Western Balkan Expert Workshop

Knowledge Transfer from Universities and Public Research Institutes: Approaches for Developing Intellectual Property Management

Tirana, Tirana International Hotel, 13th June 2012

Summary

Background

This workshop supported the implementation of the European Commission's 2008 Recommendation on the management of intellectual property (IP) in knowledge transfer (KT) activities and Code of Practice for universities and other public research organisations (PROs) (http://ec.europa.eu/invest-in-research/pdf/ip_recommendation_de.pdf). It was part of a workshop series covering 39 European countries in 2011 and 2012.

The workshop convened 37 KT stakeholders, in particular from universities, other PROs, and policy. See a list of attendees in the Annex. The presentation files are available at http://knowledge-transfer-study.eu/workshops/western-balkans/.

Main results

Knowledge transfer is an emerging issue in Western Balkan countries. Of the countries involved in this workshop, Serbia stands out as most developed in terms of research, KT and KT policies. In all Western Balkan countries, KT policies need to be assessed against a particular background as they are young democracies which are still developing their institutions and which have a relatively low priority for research, innovation and KT.

Albania has 47 universities, national strategies targeting KT and IP management, and national R&D programmes. Patent applications in Albania have increased starkly since 2001. However, KT offices and activities still need to be developed.

Bosnia-Herzegovina is suffering from detrimental political and economic circumstances after the civil war. While there was considerable research and KT before the war, both are hardly existing in the country today, and for political decision makers it has low priority.

The FYR of **Macedonia** lost large parts of its industrial base in the past 20 years, and academic research and innovation activities also declined. KT is largely taking place informally. However, there are political activities to improve innovation and KT.

In **Montenegro**, while IP legislation has been put in place, the topic of IP is insufficiently present in the universities. This is due to a lack of interest and lack of funds. However, there are some individual KT activities undertaken by professors. The industrial property office is a major driver of developing KT in Montenegro.

Serbia has a considerable KT infrastructure of PROs, technology parks, start-up support centres, and two KTOs. There are some examples of successful KT, and a legal and policy framework for IP and KT that is becoming more and more comprehensive.

About the Knowledge Transfer Study 2010-2012

The "Knowledge Transfer Study" (monitoring study regarding the implementation of the Commission Recommendation and Code of Practice on the management of intellectual property in knowledge transfer activities in Member States and Associated Countries) is based on a Contract (No. RTD/Dir C/C2/2010/SI2.569045) between the European Commission, Research Directorate General, and empirica GmbH, the Maastricht Economic Research Institute on Innovation and Technology, and the School of Business of the University of Applied Sciences North-Western Switzerland.

Joint session with WBC-INCO.net Steering Platform on Research for Western Balkan Countries

Workshop framework

The morning session of the Western Balkan workshop of the Knowledge Transfer Study 2010-2012 took place in co-operation with the project "WBC-INCO.net – Co-ordination of Research Policies with the Western Balkan Countries" (http://wbc-inco.net/). The European Commission, DG Research and Innovation, supports WBC-INCO.net under the 7th Framework Programme for Research and Technological Development.

The Steering Platform on Research for the Western Balkan Countries met in Tirana on 12-13 June 2012.[1] The meeting was co-chaired by the Danish Presidency of the Council of the European Union, Albania – who hosted the event on behalf of the Western Balkan Countries – and the European Commission.

Steering Platform opening

Albania confirmed its commitment towards EU membership. In this context it underlined the useful role of the Steering Platform. The Danish Presidency presented its Presidency programme "Europe at Work", highlighting the actions taken to move forward the EU Agenda on Research and Innovation. The European Commission welcomed the opportunity to meet and share information on recent developments on research and innovation and encouraged all Platform members to take advantage of these meetings to become more familiar with the EU acquis on Research and Innovation in general. The Platform welcomed the information by the Danish Presidency on the General Partial Agreement (GPA) on Horizon 2020 adopted at the Competitiveness Council on 31 May 2012.

Recent actions taken

The Steering Platform welcomed the variety of measures and different actions taken over the last six months by all participants. This was seen as a direct result of the good cooperation in the Steering Platform and commitment towards the Balkan region. **All Balkan countries reported progress in line with the EU acquis on EU Research and Innovation.** The increased number of actions to stimulate innovation was also noted. A good illustration of this was made by the Albanian Business Relay and Innovation Centre (BRIC) which presented its action SITA (Strategic Innovation Technology Audit) providing support to stimulate SMEs to implement their research and innovation ideas. The Platform welcomed the continued commitment from CEI, EUREKA and UNESCO towards the Balkan region and took note of EUREKA's invitation to start considering possible EUREKA chairmanship. The Steering Platform also welcomed the package of actions taken by the Joint Research Centre for the enlargement countries.

Danube strategy

The Platform welcomed the most recent information on the upcoming FP7 work programmes, especially on the next generation bio fuels and support for the **Danube Strategy**. In this context the Steering Platform asked to ensure that all Western Balkan countries will continue to be fully covered and that the role of the Steering Platform will be duly considered, building upon the useful and constructive work undertaken by the FP7 WBC-INCO.NET project. **The importance of continuing the co-ordination efforts with and for all the Western Balkans was stressed.**

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[1] Information for this summary was taken from the "Conclusions of meeting of Steering Platform on Research for Western Balkan Countries, Tirana, 12-13 June 2012", available at http://wbc-inco.net/object/news/10397.

All members were encouraged to actively consider research cooperation opportunities in the last FP7 calls, which should serve as a good transition to Horizon 2020. In this context co-operation between the more experienced members of the Platform and the less successful participants was seen as a way to facilitate and strengthen the participation of the Balkan countries in key research areas necessary to address the societal challenges.

Smart specialisation strategy

The Platform welcomed the presentation of the **Smart Specialisation Strategy** which helped in understanding how to prepare for actions on capacity building and ensure effective synergies between Horizon 2020 and other EU instruments.[2] The need for good and timely planning of projects was well illustrated by the **examples presented by Hungary**.[3]

The Platform asked to continue the discussion on Smart Specialisation and to be kept informed about the actions aiming at widening the participation in Horizon 2020, amongst others on the basis of the EU12 position paper initiated by Poland. In this context, the Platform recalled the WBC-INCO.NET analysis on mapping innovation capacities and infrastructures in the Balkan region, as well as the study on good practices of innovation policy and instruments.[4] The Platform encouraged the members to draw inspiration from the good practices when taking action.

The European Commission reiterated that – where it can – it will continue to assist and support the WBCs in their efforts to strengthen the Research and Innovation capacity at national and regional level, while at the same time underlining the importance of ownership of the beneficiary countries.

IPA II

The Platform regretted the absence of an explicit reference in the proposed text of IPA II (Instrument on Pre-Accession Assistance) **on the possibility to deploy IPA support for research and innovation capacity** and ensure effective synergy between Horizon 2020 and IPA II. The Platform fully endorsed the work undertaken by TUBITAK/TURBO in the framework of the WBC-INCO.NET, seeking an amendment to IPA II for that purpose.

World Bank regional strategy

The Platform also took note of the use of the Smart Specialisation Strategy to develop a **regional strategy for Research, Development and Innovation for the WBCs, led by the World Bank**. It also welcomed the organisation of a workshop before the end of 2012 on the Innovation Union, with a focus on the self-assessment tool.

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[2] See the presentation by Ciaran Dearle, DG Research and Innovation, available at http://wbc-inco.net/attach/wbc_tirana.ppt.

[3] See the presentation by Béla Kardon, Hungarian Ministry of Human Resources, available at http://wbc-inco.net/attach/Tirana_13062012.pptx.

[4] See the presentation by Ulrike Kunze, DLR (Germany), available at http://wbc-inco.net/attach/WP_8_Kunze_good_practice_innovation.ppt.

Knowledge Transfer Study workshop

1 Opening address

Anca-Ariadna Cucu, European Commission, DG Research and Innovation

In her welcoming address, Anca-Ariadna Cucu described the political background about the motivation and objectives of the European Commission's 2008 Recommendation on the management of intellectual property in knowledge transfer activities and Code of Practice for universities and public research organisations. The overall challenge is improving European competiveness in the knowledge-based economy through better and more pervasive commercial exploitation of all forms of intellectual property. The Knowledge Transfer Study monitors the implementation of the Recommendation. The study's workshops are meant to provide an in-depth understanding of national and regional situations, to discuss new issues, and to promote knowledge transfer and application of the Code of Practice.

2 Knowledge transfer and IP management at universities and public research organisations: current situation, good practice and challenges

2.1 Bosnia-Herzegovina

Presentation by Sabina Silajdzic, Assistant Professor, School of Economics and Business, University of Sarajevo

During the socialist period of Bosnia-Herzegovina's history, developments in science and technology were considered essential 'productive forces' underpinning successful transformation of the economy and industrial progress. However, during the country's transition to independence technology related issues were largely neglected. The focus shifted to economic restructuring through privatisation and institutional reform. Restructuring of the national system of innovation or R&D systems was not considered important as investment in science and technology was considered a liability.

Gross expenditure on R&D in the period 1985-1989 was 1.85% of gross domestic product (GDP) compared to an estimated less than 0.1% in recent years. Previously, Bosnia-Herzegovina's R&D system consisted of 36 R&D institutes and 22 scientific research laboratories, many of which were independent and closely linked to industry. Today the R&D system consists of 42 formally registered institutes for science and research activites, mainly within universities, with weak links to industries.

The R&D system in Bosnia-Herzegovina is hindered by **decentralised and complex state structures**; there are seven ministries responsible for R&D policy. The overlapping between these ministries weakens the system, which is further restricted by limited nature of government provided financial resources. Most independent R&D institutes were closed in the aftermath of the Bosnian War. Within Republika Srpska there are 21 eligible R&D institutes. In the Federation of Bosnia and Herzegovina there are 20 public, and ten independent, institutes.

The major problems facing the current national innovation system are low industry related research capabilities inherent in universities, marginal state funding and an absence of links to industry as industrial R&D is not funded by industry. This weakness is

emphasised by the lack of effective policy measures for innovation or cohesion between industrial and innovation policy. Consequently, R&D funding is not linked to industry. Some modest state funding of scientific research exists but is mostly allocated to universities which are focused on teaching and have limited research capacities.

Although there is no proper innovation policy in Bosnia-Herzegovina there are **strategic documents that acknowledge the importance of innovation**. Some specific support measures exist for industrial R&D in Republika Srpska and in the Federation of Bosnia and Herzegovina certain programmes support small and medium-sized enterprises' (SMEs) R&D projects.

Data for KT indicators from official sources is limited. However, it is known that state funding is approximately 0.1% of GDP in 2008; industrial R&D in Republika Srpska is 0.3% for small-sized entities and 0.63% for medium-sized entities; 65 patents were applied for in 2010;[5] and 103.5 journal articles were published in scientific or social science publications in 2009.

BiH's industrial performance in R&D is characterised by limited productive and technological capacity and excessive reliance on external knowledge generation. The manufacturing sector represents 13.6% of GDP, with manufacturing exports at 14.5% of total exports; SMEs' share of the manufacturing sector is 13%; market value added (MVA) in GDP is estimated at 9.3%.

The **weak national innovation system** is likely to continue to have devastating effects. Effective policies are lacking and improvement would require exapanded capabilities and resources from the government. The current features of the BiH political system do not render much optimism with respect to the development of a comprehensive and complementary policy mix for building up local capabilities. This is particularly worrying considering the importance of technological development in opening up the country to foreign markets and making it attractive to foreign investors. However, in the past two years there were a few positive signs in the development of the RD&I landscape in Bosnia-Herzegovina, particularly in the Republika Srpska.

Discussion

In the discussion a representative from the government of Bosnia-Herzegovina noted that the presentation was accurate and that it is important for the government to receive independent views about R&D&I from science.

2.2 Former Yugoslav Republic of Macedonia

Presentation by Prof. Ljubomir Kekenovski, Member of the Council for Scientific Research Activities, Ministry of Education and Science

In the past 20 years, the basis for knowledge transfer from PROs to industry changed starkly because half of the industrial production of Macedonia vanished. PROs' activities also declined; today it is not so clear where significant research and innovation takes place in Macedonia. Cooperation between PROs and industry is more informal than formal. Macedonia still has a long way to go on the road to considerable knowledge transfer. KT results in terms of research, inventions, disclosures and commercialisation are almost zero. KT-related institutions are weak and transaction costs of KT are high.

However, there are also positive signs. There are some incidents of good cooperation between the academic and the business world. Macedonian innovation policy is seeking

[5] Data from the World Intellectual Property Organisation, see http://www.wipo.int/freepublications/en/statistics/943/wipo_pub_943_2012.pdf.

ways to support human resources in innovation and to increase information flows between innovation actors and businesses. There are offers for entrepreneurship training for students. There are plans to create a support centre for spin-off companies.

2.3 Montenegro

Presentation by Milica Petrovic, Intellectual Property Office of Montenegro

Montenegro's independence was proclaimed on 3 June 2006. The Intellectual Property Office of Montenegro (IPOM) was established on 28 May 2008. IPOM is an independent body within Montenegrin public administration supervised by the Ministry of Economy of Montenegro. IPOM is concerned with the registration of industrial property rights and applying copyright and related rights.

IPOM has been instrumental in improving Montenegrin intellectual property right **(IPR) legislation**: in 2008 the law on indications of geographical origin was passed; in 2010 the law on patents, the law on trademarks, the law on legal protection of industrial design and the law on protection of topographies of semi-conductors were passed; and in 2011 the law on copyright and related rights was passed.

This IPR legislation has already been put to effective use by the Customs Directorate: in 2009 23 requests for protection of IPR were received resulting in nine customs procedures being terminated and goods detained; in 2010 34 requests for protection of IPR were received resulting in eleven customs procedures being terminated and goods detained; and in 2011 38 requests for protection of IPR were received resulting in two customs procedures being terminated and goods detained.

Some Montenegrin universities have included **initiatives on IPR** in their programmes. These programmes are: the University of Montenegro, Faculty of Law, Podgorica where intellectual property is studied in the second year; University of Montenegro, Academy of Theatre, Cetinje, where copyright and intellectual property are studied in the first semester of postgraduate studies; and the Private University ''Mediterean'', Faculty of Law, Podgorica, where copyright is studied although not compulsory.

Generally, the topic of intellectual property (IP) is insufficiently present in the Universities of Montenegro. This is due to lack of funds wich results in difficulties to introduce IP as a subject at universities. Nevertheless, there are some individual activities undertaken by professors, usually in relation to their own inventions and registering of patents. There is no support from the National IP Strategy for enhancement in this area due to the demand for improvement of the enforcement system. There are also no companies focused on promoting innovation in Montenegro.

The Ministry of Science fosters R&D activities and in 2012 issued a competition for co-financing of scientific research activities, amounting to EUR 300,000.

IPOM realises that in order to build a sustainable IPR protection system it must be connected to specialist knowledge, and subsequent konowledge transfer. In order to achieve this it is necessary to establish efficient coordination mechanisms and thus intensify the activities aimed at raising awareness of the importance of intellectual property.

The Montenegrin National IP Strategy has been launched for the period 2012 to 2015. Its objective is to raise awareness of IP among IPR actors competent of enforcing IPR policy and among potential users. The strategy includes strategic objectives, goals, priorities and expected results as well as challenges and oppourtunities and a section on enforcement. The challenges of the strategy include: extending partnerships, involving stakeholders, widening means of targeting players, providing valid indicators and

harmonising goals with possibilities. The strategy also recognises the need for dedicated human resources which combine advocacy and organisational interventions.

In response to the challenges of KT IPOM plans to improve cooperation among institutions, provide training to prepare staff for qualitative and efficient execution of their tasks and duties, provide better means and conditions for supporting employees and further improve databases in order to make them available and accessible to the public.

IPOM is a young national institution which means that it is disadvantaged in comparison with other national intellectual property offices. However, the mission is clear: enhance awareness of the importance of intellectual property for socio-economice development. The means are equally clear: registration of IPRs, harmonisation of national legislation with international conventions and full development of the national IP system.

2.4 Serbia

Presentation Prof. Djuro Kutlaca, "Mihajlo Pupin" Institute, Science and Technology Policy Research Centre

Serbia's KT infrastructure includes 27 scientific institutes, 28 research and development institutes, five technology and innovation centres, 31 clusters, five technology parks (in process of creation), 18 business start-up centres (Technology incubators), and two technology transfer offices (TTOs). In terms of measuring KT performance the number of articles published in scientific journals has steadily increased to 4,741 in 2010 and in the same year the number of patent applications from Serbian residents was approximately 280. In the period 2003-2007, the Ministry for Science and Technological Development (MSTD) reported the implementation of over 3,400 technological solutions or results within the technological development programme financed by the MSTD in Serbia.

Positive developments: Serbia has increasing business sector investments in R&D as well as an increasing share of funding for R&D from abroad and number of researchers. It has adopted an institutional framework including a higher educational law on entrepreneurial universities, an innovation law providing support for entrepreneurship and an IPR law. Serbia became a member of the European Patent Office in 2010. The first two TTOs have been established and university spin-off companies are emerging.

However, some **weaknesses** remain. The linear model of governance of the R&D and innovation system is a major obstacle to the networking of the R&D sector with the rest of society. Key policy documents such as an innovation strategy and a policy for restructuring the R&D system are missing. There is also a lack of entrepreneurial behaviour in the academic sector, insufficient incentives for commercialisation of R&D results, legal requirements for career advancement in the R&D sector which promote research but not development activities and a low level of patenting.

On 15 July 2011 the government adopted a **strategy for IP development**. The strategy targets are: to establish TTOs at a minimum of two state universities; elaborate contract models for co-operations; support the annual competition for best technological innovation; support IP education at educational colleges; and co-ordinate educational activities in IP.

On 25 February 2010 the **Strategy of Scientific and Technological Development** was adopted. The strategy defined seven national priorities and proposed institutional funding for a minimum share of maintenance costs of a few government-owned R&D organisations. The ultimate objective of the strategy is to create a National Innovation System (NIS) that fosters strong national innovation through restructuring of the public R&D system and integration of the business R&D sector. The Ministry of Economy and

Regional Development also aims to develop an entrepreneurial economy based on knowledge and innovativeness, which creates a strong, competitive and export oriented SME sector and sustainability. It has developed a five pillar strategy aimed at improving the performance of entrepreneurs through all stages of start-up, growth and development of SMEs. This is further supported by the "innovation law" which supports cooperation between public research organisations (PROs) and SMEs. Financial support for cooperation is also provided for new R&D projects under the strategy.

The best practice case, and recommended example, of a **public-private KT model** is the public University of Novi Sad with at least 63 spin-off companies created within the past 5-6 years. The University of Novi Sad has established the first Intellectual Property Liaison Office in a Serbian university, in cooperation with the national Intellectual Property Office (IPO). The IPO has also supported the University of Belgrade in setting up its TTO. The plan for the future is to create several Innovation Centres (IC) and Business and Technology Incubators (BTI) within further public universities and large PROs. Additionally, science and technology parks in Belgrade, Novi Sad, Niš and Kragujevac are planned, an approximately 30 million euro investment, as part of a research infrastructure initiative. It is hoped that these parks will promote the diversification of finance sources for scientific projects through better cooperation with business partners.

Currently, there is little **monitoring** and reviewing of KT progress, although reporting on such activities is an obligatory part of accreditation documentation. Annual reports on realisation of R&D projects (co-)financed by the Ministry of Education and Science regularly request information on KT activities organised and performed by the research teams. The new Strategy of Scientific and Technological Development has proposed establishment of a strict tracking system for implementation of the strategy, particularly with regard to the KT programme.

The ongoing drain of highly educated individuals from the country is one of the significant **problems for KT** as is the absence of an evaluation culture. Insufficient knowledge about R&D and innovation capacities are stifling growth in big enterprises. Serbia's R&D system is unattractive to private investors because of the present structure, capacity and legal framework. The culture of and infrastructure for innovative entrepreneurship in the higher education and PRO sectors is prohibitive for KT, as is the lack of recognition of the need for increased financing of innovation activities. The lack of demand-side R&D also plays a role in limiting KT in Serbia.

Discussion

In the discussion the issue of possible conflicts of interest of professors owning a company was raised. Djuro Kutlaca said there are no conflicts of interest, rather conflicts of space because there is too little. Spin-off companies usually do not have patents because they innovate constantly so that competitors cannot catch them and patents would not be useful.

2.5 Albania

Presentation by Safet Sula, Director General for Patents and Trademarks, Ministry of Economy, Trade and Energy

Albania has **47 universities**, of which 12 are state-owned and 35 are private. In addition, there are twelve state research institutes. There are also two Research, Technological Development and Innovation Units, formed as subsections of ministries, and two military research centres, as well as industry-based, governmental and privately owned R&D organisations.

Albania has two **national level strategies** in place targeting KT and IP management. These are the Strategy of Science, Technology and Innovation and the National Strategy on Intellectual Property Rights Enforcement. There are twelve TTOs within universities and one public institution; the Agency for Research, Technology and Innovation (ARTI).

There are also three committees which advise on research policies: The Council of Higher Education and Science, the Academy of Sciences of Albania (AoS) and The Conference of University Rectors. For the period 2010 – 2012 there are seven **national R&D programmes**: Social Sciences and Albanology Programme, Information Systems and Technologies (ICT) Programme, Agriculture, Food and Biotechnology Programme, Water and Energy Programme, Biodiversity and the Environment Programme, Health Programme and Materials Programme.

The R&D system in Albania is initiated by policy making, which is overseen by counselling institutions and evaluated by ministries. Through competitive funding instruments policy is then enacted in programmes and monitored by ARTI. Stakeholders in research and innovation such as universities, R&D institutes at the ministry level, TTOs and private industry are the programme participants.

State funding for research appears to have decreased between 2010 and 2012. Plans for the future focus on establishing two National Centers of Scientific and Technical Information, training university and TTO staff in IP and raising public awareness of IP.

Patent applications in Albania have increased dramatically since 2001. A high was reached in 2006 and since then a steady rate of around 350 per year has been maintained. National patent applications were practically non-existent in 2001. In 2007 there was an exceptional high of 12 applications although this reduced to six in 2008 and five in 2011.

3 Developing knowledge transfer and IP management in Western Balkan countries: the way forward

Presentation Dr. Tamás Bene, Deputy Director, University of Debrecen Knowledge and Technology Transfer Office

IP strategy and IP policy: basic issues

A basic task of an institution seeking to move forward in knowledge transfer and IP management is to define an **IP strategy**. An institution should base its IP strategy on the institution's favoured methods of KT. These methods include: teaching and education; free dissemination through publications and conferences; collaborative, contract or sponsored research; licensing of technology; spin-off companies; establishing joint companies with industry; strategic cooperation with companies; and movement of highly skilled research staff to industry.

Second, an **IP policy** is essential for safeguarding interests in collaborative research, to ensure commercial returns, to achieve social benefits from the innovation process and to create economic impact from institution-generated knowledge. An IP policy is also a means to involve all aspects of IP in one document at the institutional level. A good IP policy serves many purposes: create procedures for transparent IP management, provide specific provision on IP issues, create legal certainty, safeguard the interests of all parties by stipulating deadlines, stimulate more industrial support for research, generate income for the university and the researchers, encourage the application of research results for public benefit, and strengthen the public image of the university and its' researchers.

When starting to elaborate an IP policy, an institution should **ensure that the IP policy reflects the mission of the institution** and that institutional control over IP is in

accordance with this mission. The main challenges to be faced in developing a policy are the legal environment, national policy framework and harmonisation with other institutional regulation.

IP policy content

When implementing an IP policy, the first issues to be considered are related to IP policy content. An IP Policy relates to the **ownership, protection and commercial exploitation of IP** created by researchers in the course of their duties or activities at the given institute. It sets out the rules of the institute for cooperation with industrial and business organisations and provides guidelines on the sharing of the economic benefits arising from the commercialisation of IP. Topics which need to be considered are: personal scope and related legal issues; types of IP covered; ownership of IP; research collaboration (i.e. confidentiality versus public disclosure); obligations of the institute and the researchers in IP management; distribution of revenues; motivation of scientists; and conflict of interest issues. When considering ownership the original owner of IP has to be determined to prevent legal complications. Typical approaches to IP ownership are the professor's privilege or institutional ownership. Countries introducing the latter approach may have specific regulations for publicly-funded research results.

Expected activities of the university in managing IP include the following: negotiating research cooperative agreements where IP issues are concerned (with the researchers involved); receiving invention disclosures; preparing opinions on patentability; evaluating the commercial potential of the invention or other IP; obtaining patent protection (if necessary); seeking exploitation of IP, i.e. finding commercial development partners; managing the process of commercialisation. Availability of funds is critical in these processes in order to hire professional management and to cover patent and commercialisation costs.

In terms of **identifying IP**, researchers should be encouraged to identify research results with potential commercialisation value. Prior to publication researchers should also consider whether their research contains any significant results for which protection may be obtained or which can be exploited in other ways. The earlier this is performed the more effective the subsequent protection and commercialisation will be. Premature disclosure may compromise the protection and commercialisation of IP. Regular visits to faculties by TTO staff and maintaining connections with researchers is another means for identifying IP and avoiding premature disclosure. Researchers should be obliged to disclose all IP falling within the scope of the policy. To achieve this invention disclosure forms should be introduced for the researchers' convenience. Full disclosure is required for making business decisions. This highlights the importance of confidentiality agreements. It is also important for researchers to keep records of the events leading up to the invention as such materials can become critical in establishing true inventors and the dates that conception or reduction practice took place.

Launching protection and exploitation of IP is basically a business decision; therefore proper scientific and economical **evaluation** is crucial. To evaluate the terms for protection the institute should determine whether any agreements override the terms of the policy. In the case that research agreements require the assignment of IP rights in full or in part the procedure for protection and commercialisation will be governed by a separate agreement concluded between the institute and other concerned parties. Inventors should also give reasonable assistance in protecting and commercially exploiting the IP.

An IP policy must also deal with **conflicts of interest and confidentiality**. A researcher's primary commitment is to the institute. It is therefore the responsibility of each researcher to ensure that their agreements with third parties do not conflict with their obligations to the institute and report all conflicts of interest. Researchers should

also not disclose the institute's business secrets and the university should establish a committee, or appoint an existing one, to examine and solve IP-related disputes.

Institutional factors

For successful implementation of an IP policy, certain precautions should be taken: identification of who shall administer and enforce institutional IP policy; support from the higher management of the university is essential; appointment of responsible persons, committees, departments and offices for each task defined in the policy; getting faculty feedback during the preparatory phase will ensure confidence in the policy and convince staff of its importance; prepare, implement and disseminate typical IP documentation forms; compare with other institutes' policies and make the results available via informal discussions to give the policy credibility; promote and raise awareness of the policy among staff; establish IP management as a service to the community; showcase the benefits of the policy; apply the policy with consistency; and monitor and evaluate performance.

Awareness factors

A good IP policy has to create an uneasy balance between: protection of research results generated through public funds, industrial exploitation of public research results, ensuring fair economical compensation for researchers, and guaranteeing academic freedom for researchers and their right to publish. The overarching aim of a university or PRO IP policy should be to support the institution in transferring new technologies to industry and to create new links with the local and regional economy.

Technology transfer

TT is the process of transferring skills, knowledge, technologies, methods of manufacturing, samples of manufacturing and facilities among public institutions and industry to ensure that scientific and technological developments are accessible to a wider range of users who can then further develop and exploit the technology into new products, processes, applications, materials or services.

The spheres of academia and business have different characteristics which direct how they behave. TT can bridge the development gap between science and product mainly through research agreements, commercialisation through license agreements or establishment of a spin off company.

Setting up a technology transfer office

TTOs can be set up in different constellations to gain different advantages. A first distinction is between TTOs set up **within an institution or externally**. A TTO set up internally within a institution gains direct support from institution management, is more widely accepted within the institution, is easier for faculty to interact with on a regular basis, is a non-profit operation and requires low initial investment. Whereas an externally set up TTO has an independent legal status, is commercially focused, is competitive and flexible, is easily remunerated, recruits staff, is not subject to strict transparency rules and does not have to follow public procurement rules.

Another distinction is between **centralised and decentralised TTOs**. Centralised TTOs have a strategic overview, reach critical mass more easily, are focused on business experience, are a one-stop-shop system and face no in-house competition. Conversely decentralised TTOs have local advantages such as a direct relationship with faculty and share a common dialogue which makes for more disclosures.

Setting up a TTO requires staff skilled in IP management and business development. Attention should also be paid to technology management in both single-handed management of a specific technology and handover management.

TT in Hungary

In **Hungary**, IP policies were introduced in universities from 2001 onwards. The National Act on Innovation was accepted in 2004 and the first TTOs were established in 2005/2006. The innovation act stipulates that public R&D institutions must establish IP policy and that IP created in or acquired by public universities is owned by the university as is equity in spin-off companies. A higher education act also allowed universities to establish companies. Dedicated funding was established through a national operative program (2009 – 2012) at around 1.4 million euro. However, there has been no further dedicated financial support from the government.

The **key success factors for KT** from a university or PRO are: competitive research results; support from higher management; clear policies; procedures and responsible persons; a short decision making process; persuading researchers of the benefits via education rather than through mandatory rules; and a focus on the social and public benefits rather than just financial gains. An efficient TTO is another effective means of supporting KT. For a TTO to be successful it should respond quickly to both research and business communities; employ professional staff with broad interests; utilise fast and effective preparatory work to support decisions; minimise the administrative work of scientific staff; provide proper, unbiased valuation of inventions; act as a "One-stop-shop" operation; and build long term relationships with business partners.

Annex

Annex 1: List of participants

Nr.	Name	Organisation
1	Alma Hasanovic	Ministry of Civil Affairs (Bosnia&Herzegovina)
2	Djuro Kutlaca	"Mihajlo Pupin" Institute Serbia
3	Dusan Vujovic	The World Bank
4	Elke Dall	ZSI (Centre for Social Innovation) Austria
5	Filiz HAYIRLI	TUBITAK Turkey
6	Hans Peter Niller	DLR Germany
7	Ljiljana Belada	Directorate for SME Development Montenegro
8	Ljubomir Kekenovski	Macedonia Faculty of Economics, Skopje
9	Lora Konova	Ministry of Education, Youth and Science Bulgaria
10	Maisa Mahmutovic	Education Denmark
11	Michalis Kotsias	GSRT Greece
12	Milica Petrovic Njegos	Intellectual Property Office of Montenegro
13	Natasa Batricevic	Directorate for SME Development Montenegro
14	Nikola Vujosevic	Directorate for SME Development Montenegro
15	Nikos Zaharis	SEERC Greece
16	Sabina Silajdzic	University of Sarajevo
17	Savvas Zannetos	Planning Bureau Cyprus
18	Stefan Lilischkis	empirica Germany
19	Svetlana Pineva	Ministry of Education and Science Macedonia
20	Tamas Bene	University of Debrecen Hungary
21	Ulrike Kunze	DLR Germany
22	Vasile Lungu	National Authority for Scientific Research Romania
23	Violeta Atanasovska	Ministry of Education and Science Macedonia
24	Zeljka Dukic	Ministry of Education and Science Serbia
25	Bashkimk Sulkja	METE Albania
26	Besnik Konci	MOES Albania
27	Kledia Ngjela	MOES Albania
28	Kujtime Stefani	METE Albania
29	Nertila Pupuleku	MOES Albania
30	Safet Sula	METE Albania
31	Edmond Agolli	ARTI Albania
32	Rajna Spaho	ARTI Albania
33	Lidjana Shahinaj	ARTI Albania
34	Nelda Kote	ARTI Albania
35	Daniela Tako	ARTI Albania

36	Ana Kovachi	
37	Linda Pustina	

Annex 2: Programme

Time	Sessions
	Joint session with WBC-INCO.net
wbc-inco.net Co-ordination of Research Policies with the Western Balkan Countries	**Steering Platform on Research for Western Balkan Countries** *Speakers of the Knowledge Transfer Study workshop in the afternoon are invited to participate as observers*
09.15 – 12.45	Synergy between EU R&I programme(s) and other instruments Good practice measures to increase innovation capacities in Western Balkan Countries Concluding remarks *(Coffee and tea break in between)*
12.45 – 13.45	*Lunch break*
	Knowledge Transfer Study workshop
13.45 – 14.00	**Opening address** • Anca-Ariadna Cucu, European Commission, DG Research and Innovation
14.00 – 16.00	**Country profiles** ***Knowledge transfer and IP management at universities and public research organisations: current situation, good practice and challenges*** • *Bosnia-Herzegovina*: Sabina Silajdzic, Assistant Professor, School of Economics and Business, University of Sarajevo (Sarajevo, Bosnia-Herzegovina) • *FYR of Macedonia*: Prof. Ljubomir Kekenovski, Member of the Council for Scientific Research Activities, Ministry of Education and Science (Skopje, FYR of Macedonia) • *Montenegro*: Milica Petrovic, Intellectual Property Office of Montenegro (Podgorica, Montenegro) • *Serbia*: Prof. Djuro Kutlaca, "Mihajlo Pupin" Institute, Science and Technology Policy Research Centre (Belgrade, Serbia) • *Albania*: Dr. Safet Sula, Director General for Patents and Trademarks, Ministry of Economy, Trade and Energy (Tirana, Albania) Discussion after each presentation
16.00 – 16.15	*Coffee and tea break*
16.15 – 16.55	**Knowledge transfer development support** ***Developing knowledge transfer and IP management in Western Balkan countries: the way forward*** • Dr. Bene Tamás, Deputy Director, University of Debrecen Knowledge and Technology Transfer Office (Debrecen, Hungary) Interactive presentation and discussion
16.55 – 17.00	**Conclusions** • Dr. Stefan Lilischkis, Knowledge Transfer Study Manager, empirica GmbH (Bonn, Germany)
Moderation: Dr. Stefan Lilischkis, empirica, Bonn	