2 thereof
\item \textsuperscript{24}For elucidating a market price benchmarks are found at private R&D companies which are working for profit.
\item \textsuperscript{25}Full costs are not just additional costs plus an overhead of e.g. 20%. The EU accepts within its funding programs 60% as an flat rate for overhead. For coming closer to reality even significant higher percentage need to be added. At Graz University of Technology e.g. the real overhead for personnel expenditures calculated for 2007 was 83.15%.
\item \textsuperscript{26}University-industry relationships: benefits and risks, Joe Sandelin, Industry & Higher Education, 24 (2010) 55-62.
\end{itemize}
collaboration is to gain a competitive advantage facilitating the generation of revenues.

The discussion of value of IP already created is still a hot topic as the perception of value of early stage technology is nearly always asymmetric. Even more difficult is the discussion of value of unknown IP that might be created in a project not yet started. Especially in case of inventions based on fundamental research it is usually impossible to predict which IP with which options for market relevant applications might be generated. Negotiation of valuation methods is, therefore, a critical success factor for enabling of win-win relationships. These are often strongly application, industry and business case dependent. As the topic is rather complex there is no one-size-fits all solution. Partners need to have corresponding education, training and experience in order to understand the relevant parameters, make use of the options for setting up of an suitable business case, defining the corresponding IP use, applying and adopting established valuation methods and finally defining the financial terms as well as integrating them into executable contracts.

A prerequisite for that is a mind change for negotiating and implementing of win-win oriented collaborations. On the short run it is easier to go for win-lose or loose-win but only win-win collaboration is the sound basis for sustainable long term relationships which is usually a requirement for R&D collaborations.

Furthermore, the clearance of ownership questions due to potential IP contamination, negotiation and implementation of contracts is often time-consuming and the required resources are not always easily available.

Last but not least tech transfer professionals and business executives negotiating the deal require the support of legal counsels. Sometimes legal counsels are experienced more as opponents than as facilitators making contracts legally valid, unambiguous and risk adjusted. In-house legal reviews in companies and PROs as well often have been cited as slowing down negotiations and alienating partners. Instead of a deal minded attitude partners are often frustrated by a bureaucratic approach trying to reduce risks to zero instead of following the business-minded approach looking for a fair sharing of rewards and associated risks.
D. Codes, Guidelines and Model Contracts Facilitating Collaborative R&D

Voluntary codes of practice as well as guidelines on IPR ownership and exploitation have an important role to overcome the aforementioned challenges. In an EU consultation a majority of respondents asked for guidelines in order to address issues such as the balance between patenting and publishing and on developing a PRO policy on links with industry generally. The OECD has noted that legislation might be necessary to create “the incentive for PROs to protect and commercialize IP” but new laws were not the only measure. In general, guidelines and codes of practice on IPR ownership and management have the potential to foster greater transparency and coherence.

Currently these codes work in parallel with one another, with the pre-existing legal regime in each nation and with IP policies at the institutional level. They provide a useful source of potential common ground between contracting parties in collaborative research. Usually parties are free to decide about their implementation but there are exemptions.

The codes are classified as (1) supranational codes, including EU initiatives and (2) national codes and (3) model contracts.

1. Supranational Codes

OECD and WIPO studies

International organizations like the OECD and WIPO have evaluated the perspective of technology transfer and university-industry relations intercontinentally. Analyzing the status quo, goals and strategies, both organizations have published corresponding recommendations. Part of those recommendations is awareness creation, education, training, and in general share of good practices. Furthermore,
coherent national IP policies and implementation of IP policies at the institution level are strongly encouraged.

**AUTM Guidelines for University Licensing**

If PROs have created IPR that is free for licensing to any third party it is recommended to have basic principles in place. Licensing approaches might vary considerably from case to case and from university to university based on the circumstances. In spite of this uniqueness, universities share certain core values that should be implemented in all licensing agreements.

The intention is to support the universities’ mission and by doing so to address the dual goals of nurturing future research and using the innovations of university research to provide the broadest possible benefit to the public. AUTM\(^32\) has published 2007 *Nine Points to Consider in Licensing University Technology* with examples of clauses for corresponding implementation into contracts.

**EU Recommendations**

The EU has developed a series of activities\(^33\) among those the *Recommendation on the Management of Intellectual Property in Knowledge Transfer Activities and Code of Practice for Universities and Other Public Research Organizations of the European Commission*\(^34,35\). This was published in 2008 and is aimed at developing guidance on the management of IP by PROs in the form of a recommendation to the Member States.

Central to the recommendation is the idea that steps should be taken to improve the coherence of IPR regimes as regards the ownership of IP, in such a way as to facilitate cross-border research. The recommendation suggests using the recommendations themselves as the basis for national legislation or guidelines on IPR management.

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\(^{32}\)www.autm.net/Nine_Points_to_Consider.htm  
\(^{33}\)Investing in Europe, ec.europa.eu/invest-in-research/index_en.htm  
\(^{34}\)The management of intellectual property by public research organizations, europa.eu/legislation_summaries/research_innovation/general_framework/r0007_en.htm  
The recommendations for the member states include e.g. the (i) Encouragement of PROs to establish policies and procedures for the management of IP; (ii) Support for the development of knowledge transfer capacity and skills in PROs, as well as to raise the awareness regarding IP, knowledge transfer and entrepreneurship; (iii) Improvement of the coherence of IP ownership; (iv) Implementation of the Code of Practice (see below), whether directly or through the rules laid down by national and regional research funding bodies; (v) Designation of a national contact point for the coordination of measures regarding knowledge transfer between PROs and business36.

In the Code of Practice for PROs concerning the management of IP in knowledge transfer activities principles are defined for internal policies regarding (i) IP, (ii) knowledge transfer and (iii) collaborative and contract research.

The Internal IP policy of PROs should provide clear rules for staff and students regarding e.g. the disclosure of new ideas with potential commercial interest, the ownership of research results, record keeping, the management of conflicts of interest and engagement with third parties. Furthermore it should promote the identification; exploitation and protection of IPs in order maximize socio-economic benefits including incentives, awareness creation and training of basic skills regarding IP and knowledge transfer.

The Knowledge Transfer Policy should ensure that the PRO has professional knowledge transfer services in place including legal, financial, commercial know-how as well as access to protection and enforcement advisors, in addition to staff with technical background. Furthermore, a licensing policy for exploitation purposes should result in adequate compensation for IP transfer.

A policy defining Rules for Collaborative and Contract Research should be compatible with the mission of each party and consider the level of private funding and be in accordance with the objectives of the research activities, in particular to maximize the commercial and socio-economic impact of the research, to support the PROs objective to attract private research funding, to maintain an IP position that allows further academic and collaborative research, and avoid impeding the dissemination of the R&D results. IP-related issues should be clarified at

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36In Austria a national contact point (NCP) has been designated at the Federal Ministry of Science and Research, assisted by the Federal Ministry of Economy, Family and Youth, the Federal Ministry of Transport, Innovation and Technology. www.ncp-ip.at
management level and as early as possible in the research project, ideally before it starts. IP-related issues include allocation of the ownership of intellectual property which is generated in the framework of the project ("foreground"), identification of the intellectual property which is possessed by the parties before starting the project ("background") and which is necessary for project execution and/or exploitation purposes, access rights to foreground and background for these purposes, and the sharing of revenues. In a collaborative research project, ownership of the foreground should stay with the party that has generated it, but can be allocated to different parties on the basis of a contractual agreement concluded in advance, adequately reflecting the parties' respective interests, tasks and financial or other contributions to the project.

Within the recommendation a list of identified practices of public authorities facilitating the IP management of intellectual property of PROs has been published. Among these are the following measures: (i) Sufficient resources and incentives are available to PROs and their staff to engage in knowledge transfer activities. (ii) Measures are taken to ensure the availability and to facilitate the recruitment of trained staff (such as technology transfer officers). (iii) Pooling of resources between PROs at local or regional level is promoted where these do not have the critical mass of research spending to justify having their own knowledge transfer office or IP-manager. (iv) Government funding is made available to support knowledge transfer and business engagement at PROs. (v) In order to promote transnational knowledge transfer and facilitate cooperation with parties from other countries, the owner of IP from publicly-funded research is defined by clear rules (institutional ownership) and this information, together with any funding conditions which may affect the transfer of knowledge, is made easily available. (vi) Last but not least: A set of model contracts is made available, as well as a decision-making tool helping the most appropriate model contract to be selected, depending on a number of parameters.

**Responsible Partnering**

This guide is the result of a joint initiative of the European Commission, EIRMA European Industrial Research Management Association, EUA European University

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37 Joining forces in a world of open innovation, a guide to better practices in collaborative research between science and industry
www.responsible-partnering.org
Association, EARTO European Association of Research and Technology Organizations and ProTon Europe. The handbook was first published 2005 and a revised edition was released 2009.

Responsible partnering is intended to assist both PROs and private companies to improve the effectiveness of their collaborative research. The code highlights the need for a sustainable approach, in other words, it acknowledges that relationships in which the fruits of research are inequitably allocated between the parties, are less likely to be durable.

Two main principles are contained in the code: (1) there should be maximum beneficial use of public research, and (2) that there should be responsible use of that research. Following from those two core principles, ten guidelines are derived. The guidelines include the adoption of processes which will enable the parties to establish what their own respective expectations are. One of the principles is the need for parties to share equitably in the benefits of research results as well as having clarity of IPR ownership. Checklists for implementation of the guidelines and for drafting of contracts are included as well.

EICTA Interoperability White Paper

This Code was developed by EICTA European Information, Communications and Consumer Electronics Industry Technology Association. It is aimed to encourage (technical) information-related interoperability for products and services being used by multiple parties. It is not related to research specifically but has a more general approach to promote and reward innovation. For that reason it might be described as a technical sectoral code. The code introduces actions and principles to achieve that aim. The White Paper notes the potential tension between IP protection rewarding the innovator and the adoption of a common, perhaps nonproprietary standard for the public goal of better interoperability. It notes that such tensions can and have been “managed in a generally successful manner” by the development of so-called “open standards”.

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38 EICTA, 21 June 2004, see also EICTA White Paper on Standardisation and Interoperability, November 2006. EICTA was renamed to Digital Europe www.digitaleurope.org
39 In networks, systems, devices, applications and components.
Towards European Guidelines\textsuperscript{40}

In 2004 DG Research published a number of recommendations which could be used as a basis for the development of guidelines for the EU. It highlighted the need for harmonization and convergence of ownership regimes at an EU level. It includes some useful starting points for research collaborators to consider as minimum principles.

CREST Report\textsuperscript{41}

The report once again affirmed the need for guidelines at an EU level. Guidelines should assist PROs and industry to “work out dispassionately what contractual arrangements for IPR ownership will be appropriate for their needs”. The CREST Decision Guide is part of the report and is not dependent on any particular IP system. Therefore, it is a tool that compliments the code of practice.


2. National Codes

As a large number of issues need to be addressed by PROs and companies in dealing with the transfer of IP in R&D collaborations some member states like Ireland, the UK and Denmark have issued guidance on these issues by introducing non-binding national codes.

Ireland

ACSTI Advisory Council for Science, Technology and Innovation has developed two complimentary codes:

- **National Code of Practice for Managing Intellectual Property from Publicly Funded Research**\(^42\) was published in 2004 is focused on IP Management, is non-binding and may be adapted for local use by PROs. One of its key principles is that ownership of research has to be vested to the PRO, backed by published ownership policies and written agreements (entered into by all scientists involved). It suggests that conflicts of interests should be managed and resolved, and good practice guidelines (e.g. keeping adequate laboratory notebooks to assist in IP protection) should be put in place. It encourages PROs to develop a policy on incentives to research (equity, royalty sharing are examples but it encourages a broad approach to the issue not restricted to those two options). It also includes a sample invention disclosure form and a user friendly guide to IPRs.

- **National Code of Practice for Managing and Commercializing Intellectual Property from Public-Private Collaborative Research**\(^43\) was published in 2005, is non-binding and covers on 54 pages the whole process from the initial cooperation to commercialization. It provides a framework for opening negotiations between parties based on best practice. It states that ownership and access to results of public-private collaborative research should be negotiated on a project by project basis based on three key factors: (i) financial input; (ii) intellectual input; and (iii) capacity to exploit. The last aspect, capacity to exploit, is hardly mentioned in any other comparable initiative. It also addresses the need to discuss how disputes between the parties are to be

\(^{43}\)www.forfas.ie/publication/search.jsp?ft=/publications/2005/Title,785,en.php
dealt with. It is explicitly aimed at maximizing Ireland’s attractiveness for foreign direct investment in research and development by promoting a common IP management approach and gives preference to commercialization in Ireland. Negotiation of contracts and correlating challenges are not discussed. Also other forms of cooperation besides the research collaboration are not mentioned. Both codes have been well received in Ireland.

Whilst both codes are non-binding, it is important to note that compliance with their main terms is a pre-condition for obtaining a grant from one of the major sources of funding for scientific research, the Science Foundation Ireland. Effectively therefore, it is a strong financial incentive to use them under the grant conditions. Another core element of Science Foundation Ireland’s terms and conditions is that there is an attractive incentivisation and financial return for the research project’s principal investigator and the research team44.

**United Kingdom**

In the UK several organizations have published non-binding codes relevant to IP ownership and management:

- **Baker Report**45 *“Creating knowledge creating wealth" Realizing the economic potential of public sector research establishments* is a report to the Minister for Science and the Financial Secretary to the Treasury by John Baker 1999. It is focused in particular on issues of good practice, barriers to successful commercialization, culture, management and the PRO-business relationship.

- **A Guide to Intellectual Property Management: Strategic Decision-Making in Universities**46 developed by the UK IPO Intellectual Property Office (formerly known as the Patent Office) in partnership with AURIL Association of University Research & Industry Links and UK Universities. It was published 2002 and is designed to inform and support activities of university senior managers in the development of their IP strategies and policies.

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45 http://www.hm-treasury.gov.uk/ent_sme_baker.htm
46 http://www.ipo.gov.uk/managingipoverview.pdf
The Lambert Review was written by Richard Lambert. The 2004 Lambert Review of Business-University Collaborations came up with a number of key recommendations on ways to improve links between PROs and business. One of these was that a number of interested parties, including the UK’s Department of Trade and Industry, AURIL and industry stakeholders, developed a set of model agreements to be used in collaborative research projects. These would be used on a voluntary basis as a suite of model contract by universities and industry. A decision guide with guidance notes was also developed to help parties decide which of the five main Lambert agreements (or a combination of them) best suits the particular scenario that PRO or company sponsor is dealing with, and to navigate through the agreements by themselves.

**Denmark**

A working group of DI Confederation of Danish Industries (Danks Industri) and the Danish Rectors’ Conference (Rektorkollegiet) developed “Contacts, contracts and codices - research co-operation between universities and companies” which is non-binding and sets out useful information and guidance on the interaction between universities and companies. The Code includes on 48 pages guidance on co-financed research, sale of self-funded research, sponsored research, commissioned research, consulting services, Ph.D. studies and IPR. It addresses, in a competent and user-friendly manner, how to decide payment models, valuations, distribution rights and the management of the parties expectations of what the results will be in any given project. Although it is not ment to be a step-by-step guide for setting up a contract a chapter covers all important aspects of a corresponding contract.

The assignment was to collate many good experiences from cooperation projects between universities and companies and, against this backdrop, prepare a report that indicates how hurdles and problems could be handled. It is well suited for beginners but also provides useful ideas for advanced readers. Although the Danish legal situation is discussed it is applicable for international use. The publication contributes to the smooth transfer of knowledge between universities.

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47Richard Lambert: former editor of the Financial Times and formerly a member of the Monetary Policy Committee at the Bank of England and then Director General of the CBI Confederation of British Industry
48di.dk/English/Shop/Productpage/Pages/isdefault.aspx?productid=2684
and companies. Recommendations are intended to help PROs and businesses to become partners in - not just parties to - co-operation.

**Austria**

Graz University of Technology has developed a binding guideline not only for the handling of IPRs in general but also one for IP generated within any form of collaboration with businesses. The guideline defines the IP related rules for all employees with the power to act and sign on behalf of the university. In the first version from 2007, enforced 17 days after the release of the already mentioned *Community Framework for State Aid for Research and Development and Innovation*, this Framework together with the feedback of various collaboration partners as well as the Federation of Styrian Industries have been taken into account. The second version released in March 2008 was formally negotiated with the Federation of Styrian Industries with involvement of their Austrian umbrella organization. The approval of the document has been unanimously within the members of the Federation of Styrian Industries.

For facilitating the use of the guidelines a check list was developed in cooperation with the Federation of Styrian Industry$^{49}$. For assisting the implementation various compatible model contracts were designed as a service for the institutes.

The guideline has been provided to the Austrian universities and is in a broader use. The contract of Graz University of Technology covered in Table II is based on this guideline. Furthermore, the guideline was applied for definition of the initial starting point for the IPAL Intellectual Property Agreement Guide (cf. Tables).

**Sweden**

As already mentioned, in Sweden the professor’s privilege is still in force. Therefore, an example of how IPs are managed in contracts seemed interesting for the review.

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$^{49}$Work in progress that is still not published.
In the seven page guidelines of KTH Stockholm\textsuperscript{50} the university confesses itself to the professor’s privilege in a clear way. The university avoids any financial risks by not filing any patents but supports the scientists by an external company. Inventions generated by public funding are seen as a contribution to society. For case of collaborations it is stressed that all employees should have in place contractual agreements with the research sponsor so that there is a basis for the commercialization of results secured.

3. Model contracts and supporting initiatives

In nearly all supranational codes awareness creation, education, training, and in general share good practices is recommended. The European Commission strongly recommends and supports the availability of a set of model contracts, as well as decision-making tool for selection of appropriate model contracts as best practice of public authorities. Just recently this recommendation was renewed by the European Parliament\textsuperscript{51}.

The EC has made available the CREST cross-border collaboration decision guide\textsuperscript{52} to help a business (in particular a SME) and a PRO to decide the best way to arrange matters in their collaboration agreement. In a first step a series of questions interactively results in the identification of the issues and their relative importance to the contract. In a second step the cross border aspects are identified.

In this regard, the CREST Group notes that achieving model agreements which could have a pan-European application might not be possible as the agreements might become too complicated to be of practical use. Instead, it prefers the use of such model agreements at a national level.

If it comes to the drafting of an executable contract this becomes understandable. Probably for contracts like MTAs a broader international use can be achieved. Organizations such as AUTM Association of University Technology Managers\textsuperscript{53} originated in the US and DESCA\textsuperscript{54} in the EU have developed model contracts for material transfer agreements. But there are a lot of subtle national differences that go e.g. beyond what has already been discussed in relation of

\textsuperscript{50}Patent- och exploateringspolicy vid KTH, intra.kth.se/regelverk/overgripnade-styrning/upphovsratt/1,27147
\textsuperscript{52}ec.europa.eu/invest-in-research/policy/crest_cross_en.htm
\textsuperscript{53}www.autm.net, restricted member’s area but membership is open to all interested worldwide.
\textsuperscript{54}www.desca-fp7.eu/fileadmin/content/Documents/Model_for_Material_Transfer_Agreement_2008_09_18.doc
ownership. In Germany for example in addition to remuneration for the inventors there are further ties attached to the institutional ownership: Researchers do have a negative publication right meaning they can publish instead of disclosing the invention for consequent patenting prior to publication. Furthermore inventors have the right to file patents in their own name in nations where the employer does not file. In Austria the remuneration for the inventors has to be appropriate in relation to what the invention is worth and not in relation to what the PRO has earned with that invention in particular. Those differences in the legal systems require corresponding regulations in the contracts.

Following this need, the subsequent part will focus on the survey about national initiatives facilitating the contract drafting. Some countries have put in place model contracts such as the UK with the Lambert Tool kit to help potential contracting parties reach agreement on IPR and reduce that agreement to writing.

**Table I: Overview of national initiatives providing model contracts**

<table>
<thead>
<tr>
<th>No</th>
<th>Initiatives</th>
<th>Links</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU 1</td>
<td>EU-IPV Grant Agreement (+Annex II)</td>
<td>cordis.europa.eu/mp/calls/grant-agreement_en.html#theas_pa</td>
</tr>
<tr>
<td>EU 3</td>
<td>BeTA Fp7 Consortium Agreement</td>
<td><a href="http://www.digitaleurope.org/index.php?id=32&amp;id_article=93">www.digitaleurope.org/index.php?id=32&amp;id_article=93</a></td>
</tr>
<tr>
<td>UK 1-5</td>
<td>Lambert Tool Kit</td>
<td><a href="http://www.innovation.gov.uk/lambertagreements">www.innovation.gov.uk/lambertagreements</a></td>
</tr>
<tr>
<td>DE 1-4</td>
<td>BMW Federal Ministry of Economies and Technology</td>
<td><a href="http://www.bmwi.de/DE/Navigaton/En/Innovation/Innovationswebseiten/did-342654.html">www.bmwi.de/DE/Navigaton/En/Innovation/Innovationswebseiten/did-342654.html</a></td>
</tr>
<tr>
<td>DE 5-6</td>
<td>Berlin Contracts</td>
<td><a href="http://www.gfu.de/de/info/themen/strukturdaten/berlin-contracts/">www.gfu.de/de/info/themen/strukturdaten/berlin-contracts/</a></td>
</tr>
<tr>
<td>DE 7</td>
<td>Düsseldorf Contract Workshop</td>
<td><a href="http://www.gewe.de/de/info/veragent/vertragsservice">www.gewe.de/de/info/veragent/vertragsservice</a></td>
</tr>
<tr>
<td>AT 1</td>
<td>Graz Univ. of Technology &amp; Federation of Austrian Industries</td>
<td>mika.brauer.e007.08/09/13206315_Richtlinie IPR Wirtschaftskooperationen.pdf</td>
</tr>
<tr>
<td>AT 2-4</td>
<td>Vienna University of Technology</td>
<td><a href="http://www.buwen.ac.at/de/services/fuer_uns_angehoerigkeitsvertragservice">www.buwen.ac.at/de/services/fuer_uns_angehoerigkeitsvertragservice</a></td>
</tr>
<tr>
<td>AT 5</td>
<td>FFG Austrian Research Promotion Agency</td>
<td><a href="http://www.ffg.ac.at/content.jsp?ID=1046">www.ffg.ac.at/content.jsp?ID=1046</a></td>
</tr>
<tr>
<td>AT 6</td>
<td>IPAC Intellectual Property Agreement Cluster</td>
<td><a href="http://www.ipac.at">www.ipac.at</a></td>
</tr>
</tbody>
</table>
| AT 7-8 | WKO Austrian Federal Economic Chamber: (1) Model contracts (for members only); (2) Handbook (tree access) | (1) wko.at/al Hơn/gesamtangebot-wirtschaftsrat.htm
(2) portal.wko.at/kaak/start.html/ 登录ID=150&Cookie=1815190536;st=1815190536 |
| FR 2-3 | CNRS National Center of Scientific Research | www.dgbf.crs.fr/modelescontrat/contrat.htm |
| DK 1-4 | Johans Schluter Committee | en.dk/innovation/model-agreements |
| SE 1 | Lunds University | www.luns.lu.se/sekret/for-mitt-arbetsliv/aktuell/utlingsforskningsavdel |
| SE 2 | VINNOVA Swedish Governmental Agency for Innovation Systems | www.vinnova.se/dokument/verkstadsverksamheter/Starka_FoI-miljoe/VINN_ExcellentArtikel/Artikelmanual_eng.pdf |
| IT 1-3 | University of Milano | www.unimi.it/area/centri/cori |
| IT 4 | Confindustria Confederation of Italian Industries | www.confindustria.it/anglais/whatis/index.html |

Initiatives are listed in the Tables according to their national affiliation. The initiatives are classified in the following as platform initiatives, meaning that PROs and businesses were engaged and single initiatives, where only one institution or partners from either PROs or businesses were involved.

**Platform initiatives**

In case of platform initiatives the engagement of both, PROs and businesses, usually goes along with a broader discussion and exchange of different viewpoints with the intention to achieve a more balanced model contract and, consequently, a broader support of the final outcome in its practical use.
European commission

Since FP6, Consortium Agreements are mandatory for most FP-funded research projects. The purpose of a consortium agreement is to regulate critical aspects of project governance not covered by the grant agreement between the Commission and the project consortium. Key aspects covered in consortium agreements are typically: (i) the internal organization of the consortium; (ii) the distribution of the EC financial contribution; (iii) liability and confidentiality arrangements between partners; (iv) management of intellectual property and access rights to results (e.g. when, and on what terms, should access to results be provided to other partners and their affiliates)

From all those different model contracts available only three were selected as those are in strong use in practice. Due to their European wide publicity those contracts have a great normative impact on how collaboration contracts are set up, even outside the related programs.

EU.1 Seventh Framework Programme. Model grant agreement

The European Commission adopted 2007 the general model grant agreement to be used in research projects funded under the 7th Framework Programmes (FP7). This model grant agreement is applicable to the indirect actions under the 'Cooperation' and 'Capacities' Specific Programmes of FP7. It consists of a core text and several annexes. There is also a list of special clauses to be introduced in the grant agreement where necessary.

The original language of the grant agreement and its annexes is English. The translations into the other community languages are provided to facilitate the understanding of the grant agreement and its annexes. They are not legally binding and are not officially sanctioned.

EU.2, DESCA Group FP7 Consortium Agreement

DESCA DExvelopment of a Simplified CConsortium Agreement for FP7 is a comprehensive, modular consortium agreement. Initiated by key FP7 stakeholder groups55, and co-developed with the FP community, it offers a reliable frame of reference which seeks to balance the interests of all of the main participant

55DESCA was initiated by ANRT (www.anrt.asso.fr), the German CA-Team (represented by Helmholtz - www.helmholtz.de and KoWi - www.kowi.de), EARTO (www.earto.eu), Eurochambres (www.eurochambres.be), and UNITE (www.unite.be)
categories in FP research projects: large and small firms, universities, public research institutes etc. The DESCA project aimed of producing one consistent modular agreement for FP7 which balances the interests of all key player categories, in the spirit of Responsible Partnering\(^{56}\). Therefore it is enjoying a broad support within the FP community.

DESCA is also a much simplified consortium agreement compared to many of the FP6 models. Inexperience and caution then encouraged prudence and sometimes over-precision. Now, with the benefit of experience, DESCA offers a model stripped of unnecessary complexity in both content and language.

DESCA offers variant options for clauses around its core text enabling adoption to quite different project types (e.g. large long-term multi-partner consortia versus close-to-market SME-centred projects) or different actor categories (e.g. research-oriented universities versus application-focused enterprises). DESCA contains guidance notes to help research managers without legal training to recognize key issues for them and to make informed choices about the best options to approach win-win agreements.

UK.1-5, Lambert Tool Kit

In the already mentioned Lambert review\(^57\) it was proposed that key stakeholders representing universities and business should work together to develop a range of model collaborative research agreements. The Lambert Tool Kit\(^58\) was developed by a working group including key stakeholders such as AURIL, CBI Confederation of British Industry, RDAs Regional Development Agencies, SBS Small Business Service, UNICO\(^59\), a number of UK companies, universities, and several government departments chaired by Richard Lambert. The group was facilitated by the IPO and the DIUS Innovation Group\(^60\).

Resulting agreements are setting out various approaches to IP ownership, management and exploitation rights including ownership of the IP by the university

\(^{56}\)www.responsible-partnering.org  
\(^{57}\)Lambert Review of Business-University Collaboration: www.hm-treasury.gov.uk/d/lambert_review_final_450.pdf  
\(^{58}\)www.innovation.gov.uk/lambertagreements  
\(^{59}\)PraxisUnico is an educational not-for-profit organization set up to support innovation and commercialization of public sector and charity research for social and economic impact. www.praxisunico.org.uk  
\(^{60}\)Department for Innovation, Universities and Skills was merged 2009 with the Department for Business, Enterprise and Regulatory Reform creating BIS The Department for Business, Innovation and Skills www.bis.gov.uk.
with non-exclusive licensing or exclusive licensing to industry for voluntary use by business and universities up to nearly unrestricted ownership of the business partner:

UK.1 - the University owns the IP in the research results and grants a non-exclusive license for the company sponsor to use the results in a specified field and/or a territory.

UK.2 - the University owns the IP in the research results but it then licenses to the company sponsor the use of the results in a specified field and/or territory, and the company sponsor has a right to negotiate an exclusive license in relation to certain results.

UK.3 - the University owns the IP in the research results and licenses the company sponsor to use the results in a specified field and/or territory and the company sponsor has a right to negotiate to take an assignment of the IPRs in some of the results.

UK.4 - the company sponsor owns the IP in the research results, but some rights are reserved to allow the University to use the results for academic purposes (including academic publication) on certain conditions (to protect the confidentiality of the company sponsor’s data and so as not to jeopardize the possibility of the company sponsor obtaining patent protection if available for the results).

UK.5 - the company sponsor owns the IP in the research results, and the University has no right to publish the results.

The model agreements typically have between 11 and 14 pages. They are commented and, based on a questionnaire; selection of the most suitable type is supported.

The contracts are nearly complete as only e.g. regulations about Background required for commercialization of Foreground and regulations about inventor remuneration are missing.

DE.1-4, Model contracts by the Federal Ministry of Economics and Technology

The Federal Ministry of Economics and Technology (BMWI) did initiate a working group in order to summarize existing model contracts. On that basis four model contracts with 10 to 15 pages each were elaborated: two for contract research (options: IP-licensing or -assignment), research collaboration and service contract. In addition model contracts of this and other initiatives in Germany are compared. The final outcome was published in a 80 pages booklet in 2007 and updated in 2010 to
consider the lessons learned, the already mentioned Community Framework for State Aid for Research and Development and Innovation and the new legislation relating to the inventor remuneration.

The model contracts are complete and bilateral although some regulations are in clear favor of the business (e.g. publications require a twofold request till they are accepted; compensation for IPs need to be calculated within the project costs, Background IP required for commercialisation has to be for free etc.).

DE.5-6, Berliner Contracts - “Berliner Verträge”

Universities in Berlin and their patent commercialization agency ipal GmbH\(^{61}\) in cooperation with German industry (represented by companies like BASF, Bayer AG, Robert Bosch, DaimlerChrysler, Deutsche Telekom, Rolls-Royce, Schering) elaborated model contracts for contract research and research collaboration. The first edition was published 2002, updated with the lessons learned in 2007.

In order to differentiate contract research and research collaboration a list of evidences is provided that facilitates the clear classification. Furthermore a comparison shows the differences between the modules of the contracts. For certain issues alternative options are provided (e.g. compensation, invention disclosure etc.). A guideline for calculation of the compensation is added.

The clear focus on IP topics results in the lack of issues that are mandatory in a contract like warranty, confidentiality, rescission etc. but hardly become show stoppers. The spirit of the model contract is that PROs and business are treated as equal partners and wording has to be balanced. Flexibility is introduced by providing alternative options for certain issues.

DE.7, Düsseldorfer Contract Workshop - “Düsseldorfer Vertragswerkstatt”

The Düsseldorfer Contract Workshop is a cooperation of the Centre of Intellectual property and the Technology transfer unit at the Heinrich Heine University Düsseldorf which is supported by the patent commercialisation agency PROvendis. Other higher education institutions and businesses of different branches are integrated by interviews and questionnaires but also by involving the lobbyists of businesses.

\(^{61}\)ipal GmbH assesses and exclusively markets the inventions of Berlin’s scientists and academics. www.ipal.de
The initiative started 2004 and published in 2008 it’s fourth edition of modules for model contracts and 2006 it’s revised version of an R&D collaboration contract.

The Düsseldorfer contract is comprehensive, balanced and due to the various options broadly applicable. Nevertheless the contract with 8 pages stayed rather short and precise.

**AT.1, Graz University of Technology & Federation of Styrian Industries**

Model contracts were developed based on the guidelines developed together with industry and coordinated by the Federation of Styrian Industries (discussed in 2.4). Covered in Table II is a corresponding model contract for research collaboration but implementing only the option which is chosen most often. In case of contract research IPR is transferred to the research sponsor but the IP is prepaid by a lump sum independent if and what relevant IP is generated. The inventor remuneration according to the Austrian patent law is financed by the research sponsor addionally and without any cap.

**AT.6, IPAG Intellectual Property Agreement Guide**

IPAG Intellectual Property Agreement Guide is an initiative of several Austrian universities facilitated by the patent- and licensing management division of *austria wirtschaftsservice (aws)*, a business funding branch of *Austria’s national promotional bank*. A combination of manual, model contracts and check lists for different kinds of contracts are being developed. Starting point has been made with the model contract for the R&D collaboration, which is included in Table II.

By applying the guidelines described in AT.5 and further involvement of businesses and their lobbying institutions a very broad support of the developed model contracts and tutorials is intended to obtain. The model contracts are still work in progress but will be published in the internet\(^\text{62}\).

**DK.1-4, Johan Schlueter Committee**

The Johan Schlueter Committee, supported by the Danish Agency for Science, technology and Innovation, has outlined five model agreements with 9 to 16 pages. These are tailored for various types of research collaboration: co-financed research

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\(^{62}\)www.ipag.at
collaboration between two or multiple partners, co-financed PhD Study and industrial PhD project

The model agreements are comprehensive, balanced and flexible as several options for certain modules are offered.

Lacking is a regulation for cases where Background is required for exploitation of Foreground. Joint ownership requests unanimous decisions.

**Single initiatives**

**EU.3, EICTA FP7 Consortium Agreement**

EICTA, the industry body representing the European digital technology industry, published 2007 a consortium agreement contract model for integrated projects funded under FP7. Legal experts of the large and small company members of EICTA were involved in the drafting which was joint effort with European telecom operators such as British Telecom and Orange, and was endorsed by the European digital technology industry. Therefore, this contract model will be a reference contractual model for the European telecommunications technology, information technology and consumer electronics industries.

The EICTA model contract is composed of two parts: (A) Part I contains the information specific to the project, such as its title, the partners involved, their representatives and the project coordinator. (ii) Part II regroups the general conditions, defining the roles and duties of each party, the intellectual property rights and liability regimes, and the conditions to leave the project or to exploit its outputs.

**DE.8, Hamburger Contract – “Hamburger Vertrag”**

The Hamburger contract developed 2005 is a comprehensive model contract for R&D collaboration without any options but with an article published commenting the model contract. The business partner obtains all rights in an “non-bureaucratic” way and the PRO obtains a capped lump sum covering the research efforts, the IPRs and an inventor remuneration.

This model contract is an extreme example as it is completely focused on the interest of the business partner. The PRO is not allowed to publish, apply the results
in R&D or teaching etc. Usually universities limit this kind of approach to services or contract research dealing with Background of the business partner.

**AT.2-4, Vienna University of Technology**

Vienna University of Technology has developed different model contracts which are commented for a clear understanding of essential parts. The model contracts were revised due to practical experience during negotiations and feedback by strategic partners of the university. In this respect those model contracts are at least to a certain extent accredited by the business partners of the university.

**AT.5, Austrian Research Promotion Agency**

The Austrian Research Promotion Agency (FFG) is the national funding institution for applied industrial research in Austria. In several funding programs collaborative research is supported and for those are consortium agreements mandatory which define IP rules. The model contract provided is designed for multiple partners. Several comments are included explaining the contract. The model contract is comprehensive. Besides usual components of a collaboration contract particular consortium aspects are in detail as well so that the contract including the comments ends up having 29 pages.

Not only industry but also PROs views are considered. For the FFG special rights are secured which have the potential to delay the commercialization of IPs generated. Gendering of the contract does not contribute to simplification for the reader. A non-solicitation clause is included which was not found in the other contracts reviewed.

**AT.7-8, Austrian Federal Economic Chamber**

As a service and support for its members the Austrian Federal Economic Chamber has published 2009 model contracts for contract research and research collaboration. In 2010 this was updated and extended by a model for a Letter of intent, as well as by a model for a Non-disclosure agreement for a research collaboration of any kind. The model contracts are commented and accessible to all members that means to all companies in Austria with a business license. Until
recently the model contracts have been made available to all by Lower Austria Economic Chamber\textsuperscript{63}.

As PROs have not been involved in the drafting important regulations like those for publications are missing. Other issues like confidentiality, liability and termination are just touched. Regulations are in clear favor of businesses and in this respect to some extent comparable to the Hamburger contracts. The contracts are in the range of 5 pages and easy to read.

A Handbook with 53 pages\textsuperscript{64} was published by WIFI\textsuperscript{65}, the education and training branch of the Austrian Federal Economic Chamber in 2008. Chapter by chapter components essential topics and components of a contract are discussed and summarized by corresponding check lists. In addition to the information about the basics, options and advantages of collaboration is also contains a basic introduction to IPRs, information retrieval, tax issues for inventors, license agreements etc. The handbook is available to all.

The book is comprehensive and mostly balanced. The IPR part is not extensive. Only in a few aspects recommendations are dominated by the interests of businesses. Businesses are the paying members of the chamber. I addition the study was supported by the Federal Ministry of Economy, Family and Youth.

\textbf{FR.1, Federal Ministry of Economy, Industry and Employment}

The Federal Ministry of Economy and lobbyists of industry developed a model contract for R&D collaboration which is comprehensive and well explained. The model contract is part of an internet platform serving as a guide to intellectual property in centers of excellence. By doing so extensive information is provided as checklists, step-by-step guides etc. giving also reference to other organizations.

As required for centers of excellence rules for running the consortium are defined. For IPs several options are offered enabling a flexible structure. E.g. joint Foreground could be owned by the partner dominant in the field or the equal shares or corresponding to the percentage of the work packages. Improvement of Foreground and corresponding ownership, commercialization of joint Foreground by the not generating party etc. is defined.

\textsuperscript{63}wko.at/wknoe/rp/gesamtangebot_wirtschaftsrecht.htm
\textsuperscript{64}Kooperationen in Forschung und Entwicklung – Erfolgsfaktoren, Chancen, Tipps & Tricks, Innovation - Schriftenreihe des Wirtschaftsförderungstituets, Nr. 335, portal.wko.at/wk/dok_detail_file.wk?AngID=1&DocID=813485&ConID=305408
\textsuperscript{65}Wirtschaftsförderungstituets, www.wifi.at
FR.2-3, CNRS Consortium Agreement

CNRS Centre national de la recherche scientifique, the National center of scientific research, is the largest PRO in France and the largest fundamental science agency in Europe. The model contract for the consortium agreement is the only one which is in French and English in parallel.

The model contract is comprehensive but lacks options and is, therefore, less flexible. As required for a consortium agreement the rules for the partners are defined. Joint Foreground is divided according to the different contributions of the partners to the project. Also not Foreground generating partners are eligible for commercialization within their field against compensation.

For collaboration with other PROs a separate and shorter model contract is provided. Ownership of joint Foreground might be split equally or corresponding to the work packages. The use of IP is not ruled in detail.

Furthermore a bilingual model contract for research collaboration with businesses and for service agreements is provided.

SE.1, Lunds University

Lunds University is the largest PRO in Scandinavia. The model contract has to consider that in Sweden the so called professor’s privilege still is in place. Only for contract research a template with 3 pages is published. The „General Terms for Contract Research at Lund University“ are integrated into the contract as an appendix with further 6 pages. Explicitly mentioned is that an additional agreement with the employees is required.

SE.2, VINNOVA - Swedish Governmental Agency for Innovation Systems

The VINNOVA Model Agreement for VINN Excelence Centres is designed for collaborative research of a consortium in a research centers. IP rules like other common components of R&D collaboration contracts and comments for a better understanding are included extending the contract to 23 pages. In contrast to Swedish universities service intentions of employees can be claimed by the research center. Therefore, all IP issues including ownership and transfer of Background and

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Foreground as well as joint ownership of joint inventions are specified. Also less common approaches are anticipated like the auction of IP if a preferred partner is not interested in a particular IP.

**IT.1-3, University of Milano**

Like in Sweden the professor’s privilege has consequences for the IP management at universities. The University of Milano has adopted the model contract for contract research of the Confederation of Italian Industries and created three mutations, for contract research, contract consulting and R&D collaboration with 4 to 6 pages each.

**IT.4, Confederation of Italian Industries**

The model contract for contract research is focused on management of the project including financial terms but lacks detailed IP rules. Background e.g. is not even mentioned.

**Overview of regulations within the model contracts**

In Table II various critical components of the legal relationship between PROs and industry will be compared. Usually in the table it is listed what can be found as explicit statements in the contract. By doing so implicit regulations that are based on interpretation rather than on clear wording are omitted.

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**Notes:**
- **PRO:** if several PROs are involved in the project, each PRO has the right to enter into an IPR agreement with PRO FG.
- **BIZ:** if several BIZs are involved in the project, each BIZ has the right to enter into an IPR agreement with BIZ FG.
- **GPTY:** if several GPTYs are involved in the project, each GPTY has the right to enter into an IPR agreement with FG.
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For simplicity of the review certain integral components of a contract, e.g. non
disclosure agreement, termination clause, definition and assignment of liability and
warranty, are omitted. Usually these are agreed on a mutual basis and, therefore, are
not well known to become show stoppers.

CONCLUSION

There is already a wealth of information and assistance available to PROs and
businesses on this issue. Encouraging the regular updating of existing materials and
their wider dissemination among the research communities will be the key to
maximizing the use of the resources which already exist.

OUTLOOK

The present review provides an overview about major activities facilitating the
collaboration of PROs and businesses in Europe. In the next step a discussion with
focus on the evaluation of the initiatives is done, so that recommendations assist the
future development of initiatives.
Part II

ABSTRACT

With an overview about various initiatives in Europe aiming to facilitate the negotiation and the contracting between PROs and businesses by implementation of supranational and development of national codes as well as model contracts a sound basis is created for a discussion of lessons learned in order to derive recommendations. It is proposed to follow a step by step procedure enabling advantages even if not all steps can be taken.

Zusammenfassung

Im Zuge der Übersicht zu den verschiedenen Initiativen in Europa zur Erleichterung der Verhandlung und der Abschlüsse von Verträgen zwischen öffentlich finanzierten Forschungseinrichtungen und Unternehmen durch supranationale und Entwicklung nationaler Leitlinien sowie Vertragsmuster wurde eine Basis geschaffen für die Diskussion der Schlussfolgerungen und der daraus abgeleiteten Empfehlungen.

DISCUSSION

Seven steps for facilitation of collaboration

Mid- and longterm collaboration is based on win-win relationships. Achieving win-win situations is a challenge that can be facilitated. In the following seven steps are proposed as support measures. All of them require a corresponding kick-off but also an ongoing support for sustainable implementation as continuously new people enter the scene and general conditions change over time. Each of them is intended to improve the efficiency and affectivity of negotiations between potential partners in the one or the other way.

Clarifying the positions

PROs and companies do have different cultures, goals, motivations and incentives. Both are working in quite different environments and even the legal obligations are partly different. For the sake of win-win oriented negotiations it is of
advantage to exchange those so that the legitimate interest of the other party is well understood\textsuperscript{70}.

**Principles and basic rule for IPs**

Principles and basic rules of how Background and Foreground, that is connected in any form with the different forms of collaboration with businesses, will be managed, needs to be developed first. Usually this also involves a clear definition of the different forms of collaboration, rules for IPs generated but also points to the difference between additional costs, overheads and full costs.

If these principles and rules are already based on a broader agreement or at least on discussion between PROs and businesses this can act already as a kind of term sheet for the set up of contracts. Even if there would be no resources for follow up resulting in further tools like model contracts those principles and rules could be of great help on its own.

Best practice on this level would also include rules for avoiding conflict of interests of involved players\textsuperscript{71}.

**Checklists**

The definition of a long list of questions that arise during the arrangement of a collaboration is straight forward in the sense that main questions are mostly constant. Although the answers to those questions might differ quite significantly on a case by case basis a checklist is usually a good practice for moderating the process of a collaboration from its very first beginning till its end.

**Model Contracts**

In practice hardly any expert starts from scratch if a contract is set up. Frequently, former contracts already closed with a good fit to the present term sheet negotiated are adapted to the present case. Therefore, a model contract is of particular help for all those that do not have well drafted contracts in the drawer. This

\textsuperscript{70}An example how this can be summarized for communication in practice can be found in the manual with model contracts of the BMWi Federal Ministry of Economics and Technology on page 8-9, www.bmwi.de/BMWi/Navigation/Service/publikationen.did=342954.html.

is particularly the case for SMEs and PROs without critical mass of expertise in their respective support units.

For the experts involved in setting up model contracts it is particularly rewarding to discuss those between PROs and businesses. The discussion creates a better understanding of the other party and, therefore, has an end in itself even if the contracts developed might not be used that frequent as intended.

Including informative comments and options by proposing exchangeable modules will increase the flexibility and, therefore, broaden the range of use of the model contracts. Furthermore, in annexes proposals might be made e.g. for valuation methods\textsuperscript{72}, procedures facilitating the settlement of disputes by mediation and arbitration\textsuperscript{73} etc. If all is included the length of the model contract will be increased. In practice there are a lot of collaborations which are neither long term or of high volume, nor is there an outlook for exiting IP generated. Therefore, practice requires also a pragmatic short cut for coming to an agreed contract.

**Decision guide**

The selection of the right model contract and also the identification of the proper modules can be simplified by a decision guide. In particular for the less experienced this facilitates to navigate through the provided material.

**Training and education**

The better the negotiating partners are informed about the use of the provided material and the options to tailor what each party obtains as a reward for its contributions and achievements the easier it becomes to accomplish win-win agreements. Also case study based trainings on how to negotiate are a useful complementation.

\textsuperscript{72}The Berliner Contracts included a first proposal for valuation methods.

\textsuperscript{73}Delayed decisions due to a lack of agreement might cause severe problem for IPR exploitation. In case of defining a fair royalty e.g. the decision might be outsourced to external and independent experts if negotiations failed within a defined short time period.
Active exchange of experiences

For professionalization it is important to obtain access to examples of best practice but also to lessons learned. Organizations like AUTM, and LES provide international platforms for an exchange of experience between PROs and businesses. European organizations like ASTP and Proton are focused on exchange between technology transfer managers. National organizations of PROs or businesses are more suitable for discussion of the national characteristics but usually also lack an exchange between PROs and businesses. Working groups with members coming from PROs and businesses for discussing particular challenges are therefore a further option.

Cross border collaboration is significantly in progress and, therefore, awareness about national differences, associated challenges and suitable remedies will be required more and more. EC and WIPO have several activities for improving the exchange and also for harmonization. A rather new development is the set-up of national contact points (NCP) in each member state according the recommendations of the EC. As each NCP will report about the national situation and future initiatives this could result in a further development.

A more innovative approach could also be to use Web 2.0 options in order to induce a discussion between the users and to obtain feedback as well as improvements to services provided as a web service for facilitating PRO-business collaboration.

74In Austria e.g. the patent law defines that the inventors should become an adequate compensation. This compensation has to be in relation to the value of the technology. As there are different rules in neighboring Switzerland and Germany this results in misunderstandings in cross border collaborations. The set-up of working group with members from PROs and businesses was therefore discussed.
Part III

Definitions

Publicly-Funded Research Organization (PRO)\textsuperscript{75}: Any institution (universities or in general all higher education institutions, Research and Technology Organizations and others) that carries out R&D for broader application and benefit, to a significant extent using public funding.

Background\textsuperscript{76}: Information which is held by beneficiaries prior to their accession to this agreement, as well as copyrights or other intellectual property rights pertaining to such information, the application for which has been filed before their accession to this agreement, and which is needed for carrying out the project or for using foreground.

Collaborative Research\textsuperscript{64}: Several parties are engaged in research towards shared objectives, collectively building on their individual background and sideground in the creation of new foreground knowledge.

Contract Research\textsuperscript{64}: One or more parties perform a task for another at an agreed price and on contract. Contract Research tends to be shorter-term in nature, and be driven by different dynamics than Collaborative Research, and requires specific types of agreement that reflect the straightforward nature of the business deal. The term “Contract Research” is formally defined in the European State aid rules.

Foreground\textsuperscript{65}: Results, including information, whether or not they can be protected, which are generated under the project. Such results include rights related to copyright; design rights; patent rights; plant variety rights; or similar forms of protection.


\textsuperscript{75}www.responsible-partnering.org
\textsuperscript{76}cordis.europa.eu/fp7/calls-grant-agreement_en.html#ideas_ga - Annex II