

# UIC John Marshall Journal of Information Technology & Privacy Law

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Volume 17  
Issue 2 *Journal of Computer & Information Law*  
- Winter 1999

Article 1

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Winter 1999

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### Recommended Citation

Edward H. Sikorski, The Role of Patent Law in Poland's Transitioning Science and Technology Policy, and a Comparison with the Patent Laws of the United States, 17 J. Marshall J. Computer & Info. L. 381 (1999)

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## ARTICLES

# THE ROLE OF PATENT LAW IN POLAND'S TRANSITIONING SCIENCE AND TECHNOLOGY POLICY, AND A COMPARISON WITH THE PATENT LAWS OF THE UNITED STATES

by EDWARD H. SIKORSKI†

### I. INTRODUCTION

#### A. SCIENCE AND TECHNOLOGY POLICY, AND A COMPARISON WITH THE PATENT LAWS OF THE UNITED STATES

Political and economic transformations in the Republic of Poland have steered that country on a path toward recognition as one of Europe's technological leaders. How far that path will lead, and how mighty Poland's innovative capabilities will become, depend largely on its science and technology policy, and, in particular, its attitude toward intellectual property.

With the international community's current attention on harmonizing intellectual property laws, Poland is at a critical point in its own evolution for determining whether, and to what extent, it will provide the type of intellectual property protection afforded in other countries. True, there are a tremendous number of major science and technology issues that need the attention of Poland's government, among them the stagnation in privatizing state-held industries. Nevertheless, the Republic must push forward on all fronts if it is to secure leadership in Central and Eastern Europe. It would be detrimental for any emerging

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country, not only Poland, to overlook the influence which strong intellectual property protection has over a nation's ability to attract and encourage inventive and innovative activity. Equally detrimental would be the world's ignorance of Poland's vast untapped consumer markets and labor resources.

This is not to say that everyone is ignoring the obvious. Based upon its current government programs, Poland clearly knows that it needs to improve its infrastructure, including both physical and electronic access. Its awareness of intellectual property issues is reflected by a set of laws on inventive activity which are largely consistent with those of the industrialized world, including the United States. These components of its science and technology policy have attracted and will continue to attract foreign research and development ("R&D") investments, without which Poland could very well lag behind its neighbors as we move toward the 21st Century.

## II. HISTORY AND ENVIRONMENT OF POLAND

Poland has had a long and interesting history. For centuries, it has been the object of foreign aggressors. Most recently, at the end of World War II, it fell victim to Soviet Communist rule. As of January 1, 1990, however, Poland shed its communist past in favor of a newly elected Solidarity-led government that moved the country rapidly, perhaps harshly, toward a market economy. The government quickly decontrolled prices, slashed government subsidies, and lowered import barriers. Poland saw turbulent times in the late 1980's and early 1990's with inflation rates at times on the order of 500-600 percent.<sup>1</sup> Now, despite having essentially seven different governments in almost as many years, inflation has fallen to below 20 percent, economic growth has averaged 6 percent over the three years through and including 1996, and gross domestic product ("GDP") has grown about 5 percent for the past two years.<sup>2</sup>

Although Poland has its sights on a high-technology future, it is still very much an agrarian country with concentrations of heavy industry.<sup>3</sup> These industries have caused serious air and water pollution problems in southern regions that, unfortunately, attract much government attention away from other policy issues. Countries transitioning away from communist regimes typically must face the decision whether to impose

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1. University of Windsor, *Statistical Information on the Republic of Poland* (1996).

2. *Of Hype and Halos: A Survey of Poland*, BUS. CENTRAL EUR., Vol. 5, N. 38, at 36-37 (Feb., 1997).

3. For example, Poland has set higher (protective) tariff levels for agricultural goods than for industrial goods. Tariff levels in 1996 were approximately 20.9 percent for agricultural goods and 5.6 percent for industrial goods. United States Trade Representative, 1996 National Trade Estimate for Poland.

and enforce environmental regulations as the country develops or to delay such regulations until after development has occurred, in effect "cleaning up" after development.<sup>4</sup> Poland appears to be moving from the former to the latter and has recently passed, for example, legislation enabling the collection of environmental fees and fines.<sup>5</sup> On a positive note, such legislation has had a secondary effect on technological development in that more companies are now looking to upgrade their equipment in order to avoid excessive pollution.<sup>6</sup>

Being agrarian does not, however, stand in the way of technological progress. Globally, the electronics industries seem to be the popular product and process technologies which are sought to form the core of an industrializing nation's economy. The Southeast Asian corridor, including Japan, South Korea, Hong Kong, Singapore, and Taiwan, has been extremely successful in establishing high-tech infrastructure among their core capabilities despite being very rural. Their ability to absorb the technology necessary for cutting-edge R&D and manufacturing capabilities lies, in part, in the fact that electronics industries do not require much in terms of natural resources. Instead, the only resource they require is knowledge.<sup>7</sup> Poland should, therefore, be confident that its own ability to excel in the high-technology sectors would not be impeded by its agrarian tradition. It offers, for example, a highly educated population with ninety-seven percent literacy, yet a workforce that is still relatively inexpensive.

### III. ISSUES CONFRONTING COUNTRIES IN TRANSITION

The past decade or so has seen economic reformation in several formerly communist (or other) countries eager to expose their markets to the world. China and Vietnam are examples in Asia. Poland, Belarus, and Russia are examples in Central and Eastern Europe. The extent to which these countries have opened their markets varies, as do their respective timetables, but the era of uncompromising communism in Asia and Central and Eastern Europe is coming fast to an end. Even with the current economic upheaval in Russia, which is likely to affect markets worldwide, the odds are slim that there would be a return to communism.

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4. WING THYE WOO ET AL., *ECONOMIES IN TRANSITION: COMPARING ASIA AND EUROPE* 12 (1997).

5. U.S. Dep't. of Com. (visited July 18, 1995) <<http://www.statusa.gov/bems/bemspol/polbess.html#infor>>.

6. *Id.*

7. JEFFREY HENDERSON, *THE GLOBALISATION OF HIGH TECHNOLOGY PRODUCTION* 4 (1989).

As a general rule, and independent of geographic location, post-communist economies that seek to open their markets and to liberalize foreign trade must confront several major issues. Among them are macro-economic stabilization, which steadies the country against the general level of equilibrium in foreign countries, price liberalization which permits prices to respond to market forces, easing trade and investment barriers so that foreign investment and international collaboration can develop, and reform of property ownership.<sup>8</sup> Other economic factors must also be addressed,<sup>9</sup> but these four issues are generally viewed as the most basic.

As for timetables, some transitioning countries have attempted to tackle their economic issues sequentially in phases, such as Vietnam, China, and Russia. Poland, on the other hand, addressed all four head-on beginning January 1, 1990, the date of its passage from a Communist State to an open market regime.<sup>10</sup> Economic reformation obviously has not been a smooth one; there were some major economic setbacks during the early 1990's. However, in more recent years Poland has seen much economic improvement and has become somewhat of a success story.

Another significant part of the overall science and technology plan, which transitioning governments must adopt, is strong intellectual property protection. Continued influx of foreign investment is necessary in order to improve a country's own R&D capabilities. In return, however, those laboratories and other R&D facilities need the assurance of strong intellectual property protection in order to prevent free riders. By improving patent laws and the enforcement of those laws, there will undoubtedly be an even bigger incentive for international inter-firm ventures.

#### IV. ISSUES CONFRONTING POLAND

Regardless of the general or specific issues that a transitioning government faces, it is imperative that science and technology policies be instituted and developed in parallel. For Poland, this means giving simultaneous attention to issues like privatization and intellectual property protection, because newly privatized companies will lean on patents and other rights as footholds against their competitors.

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8. WOO ET AL., *supra* note 4, at 13.

9. BEN SLAY, *THE POLISH ECONOMY: CRISIS, REFORM, AND TRANSFORMATION* 87-88 (1994). The author suggests that former communist governments must (1) increase monetary convertibility so that the country's currency is more easily integrated into the international economy, and (2) construct new legal, regulatory, and financial mechanisms. The latter is sometimes considered a sub-issue related to the conversion of property to private ownership.

10. WOO ET AL., *supra* note 4, at 13.

Privatization is two-fold. On the one hand, lies the country's encouragement and support for new private firms. On the other, lies the privatization of Poland's formerly state-owned enterprises, be it through direct privatization, i.e., liquidation to a purchaser, or capital privatization, i.e., conversion into joint-stock companies.<sup>11</sup> The latter has attracted most of Poland's economic press, mainly because the process has largely stalled.<sup>12</sup> In fact, the World Bank has placed the privatization issue on the list of needed reforms for Poland to become eligible for full membership in the European Union.<sup>13</sup> In 1994 and 1995, Poland put into place fifteen privately managed National Investment Funds ("NIFs") to aid in the mass privatization of Poland's state industries. "Certificates" in the NIFs were sold to the public for rather low prices (originally about Zl20), but the NIFs were to officially become public when placed on the Warsaw stock exchange ("WSE") by the end of 1997. The NIFs, however, covered only about 515 companies—another 3,700 state-held industries remained for privatization. Currently, there are an estimated 3,400 state-owned enterprises which have yet to be privatized.<sup>14</sup>

Most state-owned consumer goods companies have already been sold off with attention now being directed to the sale of utilities and heavy industry.<sup>15</sup> Responsibility for the sales of about 2,000 of these companies lies with local government, with proceeds from the sales going to the central government. Thus, there is little incentive for local government officials to devote their time and resources to selling off their industries. Other industries on the selling block have been consolidated in recent years causing their price to be very high, and antitrust-type issues to loom over any prospective buyer.<sup>16</sup> Privatization for some of these companies will come via corporate stock. Poland's copper producer, KGHM Polska Miedz, which holds approximately one-fourth of the world's copper market, is one example of a firm which will go through capital privatization by the Treasury Ministry on the London and WSE. Only twenty-five percent of the firm's shares will be sold, but the sale is expected to boost not only private ownership in the firm, but also public interest in the WSE.<sup>17</sup>

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11. *Polish World* (visited Sept. 1998) <<http://www.polishworld.com>>.

12. Michael Kapoor, *Slow Death: Poland's Stalled Privitisation*, 5 *BUS. CENT. EUR.*, No. 40, 11-13, April, 1997.

13. *Polish World*, (visited Sept. 1997), *IBRD [World Bank] Advice on Warsaw's EU Bid*, <<http://www.polishworld.com/polemb/new/997/ibrd.htm>>.

14. *Polish World*, *supra* note 11.

15. *Privitisation: A Heavy Legacy*, 5 *BUS. CENT. EUR.*, No. 38, Feb. 1997, at 42.

16. *Id.*

17. *Polish World*, *supra* note 11.

The privatization issue is often viewed by economists in a limited light, encompassing only the transition from state to privately owned business enterprises (and other real property), and the relationship between this transition, and the Republic's guarantee of freedom of economic activity.<sup>18</sup> Intellectual property, however, is another significant component of the privatization issue, and, at the same time, is a critical factor in the country's science and technology policy. Classical Schumpeterian<sup>19</sup> economics support the notion that technological evolution is the important dynamic ingredient of a firm's prosperity. Economic growth depends on new consumer goods, new markets, and new forms of industrial organization.<sup>20</sup> Simply placing State enterprises in the hands of the private sector does nothing to ensure the future success of that enterprise. New private-sector owners must be taught to improve efficiencies and to increase (or even to secure) future profits. They must be made attractive to foreign investment and collaboration so that the firm's and ultimately the nation's technological level converges with those of other nations.

The focus of Poland's science and technology policy, therefore, must turn not on privatization of real property alone, but instead on the incentives which exist beyond the transfer of title into private hands—the incentives designed to help move Poland and its enterprises toward competitiveness in the global marketplace. Transitioning governments have particular difficulty offering incentives to private owners. In such countries, internal markets have been sheltered from global markets and, therefore, have little knowledge about how those markets operate. From the opposite perspective, global markets have not been accustomed to trading with formerly communist states and, therefore, must be affirmatively pulled toward a transitioning nation. It is the transitioning government's responsibility to wean its enterprises to the competition and prices seen in the global markets, so that future interaction with those markets may lead to prosperity.

As a country moves to an open market economy, external factors such as foreign investment and international cooperative ventures come to the forefront. At the core, one must view science and technology policy in a transitioning nation as an effort to move that nation into the circle of interdependent technologically advanced nations. This interdependence is exactly what communist states such as the Soviet Union and China

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18. POL. CONST. ch. 1, art. 6.

19. Joseph A. Schumpeter is known for his books, *THEORY OF ECON. DEV.* (1912) and *CAPITALISM, SOCIALISM, AND DEMOCRACY* (1942).

20. F. M. Scherer, *Schumpeter and Plausible Capitalism*, 30 *J. OF ECON. LITERATURE* 1416-17 (1992).

tried to avoid<sup>21</sup> and, therefore, it becomes the greatest challenge to the transitioning government. It is simply impossible to lead a nation into a competitive stance against other nations, without first absorbing technology that already exists elsewhere in the world.

International inter-firm ventures have indeed proliferated throughout the world among firms of comparable technological capabilities. This is because firms at a particular technological level find it easier to trade things of value with firms that are similarly situated, i.e., due to the lesser technical gap between them. It follows, then, that most international transfers of high technology occur among firms in somewhat equally developed nations.<sup>22</sup> On the other hand, alliances that involve a major multi-national enterprise as the central link of a corporate network have been arising more frequently in what are called newly industrializing countries ("NIC").<sup>23</sup> Newly industrializing countries (or newly industrialized economies) are considered to be those whose infrastructure, financial condition, and labor offer foreign countries or firms an inexpensive but effective place to locate either manufacturing or R&D facilities. Poland is typically not listed among the world's NICs, but there is no standard definition of how one qualifies as an NIC.<sup>24</sup> Thus, while it is true that a large portion of the international undertakings with NICs are now appearing in Asian countries or city-states such as South Korea, Singapore, and Taiwan,<sup>25</sup> it is also true that the countries of Central and Eastern Europe present a vast market offering huge possibilities for foreign expansion and investment. Poland, one of the largest of these European countries, is attempting to position itself as a

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21. Eugene B. Skolnikoff, *Science, Technology, and the International System*, SCI., TECH., AND SOC'Y 510-11 (1977).

22. Jorge Niosi and Bertrand Bellon, *The Global Interdependence of National Innovation Systems: Evidence, Limits, and Implications*, 16 TECH. IN SOC'Y No. 2, at 180 (1994).

23. Nicholas S. Vonortas, *Emerging Patterns of Multinational Enterprise Operations in Developed Market Economies: Evidence and Policy*, REV. OF POL. ECON. No. 2.2, at 209 (1990).

24. The Organization for Economic Cooperation and Development ("OECD") for example, sets forth a three-part test for defining a developing country as a Newly Industrializing Country (or Economy). The three-part test considers: (1) Fast growth in both the absolute level of industrial employment and the share of industrial employment in total employment; (2) A rising share of world exports of manufactures; and (3) Fast growth in real per capita GDP such that the country was successfully in narrowing the gap with the advanced industrialized countries. Britain's Foreign and Commonwealth Office ("FCO"), another international development group, uses a broader definition of newly industrialized countries than does OECD. See ANIS CHOWDHURY AND IYANATUL ISLAM, *THE NEWLY INDUSTRIALISING ECONOMIES OF EAST ASIA* 3 (1993). Poland does not qualify as a NIC under either definition.

25. This is not to suggest that equal success is being seen in each of these nations. The foreign investments in Singapore, for example, result in less state-of-the-art technology transfer than does that in South Korea. See *id.* at 116-121.



prime target for international economic development. It has made recent attempts to increase the availability of its markets to the international community, and has established several special research and development zones, which concentrate on technological know-how.

The result of these policies has been a rather dramatic improvement in Poland's attractiveness to foreign buyers. Exports of Polish manufactures to the United States, for example, have increased dramatically in the past few years, from \$454 million (U.S.) in 1994, to \$651 million in 1995, and \$664 million in 1996.<sup>26</sup> Poland has also been successful in attracting foreign investors. The cumulative amount of foreign direct investments ("FDI") into Poland reached \$5.2 billion in 1996,<sup>27</sup> which ranked highest among Central European countries and about 40 percent of the aggregate FDI in the past several years.<sup>28</sup> For 1997 alone, the FDI flow soared to \$3.0 billion.<sup>29</sup>

## V. ADDITIONAL ISSUES FACED BY POLAND.

The Republic is also addressing two additional barriers. First, it is improving physical access such as roadways. Second, it is enhancing electronic and other telecommunications access to and within the country. These barriers and others, like dodgy power systems, have caused Poland's competitiveness recently to be ranked fiftieth out of fifty-three countries by the World Economic Forum's World Competitiveness Report,<sup>30</sup> arguably making the country one of the most uncompetitive countries in the industrialized world. But, the potential is there despite the fact that privatized companies need to catch up with technology levels of other countries, furthermore, their profits grew by about seventy-five percent during 1996, whereas, State industries' annual profits remained flat at twenty percent.<sup>31</sup> This suggests that privatizing Polish enterprises should speedily quench consumer needs, and help move those enterprises toward future competitiveness.

### A. PHYSICAL ACCESS.

In order to assist in the transition from a communist system, Poland's Ministry of Industry and Trade established, on January 25, 1991, the Industrial Development Agency S.A., which is a business agency whose primary business is restructuring both the technical and financial

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26. United States Trade Representative's 1995 and 1996 National Trade Estimates for Poland.

27. *Investment Roundup*, 5 BUS. CENT. EUR. NO. 40, April 1997, at 76 .

28. *Foreign Investment: Investor Frenzy*, BUS. 5 CENT. EUR. NO. 38, Feb., 1997, at 43.

29. *Business Central Europe* (visited Sept., 1998) <<http://www.bcemag.com>>.

30. BUS. CENT. EUR., No. 42, June, 1997, at 63.

31. See Kapoor, *supra* note 12, at 11-13.

aspects of Polish state-owned companies.<sup>32</sup>

Poland currently suffers from geographically localized or concentrated industries. The Industrial Development Agency hopes to help diversify business activities and to create new jobs by modernizing or liquidating current businesses. One of the vehicles through which such diversification will be achieved is through the establishment of special "economic zones."<sup>33</sup> These zones will attract prospective investors by offering various investment and tax relief options.<sup>34</sup> By privatizing and upgrading the capabilities of previously state-owned industries, the Industrial Development Agency hopes to decrease unemployment (now on the order of fifteen percent) and to boost the entrepreneurial spirit.<sup>35</sup> However, the number of state-owned companies is still very high, on the order of 3,400 as mentioned earlier, and sell-offs are occurring at devastatingly slow pace, with the government likely to raise only about \$640 million (U.S.) from sell-offs in 1997.<sup>36</sup>

The localized Economic Zones will be valuable in raising Poland's industrial capabilities, but their success will also depend on ease of access from/to the major regions of the country, where suppliers and customers reside. Poland recently received \$150 million (U.S.) from the World Bank to finance the modernization of its roads and bridges. A long-term program through the year 2007 is set to construct new highways, including major north-south and east-west routes.<sup>37</sup>

The aircraft industry is also evolving. Since the fall of the communist rule in 1989, aviation in Poland has seen the number of privately owned aircraft increase from one, in 1989, to over two hundred in 1996.<sup>38</sup> This is not to say that air flight is an established business in Poland. To the contrary, the overhead costs of insuring and maintaining aircraft has caused the coming and going of numerous fly-by-night companies.<sup>39</sup>

Another consideration for the future location of R&D facilities is physical access to products, suppliers, and customers. As the Republic opened its doors to a market economy, it attempted to stimulate private

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32. Information from Euro-Park Mielec website (updated July 11, 1996), <<http://www.brh-gov-pl.or.at/mielec/sse0006.htm>>.

33. *Id.* The first Special Economic Zone, "SSE Euro-Park Mielec," was implemented on Sept. 5, 1995, in Mielec, an industrial town in southeastern Poland. The decree establishes Mielec's period of operation to be twenty years. Other established Zones include the Economic Zone in Suwalki, Poland, and the Duty-Free Zone in the port of Gdansk, Poland. Information from the Commercial Counsellor's Office of the Embassy of the Republic of Poland in Vienna, Austria, <[http://www.brh-gov-pl.or.at/home\\_gb.htm](http://www.brh-gov-pl.or.at/home_gb.htm)>.

34. *Euro-Park Mielec supra* note 32.

35. *Id.*

36. *Of Hype and Halos: A Survey of Poland, supra* note 2, at 36-37.

37. United States Department of Commerce report, July 18, 1995.

38. Newsletter published by Polska Agencja Informacyjna, April, 1996.

39. *Id.*

trading sector by lowering and even suspending many tariffs in 1990 and 1991.<sup>40</sup> It has since raised tariffs and then steadily decreased them to an average of 7.3 percent in 1996.<sup>41</sup> These tariff levels, however, have been set to favor European and Central European countries, so that high-technology nations such as the United States have had a disadvantage in accessing Poland's markets.<sup>42</sup>

Nevertheless, higher tariffs and import restrictions are actually beneficial in the long term. Foreign corporations who wish to use Poland's inexpensive workforce are forced to avoid the tariffs by setting up manufacturing and R&D facilities within Poland, which is exactly what is happening with the automotive industry. Poland's government has restricted automotive component imports, forcing auto investors to set up full manufacturing facilities rather than simply assembly plants.<sup>43</sup> This is the first step toward receiving extensive R&D facilities within the Republic. The firmer a corporation becomes implanted within a country, and the larger the domestic market for its goods becomes, the greater the incentive to set up local R&D in that country.

#### B. COMMUNICATIONS AND ELECTRONIC ACCESS

The external dimension of accessing Poland is primarily to enable outside technology to reach the country. Poland needs desperately to be able to assimilate technology in order to gain ground on the world's technological leaders. It is, therefore, directing efforts to make its telecommunications infrastructure mature enough to handle an influx of the world's knowledge. Until the country is able to build solid lines of communication, it will remain unattractive to the world's R&D leaders. It may be a bit of an overstatement to say so, but information systems are now considered to be so important to the realm of human activity in industrialized societies that only the production of food, shelter, and clothing are more basic to human existence.<sup>44</sup>

One of Poland's current "access" disadvantages is that telephone access during communist rule was kept to a minimum. However, the slow rate at which new telephone lines have been and are being installed<sup>45</sup> is obviating wired telephones in favor of wireless communication. Cellular

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40. United States Trade Representative's 1996 National Trade Estimate for Poland.

41. These drops were due to Poland's several agreements with the European Union, the Central European Free Trade Association ("CEFTA"), and the World Trade Organization ("WTO"). *Id.*

42. *Id.*

43. *Foreign Investment: Investor Frenzy*, 5 BUS. CENT. EUR., No. 38, Feb. 1997, at 45.

44. See *Henderson*, *supra* note 5, at 5.

45. Over the past several years, Poland's state telecommunications system, Telekomunikacja Polska S.A., has accelerated the number of new telephone lines installed throughout Poland, and yet still believes that only twenty-seven telephones will exist per

phones are proliferating, but the nation's phone system Telekomunikacja Polska<sup>46</sup> is not well equipped in that area.<sup>47</sup> The country is, therefore, considering having private firms install radiotelephone systems in rural areas and throughout Poland in order to provide cheaper and more effective telephone service.<sup>48</sup> The scheduled privatization of Telekomunikacja Polska S.A. has been delayed year after year, and will likely not occur any time soon, perhaps because Poland's government earns quite a bit from telephone revenues, and is simply in no hurry to get rid of it.<sup>49</sup> Nevertheless, privatizing services, which the state telecommunication agency is ill equipped to handle, may help spur competitive services and prices in the telecommunications sector. Obviously, better communications systems permeating the country will also permit Poland to be better suited to improve technological capabilities in other manufacturing and research sectors.<sup>50</sup>

The Polish information technology market currently accounts for about one percent of the country's GDP, which is about one-sixth of the current level achieved by the European Union.<sup>51</sup> The country expects, however, to triple this figure in the next four years.<sup>52</sup> In order to reach these goals, one of Poland's governmental science and technology entities, Komitet Badan Naukowych ("KBN"),<sup>53</sup> has placed atop its priorities the development of the infrastructure for information technology and computing facilities within the scientific community,<sup>54</sup> and has already established a Scientific and Academic Computer Network ("NASK") which is linking the Polish scientific communities with the rest of the world.<sup>55</sup> Current goals of KBN are to extend the domestic and foreign

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one hundred persons in the year 2000. Newsletter published by Polska Agencja Informacyjna, Mar., 1996.

46. *See id.*

47. *Telecoms Privatisation: Holding . . .*, 5 BUS. CENT. EUR., No. 38, Feb. 1997, at 46.

48. *Id.*

49. *Id.*

50. Poland has integrated government policy with private industry through legislative and administrative meetings such as the First Congress of Polish Information Technology, held in late 1994, to evaluate the then-current status of Poland's information infrastructure. This particular Congress was funded by about ten large computer firms, including IBM Polska, Dell Polska, and Computer Land Poland S.A.

51. *A Luxury for Some: A Survey of Information Technology*, 5 BUS. CENT. EUR., No. 39, Mar. 1997, at 41.

52. *Id.*

53. *See infra* note 63.

54. Magorzata Kozłowska, *Development of the Infrastructure for Information Technology in Poland - A Strategic Approach*, (Oct. 1996). Available at <<http://www.hoise.com/primeur/96/pr-96-oct/AE-PR-10-96-3.html>>.

55. KBN <<http://eris.kbn.gov.pl/PL-asc/pub/info/develop/index.html>>.

reach of NASK, and to build up regional scientific databases.<sup>56</sup>

Poland seems to be using its internet capabilities to broadcast business opportunities and other information about the Republic. What currently exist are both State-sanctioned websites, such as that of the Embassy of Poland in Vienna, Austria, which offers information on economic zones discussed previously in this paper, and others which are apparently pseudo-state-sponsored, such as that of the not-for-profit U.S.-Poland Chamber of Commerce, which offers lists of Polish businesses looking for U.S. partnerships. These Chambers of Commerce are located in Boston, Massachusetts, and elsewhere in the United States, and apparently receive cooperation from the U.S. Department of Commerce.<sup>57</sup> Furthermore, Poland's governmental agencies also have their own "Newsletters" available on the Internet. Poland's efforts are meeting with great success, for the United States Embassy in Warsaw lists some 300 major companies now doing business in Poland.

The technological revolution in telecommunications is rendering obsolete the physical movement of persons (e.g., scientists) across national borders,<sup>58</sup> so Poland should be commended for seeking to improve its "virtual" access to the world.

## VI. POLAND'S SCIENCE AND TECHNOLOGY REPORT CARD

Despite Poland's attempts to privatize and to attract cooperative ventures for its enterprises; its overall science and technology report card is rather weak. One recent study estimated that seventy percent of Poland's products are five years behind world standards, and half are ten years behind.<sup>59</sup> This is not because of low R&D spending during Poland's communist years, but rather because money was spent in State R&D institutions that were largely divorced from industry.<sup>60</sup> With the efforts to improve intellectual property protection, it is clear that Poland is trying to move inventive efforts toward commercial ends, but most Polish companies find it virtually impossible to find strategic partners,<sup>61</sup> and the enforcement of Poland's intellectual property has traditionally been found inadequate.<sup>62</sup>

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56. Prioritizing the individual NASK tasks is the responsibility of KBN's Information Technology Infrastructure Team ("ZII"), whose proposals are sent to KBN for approval. Kozłowska, "Development of the Infrastructure. . . ."

57. Information from the U.S. Poland Chamber of Commerce of Boston. <<http://www.ultranet.com/~uspc/comp.htm>>.

58. See generally NIOSI AND BELLON, *supra*, note 22 at 181.

59. Ana Nicholls, *Don't Eat the Seed Corn*, BUS. CENT. EUR., DEC. 1996/JAN. 1997, at 27.

60. See NIOSI, AND BELLOW, *supra*, note 22 at 181.

61. *Bearishly Bullish*, 5 BUS. CENT. EUR., No. 38, Feb., 1997, at 46.

62. United States Trade Representative's 1996 National Trade Estimate for Poland.

The main government entity in Poland's non-legislative science and technology policy-making is the Komitet Badan Naukowych ("KBN"), also known as the State Committee for Scientific Research. Except for military research and development projects, all government support for separately budgeted research is channeled entirely through KBN.<sup>63</sup>

KBN is a nineteen member government-controlled Committee established by the Polish Parliament on January 12, 1991, to: (1) to present draft guidelines for State policy on science and technology ("S&T"), including proposed science budgeting; (2) to determine the direction for scientific research vis-à-vis the country's welfare and economy; and (3) to make recommendations on intergovernmental S&T agreements. KBN is led by a Chairman appointed by the Sejm; only ten of the members are elected by the scientific community. However, additional persons may be elected by the scientific community to serve on one of several sub-committees, such as the Basic Research Commission and the Applied Research Commission.<sup>64</sup>

KBN finances several types of R&D projects, among them: (1) core funding to universities (which cannot use those funds to finance their educational or training activities); (2) investments in R&D infrastructure such as buildings and equipment; (3) financing government mission programs; and (4) subsidizing international S&T cooperation resulting from intergovernmental agreements.<sup>65</sup>

KBN also offers peer-review research grants based on research proposals. Furthermore, a group of the Committee reviews applications twice a year, which should address new scientific problems, and should not be financed through other governmental funds. The power of KBN is rather great, because it also performs ex-post evaluations of institutional performance, thereby increasing the competition for funding.<sup>66</sup> In addition to domestic S&T efforts, Poland is also involved in cooperative programs among European countries. One example of such programs is the EUREKA program, which began in 1985 as an international collaboration among the firms, universities, and public laboratories of twenty-four European countries promoting "market-driven" collaborative R&D.<sup>67</sup> It offers business agreements between partners who are eager to develop marketable products and processes.<sup>68</sup> Poland has been a member of EUREKA since 1995 and, as of 1997, was involved in seventeen projects

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63. Military research and development projects are financed elsewhere, by transfers from Poland's Ministry of Finance to its Ministry of Defense. *KBN* (visited July, 1997) <<http://eris.kbn.gov.pl/PL-asc/>>.

64. *Id.*

65. *Id.*

66. *Id.*

67. *EUREKA*, <<http://www.eureka.be/home/home/whats/what.htm>>.

68. *See supra* note 58, at 180.

bearing the EUREKA label.<sup>69</sup>

Poland is also a participant in other governmental collaborations, such as COST, a European plan to pursue advances in several technological fields including telecommunications;<sup>70</sup> and the European Community's Copernicus Programme, which supports, *inter alia*, Poland's plan for Information Systems Integration using Global Hypermedia Technology ("INSIGHT").<sup>71</sup> The INSIGHT project aims to promote the use of World Wide Web technology in Central and Eastern European countries to provide an integrated information service.<sup>72</sup>

These and other programs demonstrate that the Polish government is cognizant of the future role that the Internet will play in international technological development. Moreover, they indicate Poland's increasing involvement with the European Union ("EU"). Although it is unlikely that Poland will attain membership in the EU, until sometime between 2002 and 2005, or later,<sup>73</sup> the country is almost assured acceptance into the EU, because of its physical location as a buffer between Germany, and the volatile states of Belarus, Ukraine, and Russia.<sup>74</sup>

Membership in NATO was imminent due to U.S. President William J. Clinton's signing of a NATO expansion treaty amendment on May 22, 1998,<sup>75</sup> and has been effectuated by the Polish parliament's vote on February 17, 1999, and President Aleksander Kwasniewski's signature to the Treaty on February 26, 1999. For some time, Poland has been taking advantage of its status as a "Cooperative Partner" to have its scientists participate in cooperative meetings held worldwide under NATO's Science Programs.<sup>76</sup> Membership has long been supported by the Polish public.<sup>77</sup>

Beyond multi-national efforts, Poland is also seeking focused collaborative agreements with specific countries. As an example, Poland and Britain have established the British-Polish Joint Research Collaboration Programme.<sup>78</sup> The British-Polish Programme is aimed at agriculture, biotechnology, electronics, materials science, and other fields of pure and

69. *EUREKA*, <<http://www.eureka.be/home/members/pol.htm>>.

70. *Komitet Badan Naukowych (KBN)*, <<http://eris.kbn.gov.pl/Pl-asc/>>.

71. *INSIGHT*, <<http://info.fuw.edu.pl>>.

72. *Id.*

73. *Of Hype and Halos: A Survey of Poland*, *supra* note 2, at 37-38.

74. *EU Membership: Long Sprint*, 5 *BUS. CENT. EUR.*, No. 38, Feb. 1997, at 38.

75. The same amendment greeted Hungary and the Czech Republic into N.A.T.O.

76. *KBN*, <<http://eris.kbn.gov.pl/Pl-asc/pub/info/dep/nato.html>>.

77. Internet Newsletter from Poland's Public Opinion Research Center ("CBOS"), (Apr. 1996) <<http://www.ibspan.waw.pl>>.

78. Originally established in 1993, the Programme is intended to establish a joint research, jointly financed, long-term framework between the two countries. It is managed in Poland by the British Council and Poland's KBN, who select the personnel responsible for assessing projects. Information from *Informacja na Temat Polsko-Brytyjskiego Programu*

applied science, and is designed to provide only small sums of money, on the order of £2,500 per project (about \$4,000 U.S.), mainly for travel expenses between the two countries.<sup>79</sup> The significance of this encouragement to travel should not be slighted, since the most important mechanism of transferring technology is arguably the foreign training of domestic employees.<sup>80</sup> It is thus clear that the Programme is addressing a significant part of Poland's overall S&T policy despite its low monetary input.

Attracting international collaborations, on both the private and governmental levels, will depend largely on Poland's future innovative capacity. The intellectual property laws will certainly play a major role. Revisions in those laws, through 1995, demonstrate that Poland is moving away from the communistic idea of donating technological advances to the public good, and toward the awareness that technological leadership and intellectual property rights go hand-in-hand.

## VII. POLAND'S NEW CONSTITUTION

The Republic of Poland has a history of setting precedent when it comes to national constitutions. On May 3, 1791, it embraced the first freely adopted written constitution in Europe, which was second only to that of the United States.<sup>81</sup> Today, it is known for having one of the most recent.

Since 1791, Poland has had ten constitutions, the latest having been approved on April 2, 1997, by the National Assembly, which includes the Sejm (an upper legislative branch consisting of 460 Deputies) and Senate (a lower legislative branch consisting of 100 Senators which represent geographical voivodeships).<sup>82</sup> Although the last legislative hurdle for the new Constitution was overcome on July 16, 1997, that being the signature of Poland's President, Aleksander Kwasniewski, it is effective only as of October 16, 1997.

Because it is so new, the Constitution addresses both traditional and contemporary issues. It grants citizens freedom of speech, freedom of the press, and freedom of assembly.<sup>83</sup> It separates church and state.<sup>84</sup> It requires the State to extend special protection to families with many

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Wspólnych Badan Naukowych (for the year 1997), is available from <<http://eris.kbn.gov.pl/Pl-ase/pub/info/dep/jrpwww.html>>.

79. *Id.*

80. See CHOWDHURY AND ISLAM, *supra* note 24 at 118.

81. Sweden's written Constitution, although dated earlier in 1791, was forcibly imposed.

82. *Polish World Web Site* (visited Sept., 1997) <<http://www.polishworld.com/polemb/const/key.html>>.

83. POL. CONST., ch. 8, art. 83.

84. POL. CONST., ch. 8, art. 82(2).



children.<sup>85</sup> It even grants citizens the right to rest and leisure.<sup>86</sup> What is important for privatization and intellectual property issues, however, is the appreciation, buried deep in the document, for the role of science and technology in the developing nation. This appreciation is not unlike that found in the United States Constitution.<sup>87</sup>

Article seventy-four of Poland's new constitution states that Poland shall encourage the development of science. No definition for "science" is provided, but one can presume that it is intended to encompass, at least, the generally recognized early, pre-inventive stages of R&D that the term has come to suggest. Article seventy-five advocates the development of literature and the arts, apparently in reference (at least partially) to copyrights, as in the United States Constitution.<sup>88</sup> Rights belonging to the persons associated with such developments, however, are only briefly described in Article seventy-seven of Poland's Constitution as "special protections" to be extended to inventors and pioneers of technological progress.

Although Poland's new constitution does not break new ground in its recognition of science, technology, literature, and the arts, it nevertheless confirms the Republic's awareness that future progress depends on scientific and technological development. It is this awareness that sets the stage for an analysis of Poland's Intellectual Property rights, and in particular its Patent Laws.

### VIII. MEMBERSHIP IN INTERNATIONAL TREATIES

With the world immersed in revising and harmonizing intellectual property laws, and with the cold war having ended, renewed focus in Europe and elsewhere has been on international cooperation. Poland, too, has been cognizant of the need to harmonize such laws. It is a signatory of several landmark treaties that focus on intellectual property rights, including the Paris Convention for the Protection of Industrial Property<sup>89</sup> and the Convention Establishing the World Intellectual Prop-

85. POL. CONST., ch. 8, art. 79(1).

86. POL. CONST., ch. 8, art. 69(1).

87. "The Congress shall have Power. . . To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." U.S. CONST., art. I, § 8, cl. 8.

United States Patent Laws are also based upon the Commerce Clause, U.S. CONST., art. I, § 8, cl. 3: "The Congress shall have Power. . . To regulate Commerce with foreign Nations, and among the several States, and with the Indian Tribes."

88. U.S. CONST., art. I, § 8, cl. 8.

89. Poland became party to the Paris Convention on November 10, 1919, and, on March 24, 1975, to the Convention as revised through the Stockholm Act of July 14, 1967. *World Intellectual Property Organization* ("WIPO"), "States Party to the Convention. . . ." Status on Oct. 15, 1995, at 5.

erty Organization.<sup>90</sup> Poland has also adopted treaties with specific nations, such as the United States.<sup>91</sup>

## IX. POLAND'S LAW ON INVENTIVE ACTIVITY

Poland's Law on Inventive Activity, or *Ustawa o Wynalazczosci*,<sup>92</sup> addresses inventions, utility models, and rationalization projects,<sup>93</sup> and is specifically subordinate to international treaties.<sup>94</sup>

### A. INVENTORSHIP AND INVENTORS' RIGHTS

Both Poland and the United States recognize sole and joint inventorships.<sup>95</sup> A person who merely assisted in making an inventive project is statutorily excluded, in Poland, from being considered a joint inventor,<sup>96</sup> although there is no definition of mere assistance. In the United States, the statute likewise does not set forth the minimum quality or quantity of contribution required for joint inventorship,<sup>97</sup> so determining who is or is not an inventor is left to case law.<sup>98</sup>

The rights obtained by an inventor, in Poland, include entitlement to obtain a patent, a right of protection, and a right to remuneration.<sup>99</sup> Only the first two rights are similar to those offered by the United States.<sup>100</sup> Poland statutorily mandates that the right to an invention

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90. *Id.* at 2. Poland became party to the Convention on March 23, 1975.

91. *See* the United States' "Treaty with [the Republic of] Poland Concerning Business and Economic Relations," signed March 21, 1990 at Wash., D.C.

92. Poland's Law on Inventive Activity. The latest revision of this law became effective on April 16, 1993. Art. 12 came into force on Jan. 15, 1993.

93. *See id.* at Art. 1(2). Rationalization projects are filed with economic entities, and apparently not with the Patent Office. *Id.* at Art. 83.

94. *See id.* at Art. 3. Art. 4 also grants rights relating to inventive matters to foreign natural and legal persons on the basis of international agreements to which the Republic is party, or on the basis of reciprocity.

95. *See id.* at 8(4) and 20(1). United States: 35 U.S.C. § 116. The 1984 Amendment to § 116 (Patent Law Amendments Act of 1984, Pub. L. No. 98-622, 98 Stat. 3384 (Nov. 8, 1984)), allows inventors to apply and obtain a patent jointly even though, *inter alia*, each did not make a contribution to the subject matter of every claim of the patent. The previous "all claims" rule, in which a patentee must have contributed to each claim, was not uniformly accepted, and therefore § 116 can be applied retroactively to patents in force prior to the 1984 Amendment. *Smithkline Diagnostics, Inc. v. Helena Laboratories Corp.*, 859 F.2d 878, 888-89, 8 U.S.P.Q.2d 1468, 1477 (Fed. Cir. 1988).

96. *See supra* note 92, at Art. 8(3).

97. *Burroughs Wellcome Co. v. Barr Laboratories, Inc.*, 40 F.3d 1223, 1227, 32 U.S.P.Q.2d 1915, 1919 (Fed. Cir. 1994).

98. *See generally* HAROLD C. WEGNER, *PATENTS* 451, 470-72, 497 (1995).

99. *See supra* note 92, at Art. 8(1).

100. The inventor is offered a patent in 35 U.S.C. § 101. General patent protections are set out in 35 U.S.C. § 271, and additional limits on rights for inventions made with federal assistance are addressed at 35 U.S.C. §§ 201-212.

made in the course of employment belongs to the employer,<sup>101</sup> but also allows the inventor carrying out a R&D contract to earn five percent of the profits derived from exploitation of the invention during its first five years, unless otherwise agreed.<sup>102</sup>

Inventions made with government assistance are treated somewhat differently in Poland versus the United States. In Poland, economic government entities are to assist creators of inventive projects,<sup>103</sup> although those entities may exploit the invention during the course of its own activities.<sup>104</sup> Whether the invention is owned in whole or in part by the economic entity, however, will depend on the agreement between the entity and the inventor.<sup>105</sup> In the United States, federal financial assistance may be given to nonprofit organizations and small business firms in order to use the patent system to promote the utilization of federally supported inventions.<sup>106</sup> If the organization or firm so elects, it may retain the rights to the patents obtained with such assistance.<sup>107</sup>

## B. TYPES OF PATENTS

Poland offers typical utility patents, as does the United States. In addition, if an inventor invents an improvement or an addition to an existing invention, then he or she may obtain a "Patent of Addition" in Poland.<sup>108</sup> This type of patent is one which cannot be applied separately from the principal invention<sup>109</sup> and, thus, is somewhat related to the "continuation-in-part" type of application known in the United States. An exception to the similarity, however, is that a "Patent of Addition" lapses together with the principal patent.<sup>110</sup> The effect would be that of filing, in the continuation-in-part application, a terminal disclaimer, as is sometimes required under United States practice.<sup>111</sup>

The third type of utility patent offered by the Republic is a "Dependent Patent," which is a patent whose exploitation would encroach upon the exploitation of an invention for which an earlier patent has already

101. See *supra* note 92, at Art. 20(2).

102. See *supra* note 92, at Art. 53(2). Art.'s 98-107 also address remuneration from economic entities which license rights to patents, utility models, or inventive projects.

103. See *supra* note 92, at Arts. 9(1), 9(2).

104. See *supra* note 92, at Art. 20(3).

105. See *supra* note 92, at Art. 20(3).

106. 35 U.S.C. § 201.

107. 35 U.S.C. § 202(a).

108. See *supra* note 92, at Art. 17(1). A patent of addition can also be based upon a patent of addition already granted. *Id.*

109. See *supra* note 92, at Art. 17(1).

110. See *supra* note 92, at Art. 17(2). If the principal patent lapses for a reason which does not affect the invention covered by the patent of addition, then the patent of addition will remain in force until the date on which the principal patent would have lapsed. *Id.*

111. 35 U.S.C. § 253 and 37 C.F.R. 1.321.

been granted.<sup>112</sup> The decision of whether an invention qualifies as a dependent patent is made by the Polish Patent Office after appropriate litigation procedures.<sup>113</sup> In order to produce the invention of the dependent patent, a cross-license with the owner of the original patent must be taken. If the earlier (independent) patent lapses, then the dependent patent will become independent.<sup>114</sup>

Poland also offers protection for utility models,<sup>115</sup> which is somewhat comparable to a Design Patent in the United States<sup>116</sup> and protects new shapes, constructions, or permanent assemblies of a technical nature.<sup>117</sup> A utility model may be converted from an application for patent upon request by the patent applicant within two months of an action by the Polish Patent Office refusing the patent.<sup>118</sup> The term of protection is five years running from the date of grant, plus an additional five years upon request.<sup>119</sup> This ten-year term contrasts quite significantly with the fourteen years granted by the United States (also beginning from the date of grant).<sup>120</sup> Dependent utility models may also exist if their exploitation relies on an original utility model. The determination of whether a utility model should be designated as dependent is made by the Patent Office after due litigation procedures.<sup>121</sup>

The United States also offers a statutory invention registration ("SIR") if the applicant for patent waives the right to receive the patent.<sup>122</sup> The SIR has all of the attributes specified in the patent statutes except for those related to infringement,<sup>123</sup> meaning that the SIR is, in effect, a patent with no legal enforceability. The fact that Poland does not offer a similar registration does not compromise the scope of protection afforded to inventors.

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112. See *supra* note 92, at Art. 18(1).

113. See *supra* note 92, at Art. 114(1)4. These cases are overseen by judges selected by the Ministry of Justice from among the district judges having their seat within the territory of the city of Warsaw. Art. 116(1).

114. See *supra* note 92, at Art. 18(2).

115. See *supra* note 92, at Art. 77-82.

116. 35 U.S.C. §§ 171-173.

117. See *supra* note 92, at Art. 77.

118. See *supra* note 92, at Art. 31.

119. See *supra* note 92, at Art. 80(2).

120. 35 U.S.C. § 173.

121. See *supra* note 92, at Art. 114(1)4. These litigation procedures are overseen by judges appointed from among the judges of the Supreme Court. Art. 116(2).

122. 35 U.S.C. § 157(a)(3). The waiver takes effect upon publication of the statutory invention registration. 35 U.S.C. § 157(b).

123. The recipient of a SIR also cannot obtain compensation (35 U.S.C. § 183) from any government agency which ordered the application to be withheld from publication. 35 U.S.C. § 157(c).

## C. PATENT RIGHTS

As to the patent itself, Poland and the United States confer an exclusive right to exploit the invention<sup>124</sup> for similar twenty-year terms.<sup>125</sup> Although the scope of protection is measured by the claims,<sup>126</sup> a patent in Poland or in the United States having claims directed to a process, automatically gives the patentee coverage on products directly obtained by that process.<sup>127</sup> This latter feature is the result of successful negotiations, which led to the United States' 1990 Treaty with Poland concerning business and economic relations. In Article IV of the Treaty, the two countries agreed to provide product, as well as, process patent protection for pharmaceuticals and chemicals for a term at least equivalent to that provided to other patentable subject matter.<sup>128</sup> As indicated below, Poland specifically forbids patents for medical treatments, and also exempts from infringement the preparation of a pharmaceutical prescribed by a physician. This appears to be a compromise for the accommodation of product-by-process patents, which presumably will give incentives to U.S. pharmaceutical companies to seek patent protection in Poland.

Returning to a discussion of overall patent rights, the "right to exclude" in Poland is not quite as firm as in the United States. Article forty-nine of the Law on Inventive Activity allows the Patent Office to grant, through litigation proceedings, compulsory non-exclusive<sup>129</sup> licenses at market value<sup>130</sup> for exploiting an invention whose patentee has employed prohibited monopolistic activities.<sup>131</sup> The patentee may be deemed to be in violation of the patent rights if, for example, the patentee does not offer (or prevents the offering of) products to meet social demands,<sup>132</sup> or similarly prevents an appropriate supply of inventions belonging to a dependent patent (in which case, a cross-license can be

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124. See *supra* note 92, Art. 16(1). U.S. CONST., art. I, § 8, cl. 8; 35 U.S.C. §§ 154(a), 271.

125. As measured from the filing date of the application for patent. See *supra* note 92, Art. 16(2). United States: 35 U.S.C. § 154(a)(2).

126. See *supra* note 92, at Art. 16(3).

127. See *supra* note 92, at Art. 16(4). See also Art. 57(3) (presumption that product is made by patented process). United States: 35 U.S.C. §§ 154(a)(1), 271(g). See also 35 U.S.C. § 295 (factors for presumption that product is made by patented process).

128. Treaty with Poland Concerning Business and Economic Relations, March 21, 1990, U.S.-Poland, art. IV.

129. See *supra* note 92, at Art. 49(7).

130. See *supra* note 92, at Art. 49(3).

131. See *supra* note 92, at Art. 42(1). Any decision to allow an application for a compulsory license is published in the Patent Office's Official Gazette (Wiadomosci Urzedu Patentowego). Art. 49(2).

132. See *supra* note 92, at Art. 49(1)2(a). A compulsory license cannot, however, be granted earlier than three years after the patent grant, Art. 49(2), and may be modified after two years, Art. 51.

imposed by the Patent Office).<sup>133</sup> Appropriate information, such as royalties and duration, are specified in the Patent Office's decision.<sup>134</sup> Similar rules also apply to the granting of a sub-license from a licensee who is not satisfying the social demand of the invention.<sup>135</sup>

On the opposite side of retaining exclusive rights is the ability to disclaim a patent to the public. Such a disclaimer obviously relieves the government of its quid pro quo of a patent, i.e., the grant of property rights and, therefore, is unhesitatingly offered by both Poland and the United States.<sup>136</sup>

#### D. PATENT ELIGIBLE SUBJECT MATTER

The United States and Poland have similar stances on most patent-eligible subject matters. Scientific theories and discoveries are statutorily ineligible for patent protection in Poland<sup>137</sup> and, in the United States, "laws of nature, physical phenomena, and abstract ideas" have been held not patentable.<sup>138</sup> Inventions whose exploitation would be contrary to law or public policy are also statutorily ineligible for patent protection in Poland,<sup>139</sup> whereas, in the United States, the "utility" requirement of 35 U.S.C. § 101 is relied upon to deny immoral or injurious patents.<sup>140</sup>

Of the myriad classes of subject matter which an inventor *can* obtain a utility patent in the United States, however, Article twelve of Poland's Law on Inventive Activity forbids patents for new plant varieties and animal breeds;<sup>141</sup> computer programs;<sup>142</sup> and products obtained by nu-

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133. See *supra* note 92, at Art. 49(1)(2)(b).

134. See *supra* note 92, at Art. 49(4).

135. See *supra* note 92, at Art. 50.

136. See *supra* note 92, at Art. 52(1). The disclaimer is published in the *Wiadomosci Urzedu Patentowego*. Art. 52(2). United States: 35 U.S.C. § 253. The disclaimer is published in the *Official Gazette*. 37 C.F.R. 1.321(a).

137. See *supra* note 92, at Art. 12(6).

138. See *Diamond v. Chakrabarty*, 447 U.S. 303, 309, 206 U.S.P.Q. 193, 197 (1980).

139. See *supra* note 92, at Art. 12, part 3.

140. See HAROLD C. WEGNER, *PATENTS* 191-2 (1995), citing Justice Joseph Story in *Lowell v. Lewis*, 15 F. Cas. 1018 (No. 8568) (C.C.D. Mass. 1817) ("[a]ll that the law requires is, that the invention should not be frivolous or injurious to the well-being, good, policy, or sound morals of society. The word 'useful,' therefore, is incorporated into the act in contradistinction to mischievous or immoral.")

141. The United States grants Plant Patents for new, asexually reproduced varieties of plants, 35 U.S.C. §§ 161-64, and the existence of life in a non-naturally occurring manufacture or composition of matter which is the product of human ingenuity does not exclude such manufacture or composition from patent eligibility under 35 U.S.C. § 101. See *Diamond*, 447 U.S. 303.

142. Despite a difficult journey, software and other computer-related inventions are now generally viewed as patentable in the United States.

clear transformations.<sup>143</sup>

#### E. PATENTABILITY

As is the case with countries world-wide, Poland grants patents for subject matter which is of a technical character<sup>144</sup>, is new, and does not obviously result from the prior art.<sup>145</sup>

The United States is somewhat generous to inventors in its definitions of novelty. As an example, it allows an inventor to disclose publicly his or her invention up to one year prior to filing the application for patent.<sup>146</sup> Poland, on the other hand, requires strict novelty; the invention cannot have been made publicly available (such as by publication, public implementation, or display at a public exhibition) to such extent that an expert gains enough information to apply the invention.<sup>147</sup> An exception to this hard rule is the ability to display the invention at a public exhibition within the territory of Poland or abroad, up to six months prior to the date on which the patent application is filed.<sup>148</sup> In this situation, the applicant for patent may include, with his or her petition for a patent, a statement whether he or she wishes to obtain priority (basically, to move back the effective filing date) as of the date of the exhibition.<sup>149</sup> The U.S. offers no such feature.

Both the United States<sup>150</sup> and Poland, allow applications filed domestically to obtain the benefit of earlier filing dates from applications for patents filed abroad. Poland limits such benefits to member countries of the International Union for the Protection of Industrial Property or to countries which have industrial or commercial establishments in such member countries.<sup>151</sup> The Republic further requires inventors who reside permanently in Poland to file their applications in Poland first,

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143. The United States allows atomic-related patents, but 42 U.S.C. § 2181(a) exempts from patentability inventions "useful solely in the utilization of special nuclear material or atomic energy in an atomic weapon." ("Special nuclear material" and "atomic energy" are defined in the statute, 42 U.S.C. § 2014.)

144. In the United States, "utility" of an invention must also be in the "technological" arts. See *In re Shrader*, 22 F.3d 290, 297, 30 U.S.P.Q.2d 1455, 1461 (Fed. Cir. 1994) (Newman, J., dissenting).

145. See *supra* note 92, at Art. 10. These are comparable with the novelty (35 U.S.C. § 102) and non-obviousness (35 U.S.C. § 103) requirements in the United States.

146. 35 U.S.C. § 102(b).

147. See *supra* note 92, at Art. 11.

148. See *supra* note 92, at Art. 24(1). The President of Poland's Patent Office specifies the public exhibitions and the conditions, which must be fulfilled in order to obtain the benefit of the exhibition date. Art. 24(2).

149. See *supra* note 92, at Art. 28.

150. 35 U.S.C. § 119.

151. See *supra* note 92, at Art. 25.

before filing elsewhere.<sup>152</sup>

#### F. THE PATENT APPLICATION PROCESS

In the Republic of Poland, an applicant files<sup>153</sup> the application for patent, including a description, drawings (if necessary), claims, and an abstract, in the form of a petition to the Patent Office.<sup>154</sup> The inventor must be named in the application if filed by a non-inventor,<sup>155</sup> but the applicant is party to the proceedings before the Patent Office.<sup>156</sup> If an application has been filed by a person who is not entitled to it, then the true inventor may request that the application be refused or granted in his or her favor.<sup>157</sup> Foreign applicants must be represented during examination by a patent agent permanently resident in Poland.<sup>158</sup>

The application for patent in Poland is automatically published after eighteen months from the filing date (or from the foreign priority date), and may be published earlier upon petition by the applicant.<sup>159</sup> In fact, if the applicant gives consent, the Patent Office may make available to third persons information about the application, such as application number, filing date, title, and applicant's name.<sup>160</sup> Because the patent application is published, the Patent Office allows inspection of the file and submission, by third parties, of pre-grant opposition statements.<sup>161</sup> Patent applications are simply not published in the United States,<sup>162</sup> although Congress has considered such a measure.

Examination of the application in Poland, as in the United States, includes decisions whether the application is patentable. However, Poland's Patent Office appears to be much more interactive than that of the United States, it may, for example, seek opinions from third persons.<sup>163</sup>

The grant of a patent in Poland requires an appropriate publication fee<sup>164</sup> and the fee for the first time period of protection.<sup>165</sup> Fees are also

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152. See *supra* note 92, at Art. 75.

153. See *supra* note 92, at Art. 26(4). The application is "filed" upon receipt by the Patent Office or when it is posted at the Polish post office.

154. See *supra* note 92, at Art. 26(1).

155. See *supra* note 92, at Art. 27(1).

156. See *supra* note 92, at Art. 32(1).

157. See *supra* note 92, at Art. 55. Similarly, if the patent has already been granted, then the true inventor may request that the patent be transferred to him/her. *Id.*

158. See *supra* note 92, at Art. 32(7).

159. See *supra* note 92, at Art. 34(1).

160. See *supra* note 92, at Art. 33.

161. See *supra* note 92, at Art. 34(3).

162. 35 U.S.C. § 122.

163. See *supra* note 92, at Art. 33. Persons providing such opinions are required not to disclose data concerning the application. See *supra* note 92, at Art. 33.

164. See *supra* note 92, at Art. 38(4).

165. See *supra* note 92, at Art. 37(2).



required under United States practice at the time of patent issuance.<sup>166</sup> Other similarities at the time of issuance include the publication in an Official Patent Office Gazette of an announcement regarding the patent.<sup>167</sup>

Appeals from the decisions of the Polish Patent Office are taken to a Board of Appeals, which is constituted by members appointed by Council of Ministers.<sup>168</sup> This parallels the appellate procedures offered in the United States, where appeals from the decisions are taken to a Board of Patent Appeals and Interferences,<sup>169</sup> and may be taken further to either the Court of Appeals for the Federal Circuit<sup>170</sup> or to the United States District Court for the District of Columbia.<sup>171</sup>

#### G. INVENTIONS KEPT SECRET BY THE GOVERNMENT

As is the case in many industrialized countries, the government has the option of keeping, in secret, an invention that is deemed sensitive to national security.<sup>172</sup> In the United States, the Commissioner of Patents and Trademarks makes suspect applications available for inspection by the Secretary of Defense, the Atomic Energy Commission, and the chief officer of any other department or agency of the Government designated by the President of the United States as a defense agency of the United States.<sup>173</sup> These agencies determine whether an application should be kept secret. In Poland a similar situation exists in which patent applications<sup>174</sup> (or applications for utility models<sup>175</sup> or rationalization projects<sup>176</sup>) are made available to, and the secrecy of a patent application is determined by,<sup>177</sup> the Minister of National Defense or the Minister of the Interior. In Poland, the applicant for patent also has the duty of notifying the Ministry of National Defense or the Ministry of the Interior that an application containing state secrets has been filed.<sup>178</sup>

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166. 35 U.S.C. § 151; Title 37, Code of Federal Regulations, § 1.18.

167. Poland: Art. 41 (mandating publication in the *Wiadomosci Urzedu Patentowego*). United States: 35 U.S.C. § 11(a)(3) (authorizing printing of the Official Gazette of the United States Patent and Trademark Office).

168. *See supra* note 92, at Art. 115(2)1.

169. 35 U.S.C. § 134. The Board, or BPAI, includes the Commissioner of Patents and Trademarks, a Deputy Commissioner, both Assistant Commissioners, and a group of appointed examiners-in-chief. 35 U.S.C. § 7.

170. 35 U.S.C. § 141.

171. 35 U.S.C. § 145.

172. *See supra* note 92, at Art. 59(1). United States: 35 U.S.C. § 181, §2.

173. 35 U.S.C. § 181, §2.

174. *See supra* note 92, at Art. 62.

175. *See supra* note 92, at Art. 82.

176. *See supra* note 92, at Art. 91.

177. *See supra* note 92, at Art. 59(5).

178. *See supra* note 92, at Art. 61.

Because of the potential for disclosing a state secret, the application for patent is not published in Poland.<sup>179</sup> After being examined and approved, the patent is withheld from issuance in the United States,<sup>180</sup> but, in Poland, it is entered in a "secret" part of the Patent Register.<sup>181</sup>

#### H. INFRINGEMENT

In Poland, the patentee, or an exclusive licensee, has standing to sue over alleged infringements of a patent.<sup>182</sup> The patentee may demand a stop to the infringement and the relinquishment of profits or compensation for damages.<sup>183</sup> An intentional infringer not only subjects him or herself to possible imprisonment up to one year,<sup>184</sup> but also must pay an unspecified amount of money to a recognized social organization that encourages inventive activity.<sup>185</sup>

After issuance, a person may request the Patent Office for an advisory opinion whether something is or is not covered by a particular patent.<sup>186</sup> This is different than in the United States, where the U.S. Patent and Trademark Office does not seek external opinions, and does not provide advisory opinions.<sup>187</sup>

In Poland, products that can be made by a patented process are presumed to have been made by that process.<sup>188</sup> This is related to the provisions agreed to by Poland, for extending protection to pharmaceutical products, as indicated earlier in this paper.

A three-year statute of limitations exists for patent infringement claims in Poland, running from the date on which the patentee learns of the infringement.<sup>189</sup> The time period runs separately for each infringement.<sup>190</sup>

Limitations on infringements also exist in Poland and the United States for devices that are only temporarily in the country. In the United States, the use of any invention in any vessel, aircraft, or vehicle of any country which provides reciprocal privileges to such craft of the

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179. *See supra* note 92, at Arts. 63(1), 63(2) and 65(1).

180. 35 U.S.C. § 181, §1.

181. *See supra* note 92, at Art. 65(2). The Register of Patents is required by Art. 119(1).

182. *See supra* note 92, at Art. 46(3). The exclusive licensee must have the license recorded in the Register of Patents.

183. *See supra* note 92, at Art. 57(1).

184. Limitations on freedom and/or a fine may also be imposed. Art. 121(2). Any other infringer may also suffer the same fate. *See supra* note 92, at Art. 123(2).

185. *See supra* note 92, at Art. 57(2).

186. *See supra* note 92, at Arts. 19 and 114(1)6.

187. Infringement is determined by federal courts only after a civil action is brought. 35 U.S.C. § 281; 28 U.S.C. §§ 1338, 1400, 1498.

188. *See supra* note 92, at Art. 57(3).

189. *See supra* note 92, at Art. 58.

190. *See supra* note 92, at Art. 58.

United States, does not constitute an infringement if the vessel, aircraft, or vehicle is present in the United States temporarily or accidentally, and if the use is exclusively for the needs of the craft.<sup>191</sup> Poland overlooks the "accidental" presence of such craft, but excludes from infringement the exploitation of an invention concerning means of transport, or their parts or accessories, if their presence in the Republic is temporary.

Poland also offers prior user rights. Any person who, as of the date of a patent's priority date, exploited the patented invention (or made substantial preparations for the exploitation) in the Republic in good faith, may continue to exploit it without payment to the patentee to the extent to which he had previously exploited it.<sup>192</sup> The decision to permit someone to continue exploitation as a prior user is made by the Polish Patent Office in litigation proceedings.<sup>193</sup>

### I. LINKS TO SCIENCE AND TECHNOLOGY POLICY

Several aspects of Poland's Law on Inventive Activity, when compared with the United States' Patent Laws, highlight the unique tasks facing Poland's S&T policy.

As indicated earlier, for example, the Republic's familiarity with patents and patent rights are weak. The law is thus designed to assist patentees in licensing their patents effortlessly. Under Article 52(1), a patentee can file a request for an "open license," meaning that a licensee will be able to obtain a non-exclusive license for royalties capped at ten percent of the licensee's yearly profits. This is a very interesting offer, allowing the patentee to benefit from the patent without having to solicit (or learning how to solicit) prospective licensees.

Another rather unique facet of Poland's Law is the connection it makes between ill-intending individuals and future inventive activity. If a patent is obtained (or an application is filed) by someone who knowingly is not entitled to the patent, then he or she must pay an unspecified amount of money to a recognized social organization which encourages inventive activity.<sup>194</sup> Imprisonment may also be imposed<sup>195</sup> as in the case of an intentional infringer, but the fact that both situations require

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191. 35 U.S.C. § 272.

192. See *supra* note 92, at Art. 43(1). This right may be recorded in the Polish Patent Office upon request by the prior user, and may be transferred to another person only together with the enterprise which holds the prior user right. See *supra* note 92, at Art. 43(2).

193. See *supra* note 92, at Art. 114(1)5.

194. See *supra* note 92, at Art. 56.

195. A person falsely claiming to be the creator is subject to imprisonment up to one year and/or limitations on freedom and/or a fine. See *supra* note 92, at Art. 121(1). If the person intentionally usurps another's right to a patent, then imprisonment up to two years is possible. See *supra* note 92, at Art. 123(1).

payments for future inventive activity shows that Poland is cognizant of the need not only to foster future development, but also to shift the costs of such fostering to the private sector.

The exemptions from patentable subject matter also reflect the Republic's conservative attitude toward research and development in socially sensitive areas. It is very interesting, and somewhat disheartening, to find that Poland does not grant patents for computer programs. The fact that Poland is improving its internal and international communications systems would suggest an awareness of the importance of computer systems to a developing technology. Although Poland is committed to granting copyright protection to computer programs as literary works,<sup>196</sup> protection under the Law on Inventive Activity would presumably give inventors more comprehensive protection, especially for alterations which do not affect the way those programs function.

Other exemptions from patents, or other exclusive rights, relating to methods for treating diseases in the fields of medicine and veterinary science, and in plant protection, which are also admittedly controversial. Many countries believe that medicine should be freely available, while others believe that advancements in medicine are spurred by the availability of patents. Poland has addressed the issue in its conservative manner by exempting such methods from patent eligibility.<sup>197</sup> In addition, as indicated above, preparing medicine in a pharmacy based upon a physician's prescription is not considered to be an infringement of a patent directed to pharmaceuticals.<sup>198</sup> Although the United States firmly supports protection for pharmaceutical products and processes, the patenting of medical processes became a stir in the mid-1990s when a patentee sought to enforce his patent for making a particularly shaped incision for eye surgery.<sup>199</sup> What resulted was the passage of an exemption from infringement for activity by a medical practitioner that would otherwise

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196. Treaty with Poland Concerning Business and Economic Relations, March 21, 1990, art. IV.

197. *See supra* note 92, at Art. 12, part 2.

198. *See supra* note 92, at Art. 16(7).

199. U.S. Patent No. 5,080,111 to Dr. Samuel L. Pallin. Courts have voiced surprise at doctors attempting to patent new processes. *Martin v. Wyeth*, 96 F. Supp. 689 (D. Md. 1951) (patents are "contrary to medical ethics which are more consistent with widespread use of their discoveries than in obtaining a monopoly to control the discovery for commercial advantage.") The U.S.P.T.O. Board of Patent Appeals has held, however, that medical or surgical treatments on the human body qualify as patentable subject matter. *Ex parte Sherer*, 103 U.S.P.Q. 107, 109-111 (Bd. Pat. App. 1954) (expressly overruling *Ex parte Brinkerhoff*, 24 Off. Gaz. Pat. 349 (Comm'r Pat. 1883)). *See also Wisconsin Alumni Research Foundation v. Breon & Co.*, 85 F.2d 166 (8th Cir. 1939) (method of using iron and copper to increase number of red corpuscles in blood patentable).

constitute an infringement.<sup>200</sup> It would thus be somewhat hypocritical to criticize Poland's stance on the issue.

Turning to temporary passage of infringing items through Poland, the Republic clearly goes further than the United States.<sup>201</sup> It is rather significant to permit passage of infringing materials through the nation, and such permission is presumably intended to allow manufacturers in the West to ship products to Eastern European markets through Poland, and vice versa. As indicated earlier, Poland is very concerned about increasing the physical access, e.g., via roadway, to and from its economic zones and elsewhere. By permitting temporary passage of infringing products, Poland will be able to take advantage of its strategic location between the countries of the European Union and those of Eastern Europe, to become a gateway between the two regions.

#### X. POLAND'S (NON)TRADITION OF PATENTING

Even if Poland were to firmly set in place its technology-absorbing capacity, and to provide strict enforcement of intellectual property rights, it is possible that foreign R&D firms would be the first to take advantage of available patent protection.

Despite the progress Poland has made, patent protection is probably not vigorously pursued by Polish inventors. This is evidenced by the low number of United States patents obtained for Polish-originated inventions. In 1997, a total of eleven United States utility patents were granted to applications originating from Poland, which is insignificant when compared to the nearly 110,000 utility patents granted by the U.S. in that year.<sup>202</sup> This number should also be compared to more prominent NICs such as South Korea, who ranked twenty-sixth among the foreign countries obtaining United States utility patents in 1984, and rose to seventh in 1996 and 1997 (with 1,493 and 1,891 annual U.S. utility patents, respectively). It saw respective increases of 28.5 percent and 26.6 percent in granted U.S. utility patents between 1995 and 1996, and 1996 and 1997. Taiwan likewise saw a significant increase in its U.S. patent portfolio, rising from a rank of seventeenth in 1984 to sixth in 1996 and 1997.<sup>203</sup>

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200. 35 U.S.C. § 287(c) only shields the practitioner, and the health care entity related to the medical activity, from allegations of direct infringement (§ 271(a)) and inducement to infringe (§ 271(b)).

201. *See supra* note 92, at Art. 16(5). The same applies to utility models passing through the country. *See supra* note 92, at Art. 82.

202. United States Patent and Trademark Office, Technology Assessment and Forecast Program, statistics issued January 27, 1997. Poland also received one (1) United States Design Patent in 1996.

203. United States Patent and Trademark Office, Technology Assessment and Forecast Program, statistics issued March 19, 1998, Jan. 27, 1997, and Jan. 26, 1995.

The number of U.S. utility patent applications originating from Poland is also an insignificant number. Between 1989, the year prior to Poland's conversion from communism, and 1997, the number of applications from the Republic has fluctuated between thirteenth in 1990, and twenty-seventh in 1993.<sup>204</sup>

The lack of Polish inventions pursued in the United States, which is perhaps the most technologically advanced market in the world, might suggest that patent protection is so bleak in Poland that industry does not see the benefits of filing for patents abroad. In the alternative, it may indicate that Poland's R&D efforts are simply not at the forefront of inventive ideas. A more optimistic conclusion might be reached if one looks to past patent performance. The eleven utility patents awarded in 1997 was a dip from the fifteen granted 1996, but actually represents an increase over the eight utility patents obtained in each of 1993, 1994, and 1995.<sup>205</sup> Even optimism, however, cannot displace the fact that Poland's S&T policies are causing an undetectable impact, if any at all, in the awareness of the economic possibilities that lie in patents secured outside of the Republic. Then again, it may be that Poland's laws are simply too new to have provided significant returns.

## XI. CONCLUSION

Poland's government believes that the world will see a twenty-five year long period of good business trends, and is confident that Poland and the other countries in East Central Europe will have a "commendable share in that prosperity."<sup>206</sup> Indeed several factors demonstrate that Poland is well on its way to seeing such prosperity. Exports to industrialized nations such as the United States are on the rise. The number of international treaties and agreements suggest that foreign nations are beginning to recognize Poland's place in the future of the world. Furthermore, direct foreign investment is skyrocketing; and the nation's infrastructure is solidifying.

Like the many countries that have been successful in establishing preeminent manufacturing and R&D centers, Poland is also integrating its government policies with the needs of the private sector. Those needs obviously include strong intellectual property protection. With an eye toward technological leadership, Poland will use its intellectual property laws to gain a strong international foothold as the world moves toward

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204. United States Patent and Trademark Office, Technology Assessment and Forecast Program, statistics available Sept. 1998.

205. United States Patent and Trademark Office, Technology Assessment and Forecast Program, statistics issued March 19, 1998, and Jan. 26, 1995. Poland also received one (1) United States Design Patent in 1994.

206. Newsletter published by Polska Agencja Informacyjna, Apr. 1996.

the next century. The world would thus be wise to keep a watchful eye on Poland.