



## Headline

**Branka Bilen-Katić**, Assistant Director  
Intellectual Property Office of the Republic of Serbia

# Setting up technology transfer at Belgrade University

In today's knowledge-based economy, where an organisation's main asset consists in its intellectual capital, the transfer of technology from academia to industry is crucial.

The results of academic research are traditionally disclosed in various publications or open forums, and are not protected under the industrial property system. This situation is due to the direct link that exists between the merit of researchers and the number of their scientific publications, together with the recognition that they receive via such publications from the scientific community. In this scheme, the products of research and development (R&D) immediately enter the public domain upon disclosure, and all their potential economic value is lost for their developers.

By contrast, well planned technology transfer between for example a university and industry ensures that nothing is disclosed before R&D products are

protected under the IPR system, for example by the filing of a patent application. This presupposes a systematic evaluation by a resident team of specialists of all the research and development carried out by the university and a systematic approach on the part of the industrial partners potentially interested in exploiting the products. This transfer of technology is regulated by licensing agreements which ensure that the university is properly rewarded for its contribution.

This approach has three immediate advantages:

- It enables all the research and development carried out at the university to be systematically put to practical use. It also ensures a certain complementarities between the public and private R&D sectors.
- The income received by publicly funded R&D organisations such as universities can be seen by the government as a return on its significant investment in public research.
- The commercial use of research results directly by the university offers an important source of income that in the long term could result in self-funded research and development.

The Ministry of Science and Technological Development is setting up a legal framework to facilitate the

creation of technology transfer offices. On 25 February 2010, the government adopted the "Scientific and Technological Development Strategy of the Republic of Serbia", together with draft amendments to the relevant laws. Under the strategy, a knowledge transfer programme is envisaged as one of the measures to be implemented. The strategy also underlines the significance of technology transfer offices in speeding up the transfer of technology to industry and helping to boost the development, and exploit the innovative potential, of Serbian companies.

One of the objectives of the EU-funded "Support to the Education and Information Centre of the IPO of Serbia", a project implemented by the European Patent Office (EPO), is to set up a successful TTO in the University of Belgrade. To this end, close long-term involvement on the part of both the Intellectual Property Office and the university is envisaged, the aim being to meet this objective within two to three years. For the first two years, the setting up of the TTO will be fully supported through the project; once the Republic of Serbia has joined the European Patent Organisation, implementation will be further underpinned through the co-operation scheme with the EPO.

## Interview

**Christopher Moody**  
ISIS Innovation (Oxford University)

# Technology transfer in universities



### How would you describe the technology transfer process at a university?

The core tasks within the university technology transfer process include securing invention disclosures from researchers, filing patent applications, negotiating licences, and

creating spin-out companies. There are other related activities that are needed to make the entire process work, such as managing research

and consulting grants and contracts, training students and entrepreneurs, and managing business incubation and science park programmes.

### What are the immediate advantages for the university?

A good tech transfer structure has a number of advantages for the academic researcher, the university and the public. Firstly, the researchers can satisfy their desire to see their inventions put into use without having to sacrifice their research and teaching responsibilities. The intellectual property related to their inventions will be properly protected and resources can be dedicated to commercialisation so that they generate the maximum economic benefit.

Benefits to the university include attracting and retaining the best researchers and faculty, participating in the financial benefit from the innovations and strengthening the reputation of the university. Transferring beneficial technology into the economy builds public support for university funding.

### Do you see benefits for the rest of Serbian society?

The public benefits from university technology transfer can also be significant. Building the local economy with technology-based industries will increase jobs and tax revenue. Some inventions have a direct impact on the public, such as medical and environmental innovations. The more visible the contributions to society from the universities, the more public support there will be for increased funding for higher education and research. This will lead to even more innovation and economic growth.

### Can you briefly describe the role of ISIS Innovation?

ISIS Innovation is the tech transfer organisation of the University of Oxford. It also participates in a series of other international programmes, such as those of the European Patent Office. ISIS has led similar, very successful programmes in a number of countries, including in Slovenia in co-operation with the Intellectual Property Office and the University of Ljubljana in 2009.



Dr Michel Marandon, former director at the European Patent Office (EPO), currently IP consultant

## Supporting innovation by small and medium-sized enterprises in Serbia: the IPO launches IP Pre-diagnosis

Small and medium-sized enterprises (SMEs) are currently making the most important contribution in terms of job creation worldwide. SMEs have traditionally performed strongly in innovation, reverse engineering and serving niche markets.

Thanks to their flexibility in comparison with larger companies, they are also a favoured choice for outsourcing and sub-contracting. The integration of the Serbian economy into the European and global markets brings new opportunities for SMEs to develop and offer products more cost-effectively. At the same time, this economic integration exposes SMEs to a tougher competitive environment. By nurturing innovation and protecting their intellectual property rights (IPRs), SMEs would improve their position and capitalise on their competitive advantage. However, they are in general insufficiently aware of intellectual property and do not protect their assets as they should. Serbia, as reflected in the national patent filing figures, is not an exception.



To remedy this situation, the Intellectual Property Office (IPO) is developing a new service to SMEs called IP Pre-diagnosis (IPP). IPP is based on a methodology successfully developed by the French National Institute for Industrial Property (INPI) and is included in the EPO's programme of co-operation with its member states.

The IPP service comprises the provision of:

- an objective and qualified analysis of an SME's IP assets
- a forecast based on an understanding of the company's development prospects, including in particular the competitive advantages to be gained from exploiting IPRs

- a clear picture of all the IP players and costs involved
- a clear identification of the available skills
- recommendations for implementing a successful IPR strategy

In Serbia, this service might be proposed primarily to SMEs which have little or no experience of IP and prefer to operate with the seven national priorities in the Serbian strategy of scientific and technological development.

IPP is a customised service carried out by an expert from the Education and Information Centre of the IPO who signs a confidentiality agreement before starting his analysis. Besides the necessary preparation, the IPP service involves the expert familiarising himself with the company through a discussion with its director and a technical tour of the premises. The expert analyses his findings, drafts a report and delivers it to the company. An oral presentation of the report provides an ideal opportunity to expand on the follow-up action called for in the IPP.

The pre-diagnosis report is a tool that can be re-used in line with the company's strategy. It is neither a documentary search, nor the industrial property diagnosis for a specific project, nor a patent scope study, nor the drawing up of a contract.

**For more information: [info.EIC@zis.gov.rs](mailto:info.EIC@zis.gov.rs)**

prof Biljana Stošić, Faculty of Organisational Sciences, University of Belgrade

## Innovation and competitiveness

Last year was the European Year of Creativity and Innovation. In today's knowledge-driven economy (defined by the OECD as directly based on the production, distribution and use of knowledge and information), innovations and innovative competences are said to be the key drivers of the long-term competitiveness, profitability and business success of an enterprise, a national economy or the global economy. This should be considered as a widely accepted hypothesis in both theory and practice, supported as it is by numerous research papers and other literature, besides being identified as one of the key elements in the EU Lisbon Strategy. Innovative skills should be used to develop and improve the capacity to innovate by creating new products, services, processes, structures and marketing strategies, i.e. managing the innovation process from idea to implementation and achieving market superiority.

Generally, the innovation system involves a network of institutions in education, research and develop-



ment (R&D) and business, i.e. the universities, scientific and research institutions, governments with their innovation strategies and other policies that influence innovation, legislative and macroeconomic bodies (as in the field of intellectual property), and financial institutions. This is the institutional environment within which commercial firms operate. One of the basic conditions for achieving competitiveness is to bridge the gap between academic research and industry in order to cut the time it takes for an idea

to reach the market. According to the Summary Innovation Index (SII), a combination of 29 innovation performance indicators in the European Innovation Scoreboard (EIS), the innovation leaders are Denmark, Finland, Germany, Sweden and the UK, whose innovation performance is significantly above the EU average and the figures for all other countries. The situation is similar with the R&D intensity indicator, i.e. R&D expenditure as a percentage of GDP (above 3% in Finland and Sweden).

One of the most important EU innovation policy goals is to improve the financing environment in Europe, providing more risk capital and stimulating the provision of loans. As far as boosting innovation in Serbia is concerned, it is important to emphasise the role of the Competitiveness and Innovation Framework Programme (CIP) for 2007- 2013, where nearly one third of the budget is allocated to financial instruments to support small and medium-sized enterprises. Serbia's Law on Innovation (2005) facilitated the establishment of the Innovation Fund, one of the instruments specially intended to stimulate and invest in innovation.



## Patent information - searching in esp@cenet®

### What is esp@cenet®?

In 1998, the European Patent Office (EPO) launched esp@cenet®, a free internet-based patent database, nowadays the most comprehensive and up-to-date patent database in the world. It contains more than 60 million patent documents from 80 national or regional patent offices including the USPTO, EPO, WIPO, GPTO, JPTO, GBPO, etc. The collection contains not only published patent applications and patents, but also cited non-patent literature, search reports and patent families. Importantly, the legal status information indicates whether and in what countries a patent is in force. The available patent documents contain information about inventions and technical developments from 1836 to today.

First go to <http://ep.espacenet.com>

The SmartSearch box lets you enter either simple single-word or multi-word search terms, or more complex search commands. All you have to do is to enter a word or words describing the type of invention you're looking for and click on Search. Alternatively, you can type in the number of a patent document, the name of an inventor or company, or the date or year of a patent document.

Further search options are available on the left-hand side of the screen.

<p><b>Quick Search</b></p> <p>Search with keywords, or for persons or organisations</p> <p><b>Advanced Search</b></p> <p>Search using any of the available fields</p> <p><b>Number Search</b></p> <p>Search using publication, application, priority or NPL reference number</p> <p><b>Classification Search</b></p> <p>Browse or search the Classification System of the European Patent Office</p>	<p><b>Quick Search</b> allows you to carry out a simple search using keywords, an inventor or a company name.</p> <p><b>Advanced Search</b> can be used if you want to combine various search terms. For example, you can search for patent documents from a particular year and country that have specific words in their title or abstract.</p> <p><b>Number Search</b> is a quick way to get a patent document when you know the publication, application or priority number.</p> <p><b>Classification Search</b> is the option to use if you are interested in finding all patent publications in a particular technical area – a powerful tool used by professional patent searchers. It can take a while to get used to, but it is usually worth the effort.</p>
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Whichever search method you choose, your search will produce a result list like the one shown here. Just click on the title of the document in this list to see more detailed information about it.

esp@cenet® is a powerful tool with which researchers, students, SMEs and other interested parties can get an overview of the technology in certain technical fields and perform technology watch functions.

## International Patent Classification

The International Patent Classification (IPC) established by the 1971 Strasbourg Agreement provides a hierarchical system of language-independent symbols for the classification of patents and utility models according to the different areas of technology to which they pertain. The IPC is used in more than 100 countries for classifying patent documents in an orderly arrangement. As such it is a very powerful tool for searching patent-related databases and constitutes a basis for selective dissemination of information and for investigating the state of the art in given fields of technology.

The classification scheme contains about 70 000 entries: classification symbols that can be allocated to patent documents. These are arranged in a hierarchical, tree-like structure starting with the highest level - one of the eight sections from A to H corresponding to very broad technical fields - and followed by class, subclass, main group and by the subgroup identifying the narrowest technical field to which the invention is related.

### IPC editions and their availability

The IPC is periodically revised to improve the system and reflect technical developments. Since its first edition, it has been overhauled regularly at five-year intervals. Since 2006 the practice has been to revise the core level every three years, while the advanced level is revised on a three-month to yearly basis. The current version of the IPC has been translated into Serbian and can be ordered in printed form from the Intellectual Property Office of Serbia or searched via the Office's website at [www.zis.gov.rs](http://www.zis.gov.rs)

**European Classification (ECLA):**

International Patent Classification

A43B13/04 or A43B13/22

### How to search using the IPC?

Once you have scanned the sections for the relevant technical field and identified one or more IPC symbols, you can start your search in different patent databases, entering IPC symbols in the appropriate field as shown, for example, in esp@cenet®.

The advanced search interface also includes a field for the European classification system (ECLA). This is an extension of the International Patent Classification system with 129 200 subdivisions, about 60 000 more than the IPC, and is therefore more precise. The ECLA classifications are assigned to patent documents by the examiners at the European Patent Office in order to facilitate prior-art searches. A specific class or group can be identified through a classification search by key words. The classification search is available in esp@cenet®, see above.

For more information: [info.EIC@zis.gov.rs](mailto:info.EIC@zis.gov.rs) A demonstration or training can be organised upon request. You are also most welcome to visit the IPO's public library in Belgrade.

## IP statistics

Dragan Vasiljević, Adviser

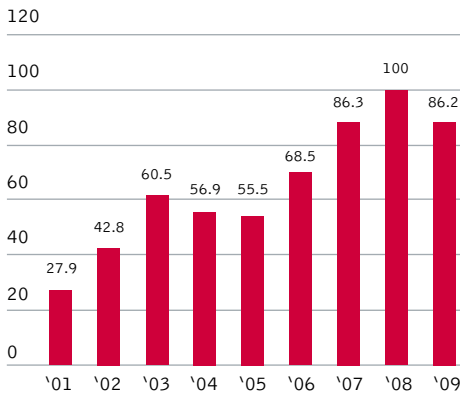
Intellectual Property Office of the Republic of Serbia

### Patent filings from public research institutions

The majority of resident patent applications in Serbia over the past seven years were filed by individual applicants. Their share accounted

for 95% of total resident filings in 2008 and 84% in 2009. In contrast, the IPO received significantly fewer filings from public research institutions. In 2008, for example, applications filed by public research institutions accounted for only 1% of total resident filings.

However, that figure increased significantly in 2009 to about 6%. A further increase is expected owing to the growth of R&D expenditure in Serbia, which has increased over the past ten years from EUR 27.9m in 2001 to EUR 86.2m in 2009.



R&D expenditures in Serbia in millions of euros, 2001-2009



Resident patent filings by applicant, 2003-2009

## News

Nikola Radovanović, PR adviser

Intellectual Property Office of the Republic of Serbia

### Education and Information Centre formally opened



The Education and Information Centre (EIC) was formally opened in the Intellectual Property Office on 29 January. The EIC was set up under an EU funded project (EUR 2m) managed by the EU delegation to the Republic of Serbia and co-funded (EUR 200 000) and implemented by the European

Patent Office. The Centre has the job of promoting public awareness of the social importance of intellectual property and developing the professional skills of all national stakeholders in that area. The overall objective is to support the Republic of Serbia in building a competitive and dynamic knowledge-based economy.

### Memorandum of Understanding signed with the Serbian Chamber of Commerce and the regional chambers of commerce



On the occasion of the opening of the EIC, the Intellectual Property Office and the Serbian Chamber of Commerce signed a Memorandum of Understanding. Branka Totić, Director of the IPO, and Vidosava Džagić, Vice-President of the Serbian Chamber of Commerce, signed the document. A Memorandum with the

IPO was also signed by the President of the Chamber of Commerce of Vojvodina, Nikola Stojšić, and by the presidents and representatives of the Chambers of Commerce of Belgrade, Kragujevac, Kraljevo, Niš, Sremska Mitrovića, Užice, Valjevo and Zrenjanin. The memoranda were signed with a view to promoting the joint development of training and awareness activities in the field of intellectual property in the regions of Serbia.

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Education and Information Centre



The Intellectual Property Office of the Republic of Serbia