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COMMITTEE ON ECONOMIC COOPERATION  
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International Conference on Intellectual Property Rights Protection  
and Transforming Research and Development Outputs Into Intangible  
Assets in Economies in Transition

Geneva, 25-26 July 2007

REPORT OF THE INTERNATIONAL CONFERENCE ON INTELLECTUAL PROPERTY  
RIGHTS PROTECTION AND TRANSFORMING RESEARCH AND DEVELOPMENT  
OUTPUTS INTO INTANGIBLE ASSETS IN ECONOMIES IN TRANSITION<sup>1</sup>

*Summary*

The International Conference, which was chaired by Professor Ludmila Sterbova from the Czech Republic, discussed priority challenges, good practices and policy options relating to the role of intellectual property (IP) in the transfer of technology from research institutions to the business sector (para. 6-31), IP strategies for entrepreneurs and small and medium-sized enterprises (SMEs) (para. 32-44), Intellectual Property Rights (IPRs) enforcement (para. 45-54), and IP audits, accounting and valuation (para. 55-64).

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<sup>1</sup> All presentations by participants are available at the CECI Information Exchange Platform and on the UNECE website.

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## I. ATTENDANCE

1. The International Conference on Intellectual Property Rights Protection and Transforming Research and Development Outputs into Intangible Assets in Economies in Transition took place on 25 and 26 July 2007. Experts representing government agencies, the private sector and academic institutions from twenty-nine UNECE member States and the European Commission participated in the meeting. The meeting was also attended by representatives of inter-governmental organizations with activities relevant in the area of intellectual property (World Intellectual Property Organization, World Trade Organization, European Patent Office and United Nations Commission on International Trade Law).

## II. OPENING OF THE CONFERENCE

2. Mr. Marek Belka, Executive Secretary of UNECE, opened the conference and welcomed participants from governments, the private sector, academia and inter-governmental organizations. He stated that the good and balanced representation of all UNECE subregions and country groupings in this meeting attested to the significance and importance of intellectual property issues for UNECE member States. He also noted with appreciation that the business community was well represented.

3. The Executive Secretary remarked that innovators were not always the best placed people to actually commercialize their inventions, as they may lack the financial resources, the business acumen, and the time or the interest to do so. Well-designed intellectual property rights systems made it possible for innovators to sell, license or assign the rights to their innovations to others, who may be better placed to exploit them. In other words, intellectual property rights were key in order for markets for intellectual assets to emerge.

4. The Executive Secretary stressed that well-designed intellectual property rights systems also encouraged innovators to disclose their knowledge so that future innovators can build on it, thereby helping to accelerate the rate of innovation.

5. While referring to the topics to be discussed by the conference, the Executive Secretary pointed out that these discussions will be of great value for our future work, especially in identifying good practices, which was the first step before developing training tools that will lead to capacity building activities on the ground based on the needs and expressed interests of our member States. He added that the Secretariat was already preparing training and capacity building activities for later this year, in cooperation with the governments of Belarus and Ukraine, and with the World Intellectual Property Organisation (WIPO) and other organizations.

6. This conference was also organised as a capacity-building event, and it was expected that a large number of the participants from countries with economies in transition would learn and benefit from the knowledge and experiences shared by the practitioners and other participants on the topics addressed at the conference.

Participants in the first meeting in bold

### **III. SESSION 1. CREATING AN ENABLING ENVIRONMENT FOR THE TRANSFER OF TECHNOLOGY FROM RESEARCH INSTITUTIONS TO THE BUSINESS SECTOR**

7. Presenters and discussants in this session agreed that the goal must be public research organizations (PROs), dynamic, innovative industry, and strong and functional relationships between them. Intellectual Property (IP) was just a tool to be used in technology transfer, not an end in itself. One presenter (European Commission) also spoke of Knowledge Transfer (KT) rather than Technology Transfer, to include also the transfer of tacit knowledge, that is, the knowledge that cannot be codified (but which may be transferred through staff exchanges).

8. It was maintained that innovation was today a highly complex process increasingly requiring partnerships to be forged and nurtured, including between private firms and public research organizations. Innovation was also rapidly going global, in terms of talent, standards and key markets.

9. Technology transfer can take many forms, including licensing and acquisitions; investment in spin-off companies; networking, student placement, staff exchanges; pre-competitive research and development collaboration; university research and development projects sponsored by firms.

10. Incidentally, the focus of IP in the context of technology transfer should also not be narrowed only to patents; some universities make more money for example, from distance or e-learning activities, which require protection through copyright, than they do through the licensing of patents.

11. For PROs as organizations, the benefits of good IP management was not just revenues (in fact revenues will not be a major benefit for most), but also to retain/recruit talented scientists.

12. Technology transfer was very important yet perceived as fraught with difficulties. At the heart of the difficulties was a difference in missions between research organizations (there were not just universities!) and industry, which can lead to a clash of cultures.

13. Another source of problems that was identified was poor IP management, in PROs, but also in many SMEs (large firms tend to be rather good at it). Improving IP management was becoming a strategic priority for PROs, not least because they needed to demonstrate competence in this area in order to qualify for government funding.

14. At the level of the PRO, effective IP management raised several issues, such as: how to secure adequate funding for IP management and Technology Transfer Offices (TTOs) given that the returns, if any, will materialize only in the long-term (10 – 25 years)? How to provide the right incentives for PRO staff to exploit IP and how to keep these incentives consistent with other avenues for technology transfer)? How to avoid or resolve potential conflicts of interest, for example, between using funds for basic versus applied research, open access to knowledge versus exclusion to generate revenue, staff benefiting individually from decisions they take on behalf of the PRO?

15. Another problem that was identified related to conflicts about who should own the IP and how the revenues should be shared. On the latter point, there is no universal rule, but both sides should be realistic about the value of the IP, and should recognize on the one hand the costs of doing the research that generates the IP, and on the other hand the costs of turning that IP into a successful product.

16. The knowledge generated by public research remained generally under-exploited. Only part of this knowledge was patentable or amenable to protection through copyright, and hence could be exploited through licensing (“iceberg” analogy). The bulk was “below the waterline” (for example, tacit knowledge), and can be exploited only through other avenues (such as, networking, staff exchanges, and pre-competitive research and development collaboration).

17. A big gap existed between scientific research and commercial application (“missing mezzanine” analogy). Most scientific research was too “raw” to be directly commercially relevant; often a lot of money and time need to be invested to turn scientific research into commercial products (it was argued that the “valley of death” was at least 10 years wide and \$20 million deep).

18. The Bayh-Dole Act in the United States has been a very big step forward in regulating and stimulating technology transfer between PROs and industry. However, negotiations on IPRs in sponsored research agreements have become so contentious, expensive and time-consuming that they were turning into a barrier. Some firms were reducing their cooperation with PROs or were doing it increasingly with PROs in other countries (Europe, Asia).

19. In particular, negotiations were made difficult by PROs’ excessive focus on maximizing revenues. There was a tendency for PROs to over-estimate the market value of their IP because they do not see the risks and expenses involved in turning it into a successful product.

20. An excessive focus on maximizing revenues was misplaced: even in the US, only one percent of universities generate enough money through technology transfer to cover the costs of their TTOs.

21. Difficulties of technology transfer were compounded when it takes place across countries: across the European Union (and even more so at the global level), there was a substantial variation in PRO cultures and IPR systems, and also in other legal requirements (for example, in the United Kingdom SMEs need to own the IP resulting from cooperation with universities in order to qualify for tax breaks). It can also be more difficult to identify suitable partners. Hence exchanges of experience, identification of best practices, and training were considered very important.

22. To overcome these problems, PROs need to learn how to manage their IP better, and both sides need to recognize existing differences in missions and cultures and take them into account when negotiating IPRs.

23. This requires training, learning, exchanges of good practices, and continuous communication.

Participants in the first meeting in bold

24. Ideally, PROs and firms should forge long-term relationships, where both sides draw benefits that do not depend on the success of any given R&D project, such as firms using PROs as recruiting grounds for talented staff, and PRO researchers using collaboration with industry as a source for new exciting and relevant ideas for scientific research.

25. This means that PRO-industry collaboration should be treated as a strategic priority, which needed support from the top down, that is, from senior management.

26. Monitoring the effectiveness of IP management and TTOs was important but not easy: it needed to be recognized that the time horizon for benefits to materialise was long, that the benefits were not only, and perhaps not even predominantly financial, and that IP management was not the only way to transfer technology.

27. Policy makers should encourage technology transfer not in the belief that it will enable them to cut public funding for PROs, but rather because of the other benefits it generates.

28. Technology transfer should be governed by two principles: maximizing the beneficial use of knowledge generated by PROs (through excellence in scientific research, protection and use of IP, and cooperation with industry), and responsible use (sustaining the scientific research capability of PROs, make sure the use of the knowledge benefits society).

29. Governments needed to empower and support PROs in partnering with industry; give universities sufficient autonomy to be able to recruit experienced technology transfer staff on a competitive basis; and encourage the pooling of technology transfer resources across universities. Academic career appraisal criteria should take into account activities like patenting and collaboration with industry.

30. Since innovation was increasingly global, it cannot be managed effectively within strictly national boundaries; hence governments needed to help their PROs to become or remain attractive partners for industry globally. There were initiatives and efforts to push for more harmonization through voluntary codes and other forms of soft regulation, both as far as IPR systems and as far as how PROs do business with industry.

31. The Russian Federation has created a Federal Target Program to develop the scientific and technological potential in a range of priority areas in the period 2007-2012 which foresees a structured collaboration and co-financing of research, development and commercialization between the government, PROs and industry.

#### **IV. SESSION 2. INTELLECTUAL PROPERTY STRATEGIES FOR ENTREPRENEURS AND SMALL AND MEDIUM SIZED ENTERPRISES (SMES)**

32. Two national surveys of SMEs presented in this session showed that as a group, these enterprises tend not to use the formal IP system a lot.

33. In part, this probably reflected the fact that not all SMEs were innovative, and that those that were also have alternative means available to protect their IP, such as secrecy, publication, lead time advantages, product complexity, customer relations management, and open source.
34. Hence the goal should not be to push all or most SMEs into using the formal IP system.
35. However, there is evidence that SMEs as a group do under-utilize the formal IP system for a variety of reasons, including:
- (a) lack of awareness;
  - (b) excessive costs – research done at the European Patent Office on patent data suggested that the demand for the services of the formal IP system was cost-sensitive;
  - (c) excessive complexity;
  - (d) lack of expertise, and,
  - (e) lack of resources for enforcement.
36. At the same time, SMEs were heterogeneous (including along industry lines); there were some that were very IP-savvy and used the formal IP system a lot.
37. It was pointed out that there were three groups of SMEs:
- (a) those that did not use the formal IP system because they did not need to;
  - (b) those that did use the formal IP system and did not need any support in this regard; and,
  - (c) those that did not much use the system, but would benefit from using it more and did need support.
38. In the catching-up economies<sup>2</sup> (as explained for the case of Russia), there were additional problems, including:
- (a) a lack of stable demand for domestic innovative products;
  - (b) difficulties in entering global markets;
  - (c) declining innovative capacity of many SMEs, partly related to a lack of finance for innovation such as venture capital;
  - (d) lack of clarity as to who owns IP (for example, in cases of IP resulting from government-funded research); and,
  - (e) poor IPR enforcement due to a lack of resources in the legal system.
39. It was maintained that these additional problems can lead to dramatic declines in patenting activity.
40. Obstacles can be addressed in a variety of ways, such as through:
- (a) awareness raising and training programmes;

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<sup>2</sup> The term “catching-up economies” is used to define the group of ten new EU member States (Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia), countries of Southern-East Europe (Albania, Bosnia and Herzegovina, Croatia, Montenegro, Serbia and The former Yugoslav Republic of Macedonia) as well as the countries of Eastern Europe, Caucasus, and Central Asia (Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, the Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan).

- (b) tax breaks or subsidies or reduced fees for IP protection;
- (c) offering consulting and advisory services or IP audits free of charge or at subsidized rates;
- (d) match-making services (potential licensors and licensees); and,
- (e) model contracts for licensing.

41. Such help was offered at the national level by dedicated SME support institutions such as Enterprise Development Agencies, Productivity Councils, but also through national IP offices.

42. International organizations such as WIPO and EPO also offered help, and were also working with national SME support institutions to identify and disseminate best practices.

43. It was important to first do a thorough assessment of the situation in any given country to identify what the most pressing needs and obstacles were before mounting specific support initiatives.

44. However, it can be a challenge to get SMEs to participate in training; they frequently declined citing a lack of time. One solution might be to offer training that covers IP in addition to other issues that may be of immediate relevance to SMEs.

### **V. SESSION 3. ISSUES IN INTELLECTUAL PROPERTY RIGHTS ENFORCEMENT**

45. The main message from this session was that enforcement was an action, and in other words, an endless debate on new legislation should not be encouraged but instead existing laws should be enforced. This was more so considering that effective enforcement provisions were in place in most countries, including in the catching-up economies.

46. It was also made clear that most legislation already provided a solid base for effective enforcement action, and it was important that both the prosecutors and the judges applied the criminal provisions present in the law in their full capacity.

47. Furthermore, though it was acknowledged that criminal remedies were normally in place, the right holders should also have available effective and efficient civil remedies, and in particular, preliminary measures (injunctions), measures to secure evidence, permanent injunctions, and the possibility to recover equitable damage.

48. It was also pointed out that efficient and effective border measures were of fundamental importance for the right holders.

49. Some of the problems related to enforcement were identified, and it was argued that these varied hugely from country to country, even within the European Union. It was also argued that enforcement was a problem due to:

- (a) the different level of appreciation of seriousness on IPR fraud in different countries;
- (b) unequal expertise of the judiciary, Customs officials, police and other law enforcement agencies; and,
- (c) a general lack of resources.



50. A number of suggestions for governmental action were also put forward, including:
- (a) providing Customs authorities with more resources and train up more IPR specialists;
  - (b) providing training for the judiciary to better understand counterfeiting and piracy;
  - (c) setting-up specialist units within the police force; and,
  - (d) enhancing cross-border cooperation, such as, through Interpol.
51. At the international level, reference was made to initiatives, such as the adoption by the G8 at the Heiligendamm Summit in June 2007 of joint measures to tackle counterfeiting and piracy. It was also pointed out the importance of enforcing international agreements, in particular, the World Trade Organization (WTO) Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS).
52. Another issue that emerged was related to the challenge that digital technology represents to the existing IPR system. In other words, how to protect right holders in the digital age, and a question was raised of whether this should be tackled by updating the existing legislation in the realm of copyright and related rights or by enhancing IPR management concepts.
53. An issue which was raised several times related to the necessity of increasing public awareness in different ways through the dissemination of information and education. In this regard, an example was given of a major European manufacturer of consumer goods that was sponsoring IP courses in Chinese universities.
54. The necessity of creating a culture of IP was also mentioned, and it was agreed that this required strategic planning with the involvement of all stakeholders, including the state, universities and the business community.

#### **VI. SESSION 4. INTELLECTUAL PROPERTY AUDITS, ACCOUNTING AND VALUATION**

55. IP auditing, accounting and valuation were of fundamental importance for innovative businesses, public research organizations, venture capitalists and other providers of financing for innovative enterprises. Among other things, accurate IP valuation played a central role in order for new innovative enterprises to have access to finance.
56. There was no unique methodology in the valuation and assessment of IP. Which method to use depended crucially on the purpose for which the valuation was undertaken, that is, what “triggers” the valuation. Among the possible triggers identified were:
- (a) the sale or purchase of IP assets;
  - (b) the licensing of IP assets;
  - (c) mergers and acquisitions of whole firms;
  - (d) efforts at cost saving, including through IP asset donations;
  - (e) litigation;
  - (f) joint venture arrangements and strategic alliances; and,
  - (g) financial reporting and disclosure.

Participants in the first meeting in bold

57. Valuation methods can be classified basically into static methods (for example, comparisons of market and book values of companies) and dynamic methods (discounted cashflow and real option models).

58. They can also be classified into income-based (measuring the income to be generated), cost-based (measuring the cost of (re-)producing the IP asset) and transaction-based (basing the valuation of an IP asset on the price fetched by “similar” IP assets in market transactions).

59. Whichever method was chosen, IP valuation will inevitably involve a large element of subjectivity due to the need to:

- (a) assess the quality and strength of IPRs and the capability of the company’s management to protect and enforce;
- (b) assess market prospects of existing and future IP-based products (which among other things will depend on the quality of the management team of the company owning the IP);
- (c) estimate future royalty streams;
- (d) estimate future development costs to bring IP-based products to market;
- (e) assess the risks surrounding all these estimates; and,
- (f) identify comparable IP assets that were recently sold and whose prices a company can use as benchmarks in valuing its own IP.

60. One particular problem for new innovative enterprises in this regard was that the value of their IP assets was contingent on being able to bring a successful product to market. So on the one hand, they needed to convince investors of the value of their IP assets in order to obtain financing. And on the other hand they needed financing in order to realize the potential value of those assets (to make it through the so-called “valley of death”).

61. Patent Value Funds were an innovative financial instrument to bring together patent holders, financiers and parties interested in developing commercial applications.

62. They can help innovative firms to bridge the “valley of death”, while also allowing investors to diversify their portfolios and thus to reduce their exposure to risk, and thereby fostering the emergence of markets for new technologies.

63. While most of the legal frameworks underpinning IP auditing, accounting and valuation was national, efforts at harmonizing the legal framework of IP valuation in secured international transactions were highlighted.

64. IP auditing, accounting and valuation was a relatively new, complex and still rapidly evolving field. The panel members, who were recognized as being among the most experienced experts on these issues, encouraged conference participants from catching-up economies to approach them directly for advice.

## VII. WRAP-UP SESSION

65. In the wrap-up session, the participants heard moderators' reports on the four substantive sessions above, as reflected in the preceding paragraphs of the present report.

66. The Chairperson offered a summary of the results of the conference, stressing that it was a part of the wider work programme of the UNECE Committee on Economic Cooperation and Integration aimed at identifying the framework conditions for economies to prosper, and for public research organisations to generate knowledge for industry to be innovative and for SMEs to enhance their potential and to be more competitive.

67. The Chairperson held that many interesting ideas had emerged from the discussion, with experience and best practices used by governments and enterprises being shared, and many weak points and problems had also been identified.

68. The Chairperson considered the results of the conference to be a very good basis for further work on these issues and for taking relevant measures, and expressed her confidence that the discussion contributed effectively to the process of capacity building within national policies aimed at innovative development. The IP experts recognised without any doubts that IP issues need to be underlined as part of the mentioned policies and should be handled in a very comprehensive and balanced way.

69. IPRs protection and enforcement provided important incentives for innovations, investment and social development. This said, they could – in certain conditions – create a barrier to the dissemination of new technologies, to broader competitiveness and the immediate achievement of market benefits.

70. In order to include effectively IP issues in national innovation policies, countries may want to consider the establishment of inter-ministerial mechanisms with the involvement of all relevant government agencies, as it was very evident that individual governmental bodies which were only focused on one aspect of IP (such as Customs, IP offices, trade inspections, and police) could not take these issues on their own.

71. A brief summary of the conference will be reported to the second meeting of the Team of Specialists on Intellectual Property on 27 July 2007.

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Participants in the first meeting in bold