PROJECT REPORT

HUMAN RESOURCE DEVELOPMENT IN THE RUSSIAN FEDERATION: THE UNIVERSITY RESEARCH COMMUNITY
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Background

1. The team of examiners for the OECD Review of Tertiary Education and Research Policy in the Russian Federation noted that "the development of the university-industry interface is of vital importance for the future development of the Russian economy" and that "the basis of a new tradition of university-industry relationships needs to be nurtured." They further observed that: "technology transfer and commercialisation of scientific results should become an important priority for Russian Higher Educational Institutions (HEIs). At the same time, the review team observed that "many HEIs do not have proactive policies with respect to applied research and technology transfer" and recommended that the property rights of research products be defined more precisely.

2. In response to the OECD Review's findings and to preliminary discussions with Russian ministry, regional and university officials, the OECD established a pilot project at three Russian universities (St. Petersburg State University, Saratov State Technical University, and Ural State Technical University) aimed at developing university technology management practices for intellectual property, a key foundation for any university-industry interface. The pilot project was carried out at each university's technology or patent and licensing office, the internal organisation entrusted with the legal protection and commercialisation of the university's intellectual property and with carrying out a university educational programme for intellectual property. It supported these university technology offices in: establishing technology office internet sites similar to those at OECD area universities, arranging internships for technology office staff at an OECD university technology office, and joining the Association of University Technology Managers (AUTM).

This report:

1. OECD 1999, p. 119
2. Ibid. pp. 124 - 125
3. The AUTM is a non-profit association with membership representing over 300 universities. Its core programmes centre on education, training, and professional development. One of its stated goals is to “assist administrators of patent and copyright programmes at institutions of higher learning in the licensing of technology and in encouraging faculty, research personnel, and students to produce inventions”.
describes briefly the past experience of Russian universities in technology management,

depicts the current situation confronting Russian university technology managers,

summarises the results of the pilot project, and

suggests possible follow-up actions.

Past Experience

3. Russian universities accumulated considerable experience related to intellectual property during the Soviet period that remains relevant today. All major Soviet research universities had invention departments (patent and licensing departments), with specialists schooled in intellectual property law, patent searching and patent claim drafting. Of course, the planned economy defined the activities of these invention departments and severely limited their experience in key areas of a market economy, most notably in evaluating the economic potential of technologies, sales, and protecting technologies abroad. Moreover, the planned economy’s general aversion to innovation frustrated many university scientists and engineers who, while actively co-operating with university invention departments, believed that their valuable ideas were too often ignored by industry. Still, it is important to recognise that the Soviet Union did create a cadre of specialists at universities who completed advanced studies on various aspects of intellectual property protection, participated in scholarly work, and widely propagated their knowledge among the universities’ research communities. All three universities in this project received numerous Soviet inventors’ certificates annually and actively pursued economic contracts with industry.

4. The shift to a market economy was abrupt and sometimes destructive of past experience. Ural State Technical University officials noted that the university abolished its invention department shortly after the collapse of the Soviet Union. The university ceded to its researchers, either formally or informally, the property rights to the technologies created while they were employed at the university. This decision came as university officials recognised the pent-up frustration of researchers who had never had an opportunity to commercialise their ideas. Moreover, university salaries had plummeted so deeply relative to the cost of living that it seemed only fair to give university researchers an opportunity to earn additional money through commercialising their work. In abolishing the invention department, university officials viewed its staff’s lack of marketing experience as outweighing its accumulated knowledge of intellectual property law and practices. In 1997 the university changed its policy and established an innovation department to protect the university’s interests in intellectual property created by its employees. By then, the university’s administration had become more aware of international experience and viewed intellectual property as an important financial resource. It appears that Ural State’s experience is typical for other Russian HEIs at which the staff, financing and status of patent and licensing departments were reduced.

5. St. Petersburg State University never abolished its invention department, which was established in 1967. Nevertheless, after the collapse of the Soviet Union the department came under the same pressures as experienced at Ural State. The rights to previously created intellectual property, however, were officially protected in the name of the university and not transferred to the inventors. When intellectual property was commercialised, the inventors were guaranteed 55 percent of the licensing royalties.

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4. A special State Committee Post-graduate Institute (TsIPK) offered high-level courses in various aspects of intellectual property.
6. Serious financial problems at the university, however, led to a reduction in invention department staff, fewer patents, and overall weaker administration over intellectual property. There occurred cases when the property rights to intellectual property that was created earlier or during current research were, through the initiative of the inventors, unofficially or improperly transferred to third parties. Moreover, internal rule making needed for management under market conditions – for example, university policies and procedures for disclosure, conflict of interests, and oversight of research grants and consultancies – remained relatively low university priorities. As a result, the staff at St. Petersburg’s Patent and Licensing Department has struggled to protect the university’s long-term interests and to establish a transparent and predictable legal environment.

7. Saratov State Technical University has a long tradition of working with regional military and non-military industrial facilities. Faculty members concluded numerous research contracts with local industrial enterprises and some university departments established branches at neighbouring industrial research institutes. Saratov also had an invention department, but after the collapse of the Soviet Union, it was absorbed into a newly-established university technopark, The Scientific-Technological Park “Volga-Tekhnika”. The technopark contains about 30 firms, many of which relate to structural departments in the university.

The Current Situation

8. Rapid institutional and legal changes have occurred since the collapse of the Soviet Union. A number of the institutional changes in HEIs may be attributed to individual entrepreneurship being coupled with flexible government support. Legal changes continue at the federal level, while lack of clarity persists on how laws and regulations are implemented at the HEIs.

Institutional changes

9. In an effort to support the commercialisation of R&D created at research facilities identified as world-class by the government, Innovational Technical Centres (ITCs) have been established. The ITCs give strong independent research centres, either industrial or academic, the capacity to take ideas from research into production. There are currently 36 ITCs in Russia, several of which are based on an HEI. For example, the Moscow Power Engineering Institute’s ITC, links the university with a pilot production facility. In addition to these national efforts there are also a variety of regional support programmes. Most of these institutional changes appear, however, to affect research institutes at the Academy of Sciences or the defence-industrial complex, rather than educational facilities.

Legal changes

10. Uncertainty over the direction of federal policymaking, especially related to property rights for federally funded research, continues to cloud technology management at Russian universities. In addition, transparent, rule-based systems for governing university intellectual property often remain underdeveloped, as do the means for financing such efforts. This uncertain environment is further complicated by difficulties that some universities expect to have in gaining the full co-operation of their research staffs to follow rigorous procedures for protecting intellectual property.
Property rights to federally funded research.

11. The federal budget remains the most important source of research financing at Russian universities; however, its actual share of the total is difficult to estimate. The Ministry of Education and the Ministry for Industry, Science and Technology directly provided slightly more than one-third of the research funding received by universities in 1999. While official statistics show that nearly half of university research funding comes from economic contracts (khzdogovory), Russian specialists generally believe that the majority of them relate to federal funds channelled through other ministries and foreign grants comprise a small part of these contracts (for example, funding from the Soros Foundation, CRDF, INTAS, etc.).

12. Russian officials have recently begun to debate how the federal funding of research should affect the ownership of resulting intellectual property. Given the large share of federal funds that support research at HEIs, the outcome of this debate will directly affect each university’s programme to commercialise intellectual property created at its facilities.

13. A Deputy Minister at the Ministry for Industry, Science and Technology stated the case being made by the proponents of greater central control over intellectual property: “Russian intellectual property legislation, as determined by the Patent Law and other laws of this type, while giving certain advantages to private patent holders, doesn’t consider the state’s interests, although state monies were used in financing the bulk of the results of scientific-technical activity.” He observes that a draft of the third part of the Civil Code and a Presidential Decree strengthen federal government agencies’ rights to intellectual property developed under their contracts and extend these rights retroactively. Yet, as these acts remain in conflict with the Patent Law and other legislation, an Interagency Committee was formed to deliver general recommendations for the government’s policy. The Committee is expected to report on its recommendations shortly. The current efforts for expanded federal control aim to assert federal ownership over inventions that are critical to the national defence and the state’s interests, rather open-ended concepts.

14. Expanded federal ownership of the type proposed appears to envision expanded centralised management. Those asserting the state’s interests over federally-funded research foresee a central funding agency controlling the commercialisation decisions (market analysis, technical evaluation, patent filing, and licensing). While most Russian universities are also governmental entities, the assertion of the government’s rights do not appear to envision giving them any managerial role over the resulting intellectual property rights. As the Head of St. Petersburg State University’s Patent and License Department testified at a Federal Duma Hearing: “To limit the property rights on objects of intellectual property created by HEIs and other scientific institutions will deprive them of a significant resource which, being commercialised, allows them to strengthen their economic situation and stimulates their creative activity.”


7. Article 1184 and “On using the results of scientific-technical activities” (Government Decree from 02.09.99 No. 982.)

15. The ownership policies for intellectual property (IP) created at universities in OECD Member countries vary, but the trend is in the direction of giving the rights to the universities. France, in the 1999 law on innovation and research, significantly relaxed rules that had restricted civil servants, including university faculty, by allowing them to found or participate private companies to commercialise IP they had created. At the same time, the law continued to assign the intellectual property rights (IPR) to the university, not to any federal ministry, nor to the individual. Canada allows each university to set its own policy in this area. While Germany continues to assign all IPR to the individual university professors, a growing public discussion seems to be heading in the direction of limiting the professor’s rights in favour of the university at which he is employed. Finally, the United States in the Bayh-Dole act expressly annulled the federal government’s ownership rights, giving them instead to the individual universities.

The legal and financial environment for a university’s intellectual property.

16. Federal laws, ministerial guidelines, and university regulations define the rights to intellectual property created at Russian universities. Almost all attention is currently focused on industrial property rights as opposed to copyright protection. Federal legislation and decrees are the most developed; Ministerial decrees deal with intellectual property in only a very general manner; and university regulations and procedures remain underdeveloped.

17. Recent federal patent legislation follows the common world practice whereby the rights for intellectual property objects (inventions, utility models, industrial designs, etc.) developed in connection with performing official duties by an employee are the property of the employer. Intellectual property objects created outside official duties are owned by their creators or by the creators’ assignees. Recent federal laws on education state that the rights to intellectual property created as result of an educational institution’s activity belong to that institution.

18. In comparison to many OECD area universities, Russian universities have implemented few detailed written university procedures and regulations on intellectual property. The senior members of St. Petersburg University’s Patent and Licensing Department have argued that the experience of OECD Member country universities in this area could be very beneficial for the further development of Russian

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9. Discussions have begun in OECD area educational communities questioning the ownership and exploitation of copyright in teaching and learning materials created by university staff. One recent examination of the problem concludes: “Universities and colleges should re-state that all copyright material, in whatever form, generated by staff in the course of their employment belongs in principle to the employer.” See, “Intellectual Property Rights (IPR) in Staff and Student work,” VC-NET The news service for the network of Vice-Chancellors in membership of the Association of Commonwealth Universities, No 13 November 2000, Svava Bjarnason, editor, vcnrt@acu.ac.uk

10. In the recent “Concept Paper for science, scientific-technical and innovation policy in the education system of the Russian Federation for 2001-2005” (Order of the Ministry of Education from 06.06.2000 No. 1705) only the following mention of intellectual property is made: “The development of the legal basis of science, which regulates the legal relationships in the process of creating industrial property objects and copyrights (intellectual property, its legal protection and commercialization obtained by balancing of rights and legal interests of the subjects – authors, HEIs and educational organizations -- including an inventory of the results of scientific activity achieved through funds from the federal budget.”

11. See Patent Law of the RF from 23.09.92 No. 3517-1 article 8 and the Decree of the President of Russian Federation No. 863 from 22.05.98 “On state policy of involvement into economy cycle of the results of science and technology activity and intellectual property objects in the area of science and technology”.

universities’ policies.\textsuperscript{13} The lack of detailed university procedures and regulations currently hampers the development of a transparent and predictable environment.

19. Severe financial difficulties have left little funding for Russian university technology management programmes. Securing domestic and foreign patent protection is often an early step in commercialising a technology; yet, paying for this step often too expensive for Russian universities. In addition, few funds are available to allow university technology managers to travel and network with their international colleagues.

Research staff co-operation.

20. Years of frustration from a lack of opportunities to commercialise research ideas and current low salaries make the establishment of strict university guidelines on intellectual property rights a highly emotional subject for some staff members. The principle area of contention centres on ownership rights. Many university employees work as consultants for local businesses, and if any intellectual property results from their research, they often assert that it arose while employed as a consultant, not while working for the university. As a result, they deny the university any property rights that come from outside work. In addition, it is frequently difficult to obtain the co-operation of staff in disclosing possible new intellectual property. Furthermore, university staff members initiate commercial discussions surrounding their work without notifying the university and excluding the university’s technology office.\textsuperscript{14} University officials remain uncertain on how to change this situation, achieve a working consensus among their staff members, and implement regulations that would protect the university’s interests.

Experience Available at OECD Area Universities

21. The differing legal and cultural environments of the OECD Member countries influence how IP is managed at their universities. There appears to be a present trend toward the greater empowerment of university administrations and toward a more activist university management. The depth of experience in this area appears greatest in North America, the UK and Australia, but the newly created Association of European Science and Technology Transfer Professionals (ASTP) will possibly provide a mechanism for expanding university experience in continental Europe. Asian OECD Members are re-examining their approaches in light of the rapidly accumulating foreign experience.

22. The establishment of university procedures and regulations for IP is a crucial aspect to any university’s active management of its IP. The AUTM website (www.autm.net) provides an excellent gateway to the experience of many universities. Under the rubric “Policies”, the AUTM has posted the detailed regulations for some of its member institutions. For example, in the sub-category of “Conflict of Interest”, the AUTM makes available the full texts to these rules for the Massachusetts Institute of Technology, Cornell University, Duke University, the University of Maryland at College Park and the University of Connecticut Health Centre. It has similarly posted sample university rules and regulations covering “Intellectual Property” and “Publication”. Under the AUTM’s rubric “Tech Offices”, the website provides direct links to individual university websites in many OECD Member countries (e.g., Australia, Canada, Germany, Japan, the United Kingdom and the United States). These individual websites also contain additional examples of regulatory experience.

\textsuperscript{13} I.F. Leonov and T.I. Matveyeva, Managing the rights to objects of intellectual property in civil-law contracts concluded by HEIs, (Saint Petersburg: 1999), p. 25.

\textsuperscript{14} In the Russian espionage case against Mr. Pope, the American businessman, it appears that staff members from the Baumann Institute’s technology office were excluded from the business discussions.
The Pilot Project

23. The OECD-funded pilot project successfully promoted the sharing of experience of OECD area universities in technology transfer and the commercialisation of research results. The project consisted of three parts, the:

- establishment of an internet site similar to those created by OECD area universities,
- participation in an internship at an OECD area university technology office, and
- enrolment into the Association of University Technology Managers (AUTM).

Universities were chosen in different Russian regions so that they could more easily make their experience available to other regional HEIs.

The internet sites

24. Internet sites are an excellent way for universities to market their technological capabilities internationally. They usually describe a university’s rules and regulations related to technology transfer and contract research, outline particular technological strengths, present news on recent accomplishments, list the areas of technology currently thought to be good candidates for commercialisation, introduce the technology office staff, and explain how to contact the technology staff. The sites contribute to transparency, are inexpensive to maintain and are continuously updated.

All three Russian universities have launched internet sites for their technology offices and each plans to complete full English-language versions:

- St. Petersburg State University: http://www.unipat.pu.ru
- Ural State Technical University: http://www.ustu.ru/ois
- Saratov State Technical University: http://web.sstu.runnet.ru/oniks

25. As these universities are now members of the Association of University Technology Managers they have received offers from other AUTM technology offices to critique their websites. The university representatives expressed optimism that they could continue to develop their sites as they gained experience in marketing and share their experience with other Russian universities. As was mentioned above, the Soviet economic system provided an excellent knowledge base on IP for many specialists, but it was totally deficient in providing experience in market-related aspects to IP. Consequently, the sharing of experience among Russian universities will be a crucial element for the success of university-based IP programmes and it could be an aspect further developed by international donors.

Internships at OECD area universities

26. Networking with OECD area universities probably represents a key element for any Russian university’s strategy to develop its own technology transfer office. Awareness of foreign experience will also be important for government officials who are responsible for developing national policies.

15. This section serves to establish that the university’s rules are known to its staff and to outsiders.
27. OECD area universities have a variety of cultural approaches and a rich experience in many areas of intellectual property management. For example, the policies on assigning property rights to IP made at universities often differ among OECD Member countries. In fact, approaches to managing IP even differ within some individual OECD Member countries. Thus, Russian government and university officials should not seek to create a perfect, all-encompassing regulatory framework for university IP, but they should rather establish a stable and transparent regulatory framework that allows for a variety of institutional cultures.

28. To begin Russian university networking, the OECD was able to pair the three Russian universities with OECD area host universities as follows: St. Petersburg State University with the University of Maryland in Baltimore (USA); Ural State Technical University with the University of Ghent (Belgium) and Saratov State Technical University with Ohio State University (USA).

29. During their internship, Russian specialists were able to observe the functioning of a technology office and deepen their knowledge in such practical areas as: how university procedures work in practice, technology evaluation, licensing, market analysis, etc. The specialist from St. Petersburg was also able to complete an AUTM-sponsored technology licensing course. All three were able to establish personal contacts on which they can continue to draw in the future.

AUTM membership

30. To help the Russian universities network with their OECD area colleagues and to introduce them to best practices, the OECD supported their AUTM membership. In addition, St. Petersburg State University joined the ASTP. As a result, the three Russian universities now benefit from a wide variety of technical publications on managing intellectual property at universities and can participate in the association's annual meetings. Unfortunately, a lack of university funds continues to hamper their active participation in many of these association activities.

Possible Follow-Up

31. The interface between legislation and policy making at the federal level and rule making and practice at the university level remains problematical for Russian and other NIS university technology managers. For example, difficulties in establishing a transparent and equitable system for determining intellectual property ownership remain at both the federal and university levels. This lack of consensus continues to thwart technology managers and creates a legal uncertainty that discourages potential investors. A joint OECD-AUTM/ASTP workshop in Russia, and perhaps also in other NIS or CEECs with strong research universities such as the Ukraine and Bulgaria, would be a useful in this area. It could bring together national governmental policy makers responsible for maintaining the regulatory environment for university technology managers in OECD Member countries, senior-level OECD area higher education officials, and OECD area university technology managers together with their Russian counterparts.

32. Consensus-building seminars at individual Russian universities, perhaps supported by other national or international organisations, could build on such an overall policy workshop. Key to aiding the technology commercialisation departments at Russian universities will be the development of a consensus among researchers at each university. Many university researchers have suffered for years under an innovation averse Soviet system and more recently under the chaos of the Russian transition period. Their viewpoints and experience need to be included in any attempt to establish new university-level policies. Consensus-building seminars that involve experts from a variety of OECD Member country universities and education ministries would be a key element. Such seminars could be conducted at several major
Russian research universities and the experience from them could be later disseminated to other universities.
### Information on University and Intellectual Property, Patents & Licenses Department
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### SPSU Technologies
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ANNEX 2: URAL STATE TECHNICAL UNIVERSITY

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