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Mirosław Sikora (*Institute of National Remembrance*, Katowice)

INFORMATIONAL SUPPORT OF CIVILIAN INTELLIGENCE FOR HEAVY INDUSTRY (INCLUDING MACHINE INDUSTRY) AND THE ENERGY SECTOR IN THE POLISH PEOPLE'S REPUBLIC IN THE YEARS 1970–1990

Summary, Throughout the existence of the Polish People's Republic (PPR), its scientific and technical intelligence (S&TI) supported Polish mining, energy, metallurgy, and machine industries. Cooperation with companies and research and development centers intensified in the first half of the 1970s, as a natural consequence of the experience accumulated by the intelligence service in the previous fifteen years.

The most crucial issues related to the improvement of secret methods of acquiring technologies for the Polish economy were defining the scope of the tasks, i.e. the types of technologies which can be acquired by intelligence or purchased in the black market, selecting objects, (i.e. institutions and organizations with the required knowledge), and recruiting personal sources of information in western facilities.

Apart from acquiring specific solutions S&TI also developed analyses related to specific countries, as well as to specific technologies in the global aspect or to international corporations that possessed the technologies. Furthermore, S&TI was engaged by the Polish government to provide information to the Ministry of Foreign Affairs and the Ministry of International Trade during trade negotiations with foreign contractors.

Author draws the history of Polish S&TI during the 70s and 80s, showcasing its operations, explaining its modus operandi and discussing the question about the efficiency of illicit transfer of know-how from OECD for the purposes technical progress in communist Poland.
Article bases on recently declassified documents of Polish intelligence service from the pre-1990 period. There are moreover other archival records as well as secondary sources explored.

Keywords: scientific-technical intelligence, industrial espionage, Poland, Cold War, Comecon.

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INTRODUCTION

The presented case study is part of a larger project titled "Scientific and technical intelligence (S&TI) within the Ministry of Internal Affairs in the Polish People's Republic (PPR): functions, organization, efficiency", car-

ried out as part of the Central Research Project in the Institute of National Remembrance since 2011, and since 2018 as part of the Sonata 13 Project at the National Science Center at the Jagiellonian University.

A dozen or so articles have been published so far on this subject and the publication of several others is pending [for example: Sikora M. 2017b; Sikora M. 2015b; Sikora M. 2015a; Sikora M. 2017a; Sikora M. 2014a; Sikora M. 2017c; Sikora M. 2014b]. As they have already covered the state of research on the subject of Polish S&TI during the Cold War period, the author feels no need to discuss it in detail again. A similar approach has been applied to primary sources providing information on the methods used by intelligence services when investigating issues related to the economy, science and technology, which have already been presented by the author. These sources mainly include documents created by organizational divisions of the Department I of the Ministry of Internal Affairs in the years 1950–1990.

Defining the conceptual scope of scientific, technical, and economic intelligence as well as their various mutations (e.g. financial or trade intelligence) is the domain of scholars of intelligence and security studies [Minkina M. 2014; Jarecki J. 2007; Martinet B., Marti Y. M. 1999; Katorin J. K., Kurienkow J. W., Łysow A. W. 2002]. The subject of S&TI was recognized by Polish scientists at the moment when archives of former special forces of the PPR were partially declassified in the 1990s and later [Siemiątkowski Z. 2009]. Andrzej Paczkowski [Paczkowski A. 2010] and Witold Bagieński [Bagieński W. 2011] should be considered the pioneers in the field of studying the documents of the Ministry of Internal Affairs from the point of view of the work of scientific and technical intelligence.

So far, the scholars who worked on issues covering both the history of intelligence services and the economy have concentrated on S&TI of the Soviet Union. This was possible due to leaks of sensitive data from the Soviet special services during the Cold War and later [Andrew Ch. Mitrochin W. 2001]. Similar documents of NATO special services (which without a doubt also investigated scientific, technical, and macroeconomic issues) from the times of the Cold War are still classified.[1]

Since the 1970s, researchers in Western Europe and in the USA have highlighted an immense significance of S&TI for the Soviet economy. As

[1] Some aspects of American operations have been discussed based on partially declassified documents: P. Maddrell, *Spying on Science: Western Intelligence in Divided Germany 1945–1961*, Oxford 2006.

a consequence of a major espionage scandal in the early 1980s, the French intelligence (and as a result of their cooperation — also the American) obtained solid evidence that KGB (Soviet foreign, civilian intelligence) and GRU (its military counterpart) had deeply infiltrated economic institutions and companies operating within the OECD zone [Czertoprud S. 2002]. At that point, American think-tanks started to analyze CIA data and developed the first estimates regarding the economic benefits of scientific, technical and economic espionage activities for the USSR. These data were then refined as a result of a series of betrayals of KGB and GRU officers, as well as a result of the successful operations of NATO's countries' counterintelligence services [Weyhrauch B. B. 1986; Cain F. 2005]. At present, since the archives of former special services of Warsaw Pact member states were opened to scholars, we know that S&TI was an integral part of the security regime in all member states of the organization, and the most efficient one operated in East Germany [Macrakis K. 2008].

Apart from working for civilian economies, S&TI branches of the satellite states were also engaged in the Moscow-coordinated illegal transfer of dual-use technologies, which were subject to economic sanctions launched against the Council for Mutual Economic Assistance (CMEA/COMECOM) [Pawlikowicz L. 2013]. How tight the sanction system was is an entirely different subject of studies for historians. Ground-breaking works on the mechanisms of imposing trade restrictions on various goods (raw materials, components, devices) and technical knowledge (documentation, patents, blue prints) were developed as early as during the Cold War, but the problem was only comprehensively summarized in the 1990s by Michael Mastanduno [Mastanduno M. 1992].

Still, the channels used by the PPR government to illegally procure technologies remain in the shadow. Only the detailed analysis of intelligence documents, especially those from the lower levels of organizational hierarchy, allows one to learn more about this complicated mechanism. Polish intelligence worked out a specific model, no later than in the early 1970s, and subsequently improved it.

The methods used — such as recruiting agents in various "entities" abroad (businesses, administration, scientific institutions etc.) or putting already enlisted informers there (e.g. as apprentices or scholarship holders), and then smuggling stolen documents or equipment — were similar in all sectors of industry and science penetrated by the Polish intelligence abroad. Similar rules applied to the cooperation of intelligence with Polish institutions (enterprises, research and development centers

etc.) representing particular sectors. Every time, the rules of the so-called intelligence cycle were applied, which included: 1. making a requisition by Polish covert intelligence station operating in one of the branch ministries; 2. operationalization of objectives and transmission of tasks to foreign stations at the Polish embassies or outside of them – for instance in Polish state companies' rollouts etc.; 3. execution of tasks by foreign stations' officers and the agents/informers they handled; 4. evaluation of the operation results by domestic specialists — intelligence consultants in Polish R&D.

The term "heavy industry" used in the title requires a short explanation. Throughout the 20th century, this sector of the economy changed its scope as a result of technological advancement and specialization. The processing of iron and non-ferrous metals (metallurgy, metal industry) lay at its core. Depending on the adopted classification criteria, this category of industry can also include production of machines (lathes) for particular specialized sectors of the machinery industry (e.g. shipyard, aviation, and automotive industries) and the products of these sectors (ships, airplanes, vehicles). This broad definition will be applied in the present paper. It should also be added that examples of intelligence's involvement discussed later in this article will also include those regarding technologies used in the mining industry (exploitation of coal, oil, gas, and ores deposits) and the energy sector. Finally, one special example of the machinery industry (involving its different branches) is the defense (arms) industry, which will also be discussed in the article, as it was an important "client" of S&TI.

Confronting the information presented in this text with the documents produced in particular ministries is a great challenge that often falls outside the competence of a historian.[2] Such is the conclusion from a que-

[2] Only a specialist from the broadly understood machinery sector could identify correlations between the tasks of intelligence performed in the first half of the 1970s and the objectives of the 5-year plan of research and technological development in the machinery and electronics industry in the years 1971–1975, featuring 18 fundamental problems, 20 departmental problems, and 46 leading problems. The occurrence of such correlations is undeniable. S&TI "expanded" the research and development works conducted in Poland. See: Archive of New Files (AAN), the Ministry of Machinery Industry, sign. 9/1, 5-year plan of research and technological development in the machinery and electronics sectors in the years 1971–1975, Warsaw, January 1970, the entire file. Another potential pool of tasks for intelligence can be identified based on a list of licenses for procurement and implementation in the years 1971–1975 in the machinery and electronics industry, comprising almost 150 items, mainly from highly developed countries. See: AAN, the Ministry of Machinery

ry conducted by the author in the collection of the Archive of Modern Records (Archiwum Akt Nowych - AAN), where the documents of the Ministry of Machinery Industry (functioning until 1981), Ministry of Heavy Industry (functioning until 1981), Ministry of Mining and Energy (1981–1987), Ministry of Metallurgy and Machinery Industry (1981–1987) and the super-Ministry of Industry (1987–1990) are kept. First of all, this collection does not include the files of classified chancelleries, and this category of files should be investigated when looking for evidence of cooperation with intelligence services. However, ample evidence of this cooperation can be found in the files of the Ministry of Internal Affairs - Department I. These are mainly assessments of the materials received from intelligence, performed in particular ministries and their subordinate research and development centers. The files are kept in the Archive of the Institute of National Remembrance (Archiwum Instytutu Pamięci Narodowej - AIPN).

THE PROCEDURE OF ENGAGING INTELLIGENCE IN TASKS FOR THE INDUSTRY, AND THE SCOPE OF COOPERATION

The fact of economic and technological gap between the PPR and the West requires no further elaboration [Compare: Kaliński J. 2012; Janowski L. J. 2011; Grala D. T. 2005]. Notably, though, in the 1960s, also the gap between Poland and remaining the COMECON [More see for example: Lascelles D. 1976; Szirokow O. N. 2013] states — East Germany and Czechoslovakia — deepened, especially in areas such as telephone communication or general access to radio, television, and computers.[3] The condition of the machinery sector was also poor. Efforts were made to bridge the gap through an intense import of licenses. For example in the years 1959–1963 (so in the period of forming of S&TI as a part of state's infrastructure), 36 licenses were procured, openly and independently from secret operations, for the Ministry of Heavy Industry (which also includ-

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Industry, sign. 9/10, A list of the most important licenses for procurement, implementation and development in the years 1971–1975, Warsaw, August 1969, the entire file.

[3] Compare: AAN, The Ministry of Heavy Industry, sign. 37/36, The directions of development for the electronics and telecommunication industries in the years 1964–1970, Warszawa, February 1964, c. 20–35.

ed broadly understood machinery sector). They were related to: energy equipment (12 — including boilers, grinders, ventilators, transformers), ship equipment (11 — including Diesel engines, compressors, oil centrifuges, turbochargers, compasses), metallurgy industry (4 — including aluminum, zinc and lead production technologies), electronics industry (2), equipment for chemical and food sectors (2, for sugar refineries), and other (5). The purchase of further 18 licenses was planned in the year 1964, and in the years 1965–1970 — 40 more was in agenda.[4]

Unfortunately, the PPR did not have enough convertible currency to make up for the lack of modern technologies with license purchasing. Therefore, in the 1960s, the state authorities became bolder when it came to resorting to cheaper methods of closing the gap between Poland and the developed states, and transferred some means (from the funds dedicated to research and development or from import funds) to the Ministry of Internal Affairs Department I (intelligence service), which purchased technological solutions (documentation) or products (equipment, components, raw materials) in the black market.

From the mid-1960s until 1987, orders coming from heavy industry, including machinery and energy sectors, to S&TI, always passed through the S&TI secret station (composed first of one, and later of several officers) code-named "Sputnik" (from 1984 on renamed "Polver"), located first in the Ministry of Heavy Industry (until 1970), later in the Ministry of Machinery Industry (until 1981), and finally in the Ministry of Metallurgy and Machinery Industry (until 1987).[5] Individual officers of the station were employed in the so-called "cover" positions (for example as advisors to ministers, undersecretaries, vice-directors of departments for R&D or for international trade etc.)[6] and were assigned to specific topics, depending on what a given ministry was responsible for, e.g. the arms or shipyard industries.

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[4] *Ibidem*, Problems with purchasing licenses for the machinery and metallurgical industry serving to improve the technical level of products and increase export — appendices 1,2,3, Warsaw, February 1964, c. 4–11.

[5] AIPN (The Archive of the Institute of National Remembrance), sign. 01789/211, [reports for the years 1971–1983], c. 111–192; AIPN, sign. 02320/419, vol. 1—2, [reports for the years 1982–1987], loose documents.

[6] These positions were also formally "undercover positions" in the Ministry of Internal Affairs (along with the public positions in the main office, i.e. Department I).

In 1982, another disguised station was established in the newly created Ministry of Mining and Energy[7] code-named "Pasieka" (Apiary)[8]. Its officers were placed in the Department of Cooperation with Abroad.

The S&TI evolved since the mid-1950s, as one of the divisions of Department I, responsible for the illegal transfer of technologies (restricted by sanctions) for the broadly understood heavy industry and energy sectors. In 1958, two employees of the division were delegated to a newly established Committee of Economic, Scientific and Technical Cooperation as undercover employees. There, they were meant to collect information on the demand of the Polish industry and science, and on the possibilities of acquisition of the required technologies in the West. Among the 340 topics reported to S&TI in the early 1960s and planned for implementation in the years 1960–1963, around 140 were related to the metallurgy and automotive industries and a dozen or so — to the nuclear sector. 50 tasks were related to electronics, while 130 — to chemistry. At the same time, territorial sections (responsible for Germany, France etc.) were transformed into branch inspectorates, including one that handled nuclear energy, metal and automotive industries (two others were meant to focus on chemistry and electronics).[9] After the betrayal of the head of Division VI colonel Michał Goleniewski and his desertion to the West in 1961, the work of S&TI was put to a halt for several years.

S&TI became more active again the late 1960s und colonel Adam Krzysztoporski, when work of undercover stations in branch ministries (including the one in the Ministry of Heavy Industry) commenced. In 1973, a separate, powerful, five-division Directorate VII was created in Department I, which exclusively handled S&TI issues. The problems of heavy industry at this point fell in the scope of Division IV of

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[7] In the years 1976–1981, these sectors were shared between the Ministry of Mining and the Ministry of Energy and Nuclear Energy. Intelligence officers were undoubtedly placed in the former, and probably in the latter ministry. The Ministry of Mining and Energy also existed in the years 1957–1976. The author has not determined whether intelligence had an undercover officer in this Ministry then.

[8] AIPN, sign. 003171/59, vol. 1, A decision to create a station's file, December 13, 1982, c. 3.

[9] The author skipped the first stage of S&TI formation in the late 1940s and early 1950s due to the scarce means and limited staff at the disposal of this intelligence division at the time. For more about this first period, see: W. Bagieński, *Wywiad cywilny Polski Ludowej w latach 1945–1961* [Civilian intelligence in Socialist Poland in the years 1945–1961], vol. 2, Warszawa 2017, p. 267 *passim*.

this Directorate. In 1977, as a result of another betrayal of a Polish intelligence officer, a new reorganization was conducted. Directorate VII was dismantled, and the numbering of divisions that fell under its jurisdiction was changed. Division IV became Division VII, and this did not change until the end of the PPR. Other divisions were responsible for electronics, IT and communication (VI), and plastics, pharmacology and biotechnology (V).

Since 1987, orders placed in the S&TI by Polish companies and R&D institutes had to go through an intermediary stage — apart from the Ministry of Industry (created that year to replace several other branch ministries). An initial verification of tasks was namely conducted in Department I Division IV (not to be confused with Directorate VII Division IV operating in the years 1973–1977), which resembled the Directorate VII Division I from the years 1973–1977 and handled the distribution of tasks among individual sectoral divisions of S&TI.[10]

The decision-making process, which included making a requisition, verifying the operational capabilities of intelligence, and responding to the requesting entity (these stages were collectively referred to as "task formation"), was relatively short and could be completed within one month.[11]

For example, on March 31, 1989, the undersecretary of state in the Office for Scientific and Technical Progress and Implementation[12] made a request at the Ministry of Internal Affairs to "provide assistance with secret acquisition of a device called the Magnetic Property Measurement System (MPMS)" — subject to sanctions — due to its utility for the military. The original ordering party (recipient) was the Institute of Physics at the Polish Academy of Sciences, where work on superconductivity was carried out.[13] Just two weeks later, on April 13, 1989, task no. 42/IV/89 related to MPMS was recorded in the task registry at S&TI, with the dead-

[10] AIPN, sign. 02320/650, Head of Division IV to head of Department I Division VII, Warszawa 1990, c. 39–40.

[11] On the other hand, those who made requests had usually already checked (using less official sources) what options there were for getting the support of the Ministry of Internal Affairs, as can be understood from the documentation, if one reads "between the lines".

[12] This office was established in 1984 and closely cooperated with S&TI.

[13] AIPN, sign. 02320/650, The undersecretary of state in the Office for Scientific and Technical Progress and Implementation to the Ministry of Internal Affairs, Warsaw, March 31, 1989, c. 443.

line "end of 1989" set by Department I Division VII.[14] Only a week later, on April 21, 1989, general Władysław Pożoga, who represented the Ministry of Internal Affairs, responded to the Office for Scientific and Technical Progress and Implementation, stating that his resort can bring the MPMS device for the Polish Academy of Sciences into the country under a special procedure. He added that the equipment compliant with the received specification would cost USD 200,000. He asked the Minister of Industry to transfer this amount to the (fake) account of Towarzystwo Handlu Zagranicznego Interhandel (International Trade Association Interhandel), opened (by the intelligence service) in Bank Handlowy SA, Department of Socialist States.[15]

According to the definition proposed in the late 1980s by the head of Division VII, lieutenant-colonel Wojciech Bogusz, the following sectors were of interest to his division: metallurgy (iron and steel, non-ferrous metals, energy and material saving technologies), material engineering (composite materials, selected issues of solid-state physics, amorphous materials), mining and energy (mining machines and equipment, coal combustion, conventional energy), environment protection (waste gas processing from power plants), nuclear power (safety of nuclear plants, radiation protection, selected issues of the construction of nuclear plants), machinery industry (flexible assembly lines, aviation and shipbuilding industry, machine tools) and defense.[16]

The recipients of the technologies, acquired through intelligence channels in the second half of the 1980s, included the following research and development centers: The Ship Design and Research Center in Gdańsk, Marine Technology Center in Gdynia, Institute of Aviation in Warsaw, Precision Mechanics Institute in Warsaw, Industrial Automotive Institute in Warsaw, Polish Aircraft Industry Plants in Świdnik and Mielec, Munition Plants in Skarżysko Kamienna, BUMAR tanks factory in Łabędy, and many others.[17]

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[14] AIPN, sign. 02320/650, Request to carry out an intelligence task, April 13, 1989, c. 442.

[15] AIPN, sign. 02320/650, The Ministry of Internal Affairs to the undersecretary of state in the Office for Scientific and Technical Progress and Implementation, [Warsaw], April 21, 1989, c. 446.

[16] AIPN, sign. 02271/23, Theses for a lecture at the Intelligence Personnel Education Center, Warsaw, April 10, 1989, p. PDF 45–51.

[17] For correspondence with these entities, see the case file code-named "Marul" (1987–1990), kept by Department I Division IV (cooperation with the industry), AIPN sign. 02320/650.

For example, the Polish shipbuilding industry was interested in the technologies of ship construction, radio-electronic detection, minesweepers, mine hunters, landing vessels, rescue boats, missile boats, and survey vessels.[18]

A large part of materials acquired by Division VII for the needs of mining and metallurgy ended up in Upper Silesia, in particular in the Main Mining Institute in Katowice, as well as the Institute of Non-ferrous Metals, the Institute of Iron Metallurgy, and the Welding Institute in Gliwice.

As opposed to microelectronics or biotechnology (where the Polish science and industry were quite far behind the OECD countries), the metallurgy and machinery sectors (along with food and mining) were a solid foundation of the Polish economy. They were advanced enough to successfully compete with Western players in the developing markets of South America, Africa, and Asia. For example, in the early 1980s, Poland received the following offers to invest and provide services abroad: running a foundry in Libya, running an ironworks in Iraq, running an electric steel plant in Venezuela, and providing mining and steelworking services in Zaire.[19]

This relatively strong position of heavy industry (in comparison to innovative sectors) was also reflected in the tasks of intelligence services. This is well exemplified by the third crucial domestic intelligence station (beside the one created in the 60s in the Ministry of Heavy Industry and later moved to the Ministry of Machinery Industry, and the one created in the early 1970s in the Ministry of Chemical Industry and from 1982 — the Ministry of Chemical and Light Industry), code-named "Pasieka" and housed in the Ministry of Mining and Energy. During talks between the head of S&TI, colonel Konrad Biczyk and the general director of the Ministry of Mining and Energy, colonel W. Kujawski, in the years 1985–1986, there was a recurrent problem of the lack of interest of the Ministry of Mining and Energy (especially compared to the mechanical engineering and chemical sectors) in reporting tasks for the intelligence. The reason was a relatively small technological gap in the area of mining equipment and technology, especially in comparison with the electronics or plastic sectors. Since the mid-1970s, the most desirable materials in the Ministry

[18] AIPN, sign. 02269/13, vol. 2, Marine Technology Center to the Ministry of Metallurgy and Machinery Industry, Gdańsk, December 30,1986, c. 13–15.

[19] AAN, the Ministry of Metallurgy, sign. 3/85, General program of exporting scientific and technical achievements and technical services of the Ministry of Metallurgy in the years 1981–1990, no location, no date, c. 70.

of Mining were those concerning chemical coal processing, and in the second half of the 1980s, more importance was given to the complete automation of mining.[20]

TECHNOLOGY ACQUISITION: TASK FORMATION, SELECTION OF THE SOURCES OF INFORMATION

Tasks for S&TI were formulated in several ways. In one common scenario, the central intelligence office made inquiries among the Security Services field offices about the need for specific scientific and industrial solutions in their territory (i.e. in the institutes and plants overseen by them).[21] In the other case scenario intelligence service responded to the decisions made at the governmental level regarding national development and production programs.

For example operation "Inżynieria" (Engineering) was launched in 1986 based on tasks imposed on the industry as part of Central Research and Development Projects: no. 2.4 (new materials), 3.6 (technology of glass and ceramics), 3.12 (polymer composite materials), 6.2/6.6 (anti-corrosion coatings and heat treatment), 8.3/8.5 (electronic measurement equipment, telecommunication), and 8.14 (laser technique fundamentals)[22].

Information obtained from Polish experts at the initial stage was meant to guide the intelligence officers towards foreign institutions conducting research on composite and polymer materials, amorphous materials and magnetic materials, ceramics and refractory materials, carbides and sintered powders, superconductivity, optoelectronics (mainly for military applications), and also on improving and preserving the mechanical properties of surfaces (for example anti-corrosion coatings, nitriding, carburizing etc.).[23]

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[20] AIPN, sign. 003171/59, vol. 2, Memorandum, March 29, 1985, c. 25–27; *ibidem*, Memorandum, January 20, 1986, c. 38–40.

[21] AIPN, sign. 02320/24, vol. 3, [Letters to various Regional Offices of Internal Affairs], Warsaw, January 30–31, 1986, c. 43–48.

[22] AIPN, sign. 02320/24, vol. 1, The work schedule for the materials engineering and new technologies team, Warsaw, August 13, 1988, c. 39–45.

[23] AIPN, sign. 02320/24, vol. 1, The plan of operational activities related to the file of the object investigation code-named "Inżynieria", Warsaw, August 28, 1984, c. 7–9.

Intelligence was engaged in order to help provide information for the Polish research and development centers involved in the implementation of the above tasks. Among the potential objects for investigation by the intelligence, the following institutions were selected: the MIT in the USA, Leybold Heraeus GmbH and Vacuumschmelze GmbH in West Germany, the Allied Chemicals international company with headquarters in Thailand, and the Japanese Nippon [Electric] Glass company.[24]

Another Operation (codenamed "Dural") was launched due to the need for documents reported by the "Metale" Non-ferrous Metals Mining and Metallurgy Community and the "Hutmasz" Metallurgy Equipment Community in the years 1977–1978. The Community opted for a secret mode of obtaining information due to difficulties in purchasing technologies in Western markets resulting from high prices or patent protection. Economic sanctions (quite typical for the microelectronics industry) were not mentioned as an argument. The following American companies were initially selected: Kaiser Aluminum Company, ALCOA (Aluminum Company of America), Ingersoll Rand Equipment Corporation, Anaconda Copper Company, McKee Copper Company, as well as several companies from Canada, West Germany, France, Great Britain, Sweden, Austria, Finland, and Japan.[25]

The selection of potential personal information sources (including agents with access to Western companies and institutions) occurred in two directions. Either the Ministry of Internal Affairs Department I addressed the field branches of the Security Service with a request to suggest who might have contact with a specific production plant or a scientific institution, or the local Security Service branch provided the Central Office with information on potential sources.

For example, in January 1985, an officer of the Regional Office of Internal Affairs in Legnica informed the head of Division VII that a secret collaborator he was in contact with was "planning to go to Iran for one year. The purpose of the trip organized by the United Nations is to supervise the operation of open-hearth furnaces in a copper plant. This plant was meant to be built from scratch by Americans. As a result of the misunderstandings between the USA and Iran, they decided to discontin-

[24] AIPN, sign. 02320/24, vol. 1, The work schedule for the materials engineering and new technologies team, Warsaw, August 13, 1988, c. 39–45.

[25] AIPN, sign. 02320/26, vol. 3, The plan of operational activities involving the implementation of the tasks from non-ferrous metals industry, Warsaw, September 24, 1979, c. 11–16.

ue their technical support.[26] Since then, the Iranians have had problems with copper smelting in these furnaces. The collaborator had a two-year work contract in Zambia, where his responsibilities included maintenance of open-hearth furnaces. The competences of the collaborator, in particular his knowledge of the production processes, are beneficial as they can be used for recognizing technologies and innovative solutions used by Americans. He also speaks very good English. His attitude towards our Department is positive."[27]

During their stay abroad, most informers were handled by foreign stations housed in embassies, consulates, and commercial attaché offices of the PPR. The station's officers received their tasks in the form of encrypted telegrams.[28]

The likelihood of infiltrating a Western company by an agent increased dramatically when such company entered into a long-term cooperation with the Polish side, e.g. as a result of a contract, or when staff contacts were involved (for example during apprentice exchange). In the 1980s, the companies with mixed Polish-foreign capital/joint ventures companies (so called PPZ), became an additional platform for penetrating Western institutions [More, see: Sikora M. 2013: 125-146]. Such companies helped infiltrate the French companies Société Nouvelle de Métallisation Industries (SNMI) and SKM Kremlin. The information on the latter can be found in one of the reports of the regional branch of the Ministry of Internal Affairs for the intelligence services' Division VII: "The technologies used by the company improve the utility and durability of coated parts and provide savings in terms of resources. [...] A significant part of SNMI technologies is used in the military sector for the equipment working at high accelerations, speeds, and changes of pressure."[29] The information on the latter company and the dual-use technology it employed can be found in

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[26] The so-called "Iranian crisis" from the years 1979–1981, when Iranian shia Revolutionary Guards attacked the American embassy following the overthrow of Shah Mohammed Reza Pahlavi. For more, see: A. Krasnowolska, *Historia Iranu*. [The history of Iran], Wrocław 2010.

[27] AIPN, sign. 02320/26, vol. 1, Regional Office of Internal Affairs in Legnica to the head of the Ministry of Internal Affairs Department I Division VII in Warsaw, Legnica, January 24, 1985, c. 127.

[28] AIPN, sign. 02320/26, vol. 2, Instruction no. 06/U/81 of September 16, 1981 (Stockholm), c. 68–69.

[29] AIPN, sign. 02320/24, vol. 2, The head of the Regional Office of Internal Affairs Division II in Łódź to the head of the Ministry of Internal Affairs Department I Division VII, Łódź, January 5, 1988, c. 121–122.

one of the telegrams of Division VII: "[...] I attach a description of a technology for the reconditioning and refinement of tank guns used in France [...] I should also add that the equipment used for this technology is at the disposal of the PPZ which is the employer of our source. The interest expressed by our source towards the employees of the French company using the above-mentioned technology is natural, because similar technology is also used for reconditioning components of hydraulic machinery in civilian applications".[30]

Next to the handling the agents recruited abroad or secret collaborators "overtaken" from the domestic branches of the Security Service, the station officers abroad collected materials from "open sources", for examples by entering into contacts with local companies on behalf of the commercial attaché office. They also attended conferences and scientific symposiums dedicated to the subjects which fell into the scope of interest of intelligence. The acquired information was passed regularly to the Central Office in Warsaw. For example, in the spring of 1983, an officer of the London station reported in reference to the sale of tin surpluses by the USA and consequent rapid drops in prices of this resource in the global markets: "In the end of March and the beginning of April, the Association of Tin Producing Countries (ATPC) was established in London. It will complement and support the already existing International Tin Board. [...] The voting and financial contribution system was based on percentage contribution in tin production: Malaysia — 34.84, Indonesia — 20.50, Thailand — 18.39, Bolivia — 16.10, Australia — 7.4, Nigeria — 1.39, Zaire — 1.37 […]. Malaysia declared that they do not intend to transform the ATPC into a cartel operating in compliance with the OPEC regulations. Based on our assessment, the new organization will be effective in protecting the prices. The conflict between Indonesia and Malaysia is growing. Indonesia will aim at increasing its export, and it expects to outmatch Malaysia in the 1990s."[31] Today, one can see that this forecast was not accurate, due to the unexpectedly increased influence of the Chinese economy which started in the 1990s [Compare: U.S. Geological Survey, Mineral Commodity Summaries, 2015].

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[30] AIPN, sign. 02320/24, vol. 2, Deputy head of the Regional Office of Internal Affairs Division II in Łódź to the head of the Ministry of Internal Affairs Department I Division VII, Łódź, October 17, 1988, c. 131.

[31] AIPN, sign. 02320/26, vol. 2, Cable no. 2713 from London, posted on April 8, received on April 11, 1983, c. 137–138.

SUPPORT IN TRADE NEGOTIATIONS

Apart from acquiring specific technologies, S&TI also supported the Polish position in negotiations with foreign partners during trade negotiations. The successes in similar operations are evidenced by the correspondence of the Ministry of Internal Affairs with the Ministry of Economic Cooperation with Abroad, as well as by intelligence reports for the top authorities in the Ministry of Internal Affairs.

For example, the report from the intelligence station code-named "Sputnik" (hidden in the Ministry of Machinery Industry) for the year 1971 includes the following passage: "The most profitable advantages were those provided by documents concerning license negotiations. The information regarding negotiations related to buses, grinding wheels, small-engine cars,[32] semi-conductive elements etc. helped reduce prices by tens of millions of dollars. For example, the mere knowledge of how the Fiat company calculates its profit helped eliminate its impact, and therefore saved the state approximately 9 million dollars."[33] In January, 1989 the Head of PEZETEL Warszawa Aviation Industry Complex wrote to the undersecretary of state in the Ministry of Economic Cooperation with Abroad, which had already received materials from the Ministry of Internal Affairs: "The documents provided by the Minister turned out to be a very useful when entering into negotiations with the Vayudoot India company. [...] The pricing data turned out to be most useful for determining the prices to be offered by us, and assured us that our proposals were optimum. The price limit allowed by the contractor, around USD 1.5 million per an An-28 plane[34] is nearly twice as high as our zero price, which, if the contract comprises 30 planes, might provide the surplus of currency yield over the ex-works price in the total amount of USD 15–20 million."[35]

The importance of intelligence information for Poland can be exemplified by the warning sent by the authorities of the Regional Office of Internal Affairs in Legnica to the head of Division VII, probably with an intention to pass information to the decision-making authorities in the government: "The ambassador of Zaire [...] announced his visit to the Board of

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[32] This refers to Fiat 126p.

[33] AIPN, sign. 01789/211, Report of the team for the year 1971, Warsaw, January 5, 1972, c. 108.

[34] These planes were manufactured in Mielec (fuselage) and Rzeszów (engine).

[35] AIPN, sign. 02320/650, PEZETEL to the undersecretary of state in the Ministry of Economic Cooperation with Abroad, Warsaw, [January 13, 1989], c. 179.

Tin Mining and Metallurgy Conglomerate in Lubin. According to unofficial information his visit is related to a potential contract for the construction of a mine and metallurgical plant in Zaire. This would entail overtaking the construction work left by the Japanese [...]. The Japanese withdrew from the work due to Zaire's insolvency. Therefore, I would like to make a polite request to investigate the matter, if possible, so that there are no losses when signing the contract. The above-mentioned visit will be secured by our agents and I will inform you about the results in writing."[36]

In the mid-1980s, intelligence was involved in supporting Poland's economic relations with India[37]. In March 1985, a contract was signed between Hindustan Copper Limited (HCL) Calcutta and CHZ Impexmetal concerning an upgrade and expansion of Khetri Copper Complex (KCC) plant in Rajasthan. The contract was valued at USD 600,000, of which 400,000 was allocated to the transfer of technology (conversion of copper stones, copper refinement), and the remaining 200,000 to services and training the HCL staff in Poland. The contractors were KGHM Lubin [More on KGHM see: Paździora J. 2011] and the "Bipromet" Non-ferrous Metals Processing Industry Design Bureau in Katowice. The Polish side expected that, considering various difficulties on the contractor's side (slow pace of ordering the machines, low work efficiency of Indians, lack of financial means etc.), the performance of the contract might take until 1988. Despite these inconveniences, the PPR government wanted to win the tender for the second stage of KCC expansion, seeing India as a promising market for Polish technologies, consultancy, and services. One expert opinion by intelligence reads: "At present the demand for copper in India stands at 80,000 tons annually and it is estimated that in the years 1989–1990 this demand will increase to 145,000 tons annually. At present domestic copper production satisfies around 40% of the demand. In order to decrease the gap between demand and domestic production, there are plans to increase the production level up to 85,000 tons annually."[38]

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[36] AIPN, sign. 02320/26, vol. 2, Senior Security Service Inspector with the deputy of the Regional Office of Internal Affairs to the head of the Ministry of Internal Affairs Department I Division VII in Warsaw, Legnica, August 23, 1983, c. 42.

[37] For more on economic development of India at that time see: K. Iwanek, A. Burakowski, *Indie. Od kolonii do mocarstwa 1857-2013* [India. From colony to superpower, 1857–2013], Warszawa 2013.

[38] AIPN, sign. 02320/26, vol. 1, Information concerning copper processing in India, no date, no location, c. 117.

FORECASTS

In the mid-1970s, the Directorate VII Division IV (see above) began an intense collection of analytical material concerning various aspects of nuclear energy around the world. This was undoubtedly a consequence of the decision to build a nuclear plant in Poland (in Żarnowiec, among other locations) and of the attempts to diversify energy sources for the Polish economy made by the government of First Secretary Edward Gierek.

Therefore, intelligence officers initiated talks with the employees of the Institute of Nuclear Research in Świerk and the Institute of Nuclear Physics in Kraków. The aim was to get in touch with people going on internships and scholarships to Western centers of nuclear research. This operation was justified in the following way: "Taking into consideration the overall development of the global fuel and energy situation, namely an immense increase in demand for fluid and gas fuels whose sources will most probably be depleted in the beginning of the next century, one might claim that the energy sector will increasingly rely on coal and nuclear energy."[39] Particular attention was paid to the Kernforschungsanlage (KFA) research center in Jülich and the atomic plant in Kalkar in West Germany. The intelligence also planned to investigate the following American, English and French companies: Westinghouse, Babcock-Wilcox, Électricité de France, and last but not least, the International Atomic Energy Agency (IMEA).[40]

An analytical approach to global markets can also be found in the files of an investigation code-named "Maszyneria" (Machinery), which is the master-case for tasks implemented in various branches of the machinery sector in the PPR, such as shipyard, aviation, and automobile industries. In 1982 S&TI provided the following information concerning the shipyard industry, referring to sources in the Ministry of Foreign Trade and in the Impexmetal company: "This is the most severe recession in the global marine transport in the last 20 years. It also took a toll on the Polish shipyard industry. The decrease in demand for new vessels mainly concerns tankers, while the decrease in the demand for oil from the Persian Gulf led to an increase of tonnage of moored tankers and increases in the bulk carrier market. This situation results with a decreased interest of shipowners in the purchase of new vessels, as well as with the withdrawal from the

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[39] AIPN, sign. 01592/295, The analysis of nuclear energy sector: interesting entities and possibilities of their infiltration, Warsaw, February 20, 1976, p. PDF 10–20.

[40] *Ibidem*.

already concluded contracts. Taking advantage of the fact that delays in the construction of ships in Polish shipyards exceed the allowed limit (180 days), shipowners are canceling orders without any compensation."[41]

The value of contracts at risk, included in the intelligence analysis, also demonstrates the severity of the problem: in the years 1982–1984, the Paris Commune Shipyard in Gdynia was meant to provide a western shipowner with eleven B-181 semi-container ships, each worth approx. USD 14 million. There were also production delays for a Swiss shipowner who ordered two B-517 bulk carriers (total value — USD 27 million) and for one in Liberia who ordered two B-555 tankers (total value — USD 35 million).

The greatest challenge for the Polish shipyard industry were dumping prices offered by prosperous shipyards in the Far East: "For example, the price of 'Centromor' [a company exporting Polish ships — MS] for a cellulose carrier for Brazil is USD 34 million (excluding cranes), whereas a Japanese shipyard offers the same ship, including cranes, for USD 22 million, while a Korean shipyard offers it for approximately USD 17 million (excluding cranes), that is 50% of the Polish price."[42]

Intelligence also collected information on the main contractors of the Polish automotive industry on a regular basis. The following information was reported on the Renault company (case code-named "Karoca" [Coach]), which sold to Poland a license for the manufacturing of Berliet bus in 1972: "So far, the company has only fulfilled around 30% of their responsibilities in terms of compensation purchases in Poland, while around USD 42 million is still to be spent by the RVI [Renault Vehicle Industry]." However, intelligence doubted the integrity of the French partner as they asked for extension of the contract from 1982 up to 1985, and at the same time — as intelligence found out using their own channels — Renault limited their involvement in the bus sector, which meant that also the 1985 deadline might not have been enough to fulfill the offset in full.

Regarding another strategic partner, i.e. the Fiat company (case code-named "Landara" [Buggy]), the following report was made: "In the agreement [of 1979 on cooperation in the years 1979–1990 — MS] the value of export and import in the discussed period was established at USD 856 million for each party. However, due to Poland's current negligence [that

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[41] AIPN, sign. 02320/529, Major problems in cooperation with capitalist states in selected sectors and with selected companies and industrial groups, no location, no date, c. 4–11.

[42] *Ibidem*.

is in 1982 — MS] in the implementation of a number of projects included in the agreement (Panda cars assembly, production of 1600–2000 dm^3 engines, production of upgraded "Tarpan" vehicles), the purchases of the Polish party between 1979 and the first half of 1982 were significantly smaller than agreed (USD 180 million instead of 316) and the export of our "126" cars as part of this agreement at the end of June [1982 — MS] stood at around USD 262 million, which means a surplus in our favor in the amount of over USD 80 million."[43] This imbalance was perceived by Fiat as a threat to further exports of Fiat 126p cars to Italy. Furthermore, intelligence reported that the Italians were interested in increasing the sale of "Panda" cars in their own market, which was made difficult by the contracted import of the Polish 126p cars whose price, by the way, was too high considering their technological level.

According to intelligence, disturbing information was also coming from the American-English International Harvester Company (IHC), from which the PPR bought a license in 1972 for tracked tractors (TD-15C and TD-25E), semi-tracked tractors, and machines and equipment for construction, road, and irrigation works. The production was launched in 1973 in the metallurgical plant in Stalowa Wola. Until mid-1982, Poland exported to the USA machines of a total value of nearly USD 24 million. However, after the martial law had been introduced in Poland, and American administration applied sanctions, the IHC company started to delay the dispatch of necessary elements to Poland which made it impossible to assemble the equipment on time. At the same time, intelligence suggested that in reality, the sanctions did not affect potential trade contacts between Poland and IHC, they were just an excuse for the management of IHC, as the company had financial troubles: "According to our information, the company as a whole is at risk of bankruptcy. To alleviate their financial difficulties, IHC wants to close the construction machine department, selling it to a company from West Germany that we have not yet investigated. [...] Achieving this goal might put the Polish partner cooperating with this department in a very difficult situation, as the rights and liabilities of the licensor would be passed from IHC to a different company in a different location."[44]

Another operation during which the department performed analytical work, instead of making specific black market purchases, was code-

[43] *Ibidem*.
[44] *Ibidem*.

named "Exxon". During this operation, in the years 1983–1987/88, two tasks were performed for the Ministry of Mining and Energy. The subject of interest had a strategic significance for the state, not limited to upgrading a single sector of the industry. The analyses attached to the case file come from the employees of the intelligence service and from Ministry of Internal Affairs consultants working on a daily basis in the Institute of Oil and Gas in Kraków, the "Separator" Main Bureau for Coal Processing Study and Design, and the Polish Oil and Gas Company (PGNiG). A part of the analyses was acquired from the intelligence Division VIII (economic intelligence). Operation "Exxon" covered a relatively broad range of subjects related to resources for the Polish energy sector, with particular emphasis on the technology of replacing black coal with natural gas. One of the implemented tasks was called "The technology of coal gasification to obtain high-energy, synthesized, low-energy fuel gas or low-energy gas for steam and gas power plants".[45]

Companies in possession of the desired technology, which were initially selected by the Institute of Oil and Gas, included: the British Gas Corporation, British Coal Board (UK), Deutsche Shell AG, Rheinische Braunkohlen AG, Saarbergwerke AG (Germany) and Exxon (USA).[46] Both the Institute and "Separator" were satisfied with the materials acquired from intelligence (via the Ministry of Mining and Energy), finding them helpful for carrying out a scientific research and development program, PR-1 "Comprehensive coal processing".[47]

The issue of cooperation with Division VIII (economic intelligence) is also noteworthy. In January 1989, this division provided copies of three analyses (made by one of their sources) to Division VII. The analyses concerned the utilization of large deposits of natural gas in Poland, the extraction and production of helium in Poland and around the world, and the conditions for obtaining a loan from the World Bank[48] for the development of natural gas extraction in Poland. The overtone of all of these analyses was fairly straightforward — they called for an increase in natural

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[45] AIPN, sign. 02320/369, Request to perform an intelligence task, Warsaw, March 23, 1983, c. 2.

[46] AIPN, sign. 02320/369, A request to acquire documents in secret mode, Kraków, January 24, 1982, c. 12.

[47] AIPN, sign. 02320/369, A report concerning fulfillment of intelligence tasks, Warsaw, December 5, 1988, c. 8, passim.

[48] Poland was a member in the years 1944–1950, then opted out, and subsequently returned in 1986.

gas extraction in Poland, as well as for using the large deposits of helium in order to expand in the world markets, where a dynamic increase in the consumption of helium was noted. The data reported by the consultant of Division VIII indicated that the deposits of natural gas in Poland amounted to between 150–200 billion m^3 (documented) and 650–1000 billion m^3 (prospective). Taking this potential into consideration, the specialist suggested at least a partial conversion from coal-fired power plants to gas-powered power plants with the use of the so-called combined (hybrid) cycle involving gas and steam turbines (the latter powered by the fumes of the former). The author mentions the following advantages: power savings and increased efficiency of electricity production, eliminating the need for rolling stock (typically used for transporting coal), lower investment costs and therefore smaller financial risk of the investment, decrease in CO and CO^2 emissions, amortization of capital-consuming black coal mining from increasingly inaccessible deposits, use of nitrogen obtained in the process of gas denitrification in agriculture and food industry, and, last but not least, the reduction of natural gas imports from the USSR.[49] The option to obtain financial support from the World Bank in the form of a 150-million dollar loan was an additional advantage, though maybe this particular proposition was not really realistic in the light of the debt of the PPR, which amounted to more than USD 30 billion [More see: Zloch-Christy I. 2011].

Within literally several days from reception, the officers of Division VII consulted these analyses with top sources from the Polish Oil and Gas Company, who, interestingly, found them "nonsensical" and having no real grounds (as it was argued, gas turbine technology was globally at the level of a prototype), and criticized nearly every conclusion included therein. In the note made by an officer of Division VII following his meeting with the source verifying the analysis received from Division VIII one can also read: "The concept of withdrawing from importing gas from the USSR included in the analysis was considered [by the informer — MS] paramount to sabotage." In the end, the officer decided that the analysis "[...] is not relevant for putting together information for the economic authorities [of the state]".[50]

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[49] AIPN, sign. 02320/369, the deputy head of Department I Division VIII to the head of Department I Division VII with appendices, Warsaw, January 20, 1989, c. 265–276.

[50] AIPN, sign. 02320/369, Remarks concerning the paper "Utilization of large resources of natural gas in Poland", Warsaw, February 7, 1989, c. 278–280.

Verifying information obtained by agents or from other "unofficial" sources was rather standard. Frequently, opinions received by the intelligence service were contradictory. In an opinion made by a consultant of the Ministry of Internal Affairs concerning "the technology of processing tank guns", which had been already acquired by the Polish intelligence from their agent, one can find the following information: "In my opinion, the study presented is an inaccurate translation into Polish. [...] The translation was without doubt performed by a person without the required knowledge (improper terminology, style)."[51] At the same time, another consultant claimed that "the material is a great source of information for the Institute of Precise Mechanics, which works on the above-mentioned issues."[52].

Apart from the globally used technologies, analyses also covered particular owners of these technologies, their research and development plans, as well as their marketing strategy. In the autumn of 1988, an officer of the intelligence station in Brussels made the following notes regarding the SABCA (Sociétés Anonyme Belge de Constructions Aéronautiques)[53] company, which developed a system of thermal image processing for the aiming devices used in Leopard A1 tanks: "Belgium, similarly as other Western countries, predicts that if a war breaks out between the East and the West, the first weapons to be used will be the conventional – not rifles, but tanks. SABCA dedicates a lot of resources to upgrade the latter. [...] The new equipment of 'Leopard – 1' is the result of over 28 years of intense research work in SABCA [...] In the early 1970s, owing to the work of SABCA, Belgium was the first country in the world to equip their tanks with the most state-of-the-art firing system. These systems were immediately bought by Australia and Canada which decided to purchase 'Leopards 1' tanks provided they would be equipped with the SABCA firing systems. [...] Work conducted within the last two years led to the construction of the most advanced aiming system, which as of October 1 shall become part of the equipment of 'Leopard–1' tanks. The new SABCA system allows for detecting and identifying the size of a tank or helicopter from several kilometers away, regardless of their concealment or weather conditions."[54]

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[51] AIPN, sign. 02320/24, vol. 2, An opinion, Warsaw, October 24, 1988, c. 132–134.

[52] AIPN, sign. 02320/24, vol. 2, [An opinion], Warsaw, December 27, 1988, c. 135.

[53] Now part of the Dassault capital group.

[54] AIPN, sign. 02320/24, vol. 1, A note regarding the new aiming system constructed by SABCA, Brussels, October 24, 1988, c. 56–57.

The most advanced type of analyses were those covering the whole production potential of a country in a given field. A sample of this holistic approach was included in a note from the intelligence station in Madrid from 1988. A 14-page analysis covered all research and development work on new materials conducted by Spanish institutions.[55]

Another type of intelligence expert opinions were those with a global scope, covering specific sectors or companies. In the 1980s, intelligence began comprehensive analysis of global steel markets[56] for the "Katowice" steelworks, including an investigation of the following producers: Krupp, Voest Alpine, Schloemann Siemag, Mannesman Demag and Babcock.[57]

INTELLIGENCE EVALUATION AND S&TI RESULTS

The assessment of information and materials provided by intelligence was difficult even at the moment of their acquisition, and at present, this task seems impossible to complete. Since the evaluations were performed by qualified specialists from the leading research and development centers in Poland, and not intelligence officers (even though they frequently were trained engineers as well), one should trust their evaluations. In any case, there is no alternative. The evaluations were often made many months after intelligence had provided the documents, and were the result of team work, which increased their credibility. The evaluations were more reliable when information on a specific technology was requisitioned in S&TI, as opposed to when S&TI provided information as part of their regular, day-to-day work. In the first case, large amounts of money were usually paid to intelligence by the requisitioning ministry. But the money was only paid after ministry had received an evaluation from specialists, stating that the ordered technology was indeed compatible, in terms of parameters and efficiency, with the one that was the subject of the "secret" order. In the case of the documents provided on a day-to-day basis, and not related to any specific research and development programs, these

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[55] AIPN, sign. 02320/24, vol. 2, A note regarding materials engineering in Spain, Madrid, August 5, 1988, c. 217–220; *ibidem*, Informational note, Madrid, August 4, 1988, c. 221–230.

[56] AIPN, sign. 02320/626, Informational note, Warsaw, August 11, 1988, c. 166–169.

[57] AIPN, sign. 02320/626, Information concerning the progress and current state of tender procedures for the delivery of two COS machines and ingot finishing stations for the "Katowice" steelworks, Katowice, June 17, 1988, c. 139–141.

evaluations were more of a formality. Even the minister of mining and energy noticed inaccuracies in the evaluation of materials and their utilization. In March 1985, he received a report on the cooperation with the Ministry of Internal Affairs for the year 1984, in which technologies were listed, accompanied by a short description of their nature and significance. Clearly irritated, minister (and general) Czesław Piotrowski commented on specific points in the following manner: "What results? "What next?"[58] Though the technologies were interesting, the point was not to bring in interesting technologies, but ones that were needed and could be implemented in the technological reality of the PPR.

The acquisition of the materials was important, but so was their proper utilization, i.e. addressing them to the relevant national institution. Not always was there a specific ordering party — some information was obtained by intelligence while performing other tasks. For example in 1987, Polish recipients received four packages of documents, which had not been requested, but which for some reason were interesting. These included a manual for the Chieftain tank, which was the basic tank for the British army (since the 1980s, it was being gradually replaced by the Challenger tank), or a manual for the Fox FV721 Combat Vehicle Reconnaissance (Wheeled).[59]

On another occasion, the obtained information bore no significance for the ordering party, but could be important for some other entity. For example, copies of magazine articles concerning the F-16 General Dynamics fighter aircraft in the Japanese adaptation (FS-X) were met with different reactions in the Institute of Aviation, and in the Mielec Polish Aviation Company (PZL). A specialist from the Institute was quite reserved in his evaluation and wrote: "The library of the Institute subscribes two out of three of these magazines. [..] Overall, all the materials are interesting, but not significant for the work conducted at the Institute."[60] At the same time, the response from Mielec was three times as long, though maybe not entirely frank, and read: "Thank you very much for the materials, which are very useful, as they include basic information on program financing. [...]

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[58] AIPN, sign. 003171/59, vol. 1, Remarks of minister Cz. Piotrowski concerning the information on the cooperation with the Ministry of Internal Affairs in 1984, no date, c. 22–23.

[59] AIPN, sign. 02320/650, Tasks performed by the Ministry of Internal Affairs Department I Division VII in 1987, c. 14–16.

[60] AIPN, sign. 02320/650, The Institute of Aviation to the Ministry of Industry, March 28, 1990, c. 380.

The above means that the FS-X plane, built based on the American F-16, is much more expensive than the equivalent MiG-29 (USD 35.4 million compared with USD 20 million, which must be adjusted according to the current ruble exchange rates)."[61]

Due to technological gap between the COMECOM and OECD states, some solutions were too advanced for implementation in the Polish industry. This was certainly the case in the sectors of microelectronics and IT, but it also happened in other sectors, for example the military sector, which was still quite competitive compared to the civilian production. For example, according to the opinion drawn up in the BUMAR Łabędy company in relation to the reception of documentation on a vehicle referred to as MBT (main battle tank), which was the export version of Leopard A1 and A2 tanks: "The different or superior solutions presented above undoubtedly outrank the solutions that we have and use. However their utilization in our vehicles is impossible for at least three reasons: introducing them to our vehicles would violate the principle of interchangeability of equipment within the Warsaw Pact; we have no construction and execution documentation, or any industrial designs which would enable to recreate the construction and execution documentation; no Polish electronic components are available, which means we would depend on imports from payment region 2 [non ruble area]."[62]

Let us take a closer look at the statistics. According to the reports of S&TI (preserved almost in full) prepared for the top authorities at the Ministry of Internal Affairs in the years 1971–1989, every year, several dozen (or even over a hundred) solutions at various stages of advancement (from study materials and operation documentation for specific products to technological documentation for entire assembly lines, ready for implementation) were sent to factories and research and development centers in the heavy industry and energy sectors. The main beneficiaries were state enterprises working for metal and machine industry: the PONAR (machines, lathes), BUMAR (armored vehicles, agricultural machinery), and POLMO (aviation) companies.

It is impossible to identify the amount of money (as well as materials and men-years) saved owing to the theft of intellectual property in the

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[61] AIPN, sign. 02320/650, WSK PZL Mielec to the Ministry of Industry, March 8, 1990, c. 376–377.

[62] AIPN, sign. 02320/650, BUMAR Łabędy to the Ministry of Industry, Gliwice, November 30, 1988, c. 152–154.

area of basic science and research and development in the heavy industry and energy sectors. Relatively most reliable data were kept regarding the pharmaceutical and biotechnological sectors, which the author investigated in a separate study (see Introduction). According to estimates, intelligence operations helped save around 5–15% of annual investment expenditure there. Savings in the areas of microelectronics and IT could not be measured, as the technologies obtained by intelligence could not be obtained officially at all, due to sanctions. This means that any purchase in the "black market" (and sometimes at prices much higher than the official ones) was perceived in Warsaw as a success in itself (for more on the results of S&TI work in this sector, see the articles listed in the Introduction).

An analysis of reports for the heavy industry — which by no means include any detailed calculations, only examples — shows that spectacular successes generating million-dollar savings happened rarely, once every few years.

For example in 1985, when technological documentation on the production of Hi-B transformer steel was brought to Poland, purchased for USD 100,000 upon the order of the Lenin Steelworks in Kraków, the report of S&TI claimed that: "According to estimates, a license would cost 3–5 million dollars. The implementation of the above-mentioned technology will enable the elimination of [transformer steel] imports worth approx. USD 10 million and generator steel imports worth approx. USD 50 million annually. Further measurable economic effects will be related to the export of the so-called high quality goods (new generation transformers) and limiting energy losses in the national economy." [63]

In the mid80s around 100 packages of documentation were provided to the Ministry of Mining and Energy annually. Also in this case, only some solutions resulted with significant quality improvements, large savings on own research and development work, or profit from increased exports. Materials acquired by intelligence in relation to the work conducted in Poland on hydrogenation and gasification of coal are particularly noteworthy. Part of the acquired materials came from the renowned West German company Koppers-Totzek, with which the PPR led trade negotiations regarding the purchase of a coal gasification license.[64]

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[63] AIPN, sign. 02320/419, vol. 2, Information for the Ministry of Metallurgy and Machinery Industry regarding the results of cooperation with the Ministry of Internal Affairs in 1985, Warsaw, January 4, 1986, c. 160–168.

[64] The global context of coal gasification and hydrogenation merits particular attention. Intense work on hydrogenation was conducted in the 1930s and 1940s (particularly in

Among other valuable acquisitions was a full documentation of an industrial and experimental installation for flue-gas desulfuration using the magnesite method. In the report for the minister of mining and energy, the intelligence station's officer wrote: "The abundance of information included in the documentation means that the method can be directly used for developing technical and economic objectives as well as a technical design for a flue-gas desulfuration installation in the indicated energy block, excluding the laboratory and semi-technical stage", and then: "According to our experiences so far, the period of laboratory tests and fractional and technical tests would last around five years and would cost no less than 50 million złoty. A license purchased in a Western company would cost well over USD 10 million. The cost of acquiring the discussed documentation by the Ministry of Mining and Energy [via the intelligence channels — MS] for use at the Energopomiar company would amount to USD 15,000. One must also note that the magnesite method is one of the two technologies of flue-gas desulfuration being developed as part of the National Program [in Poland] [...] and as part of the scientific and technical cooperation between the COMECOM member states."[65]

CONCLUSION

Throughout the existence of the Polish People's Republic, its scientific and technical intelligence supported Polish mining, energy, metal-

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the Third Reich), but was later abandoned by large companies due to the high costs of the technology as well as a dynamic increase in the use of crude oil deposits. The oil crisis of 1973 and its consequences led to the revival of interest in hydrogenation and gasification, particularly in the USA and West Germany. Apart from the already mentioned Koppers company, companies including Texaco and Lurgi became involved in work on the subject. At that time, also the PPR government started to invest and purchase technologies for launching the process of coal gasification, which was justified due to large resources of coal in Poland. However, in the early 1980s in the West, optimistic forecasts were published concerning the future use of crude oil and natural gas deposits, which immediately drew the attention of governments in these countries away from the subject of gasification. AIPN, sign. 003171/59, vol. 1, Information on coal gasification in the "Janina" coal mine in Libiąż, Warsaw, December 24, 1986, c. 31–39. See more: J. Taubman, *Węgiel i alternatywne źródła energii. Prognozy na przyszłość* [Coal and alternative energy sources. Forecasts for the future], PWN 2012.

[65] AIPN, sign. 003171/59, vol. 1, Information for the Minister of Mining and Energy, general Czesław Piotrowski concerning the cooperation with the Ministry of Internal Affairs in 1984, Warsaw, March 28, 1985, c. 16–21.

lurgy, and machine industries (the latter also for military applications). Cooperation with companies and research and development centers intensified in the first half of the 1970s, as a natural consequence of the experience accumulated by the intelligence service in the previous fifteen years.

Defining the scope of the tasks, i.e. the types of technologies which can be acquired by intelligence or purchased in the black market, selecting objects, (i.e. institutions and organizations with the required knowledge), and recruiting personal sources of information were the most crucial issues related to the improvement of secret methods of acquiring technologies for the Polish heavy industry, as well as the entire economy in the 1970s. Developing communication channels with the Polish industry (which was usually the ordering party and the receiver of the new technologies), as well as with Polish research and development centers whose employees were used not just for penetrating into the Western scientific circles but also for evaluating the documents obtained by such secret activities, were equally significant problems.

Apart from acquiring specific solutions, the officers of Division IV/VII of S&TI also developed analyses related to specific countries or the global situation, as well as to specific technologies in the global aspect or international corporations that possessed the technologies. Furthermore, S&TI was engaged by the Polish government to provide information to the main offices/foreign trade companies as well as the Ministry of Foreign Affairs and the Ministry of International Trade during trade negotiations with foreign contractors.

It is impossible to definitely determine the economic impact of S&TI in financial terms, due to controversies (past and present) around the exchange rates of złoty to convertible foreign currencies. Using the experience gathered when analyzing S&TI materials for microelectronics and IT on the one hand, and biotechnology and pharmacy on the other, one might estimate that in the 1970s, the ministries supervising heavy industry and energy transferred between a dozen or so and several dozen millions of US dollars to the Ministry of Internal Affairs for the black market purchases or for remunerating agents.

These transactions resulted with economic benefits that are hard to estimate: savings of man-hours in research and development, reduction of capital-consuming imports from OECD countries, and a simultaneous increase in exports, in particular to COMECOM states. In terms of economic benefits, intelligence reports for the top authorities in the Ministry of

Internal Affairs should be read with great caution. It is evident, especially in the 1980s, that S&TI promoted the view that it was indispensable for the Polish economy, and that the latter would be incapable of functioning without illegal operations. One report on remunerating the agents reads: "The cost of paying the specialist for secretly providing documentation and know-how is almost negligible compared to the cost of an officially purchased license."[66]

Finally, it must be emphasized that in the 1980s, the operations of S&TI were related to tasks the government assigned to its ministries, and consequently to research and development centers and construction bureaus, as part of central research and development projects. Thus, intelligence became an integral link in the Polish economy.

References

Archival documents

Archive of Modern Records, Ministry of Machinery Industry, sign. 9/10, sign. 9/1; The Ministry of Heavy Industry, sign. 37/36; The Ministry of Metallurgy: sign. 3/85.

Archive of the Institute of the National Remembrance, Ministry of Internal Affairs – I Department: sign. 003171/59; 01592/295; 01789/211; 02269/13; 02271/23; 02320/24; 02320/26; 02320/369; 02320/419; 02320/529; 02320/626; 02320/650.

Secondary sources (books, chapters in books, articles)

Andrew Ch., Mitrochin W. (2001), *Archiwum Mitrochina. KGB w Europie i na Zachodzie* [The Mitrokhin Archive: the KGB in Europe and in the West], trans. M. M. Brzeska, R. Brzeski, Warszawa.

Bagieński W. (2011), *Wkład wywiadu gospodarczego w rozwój przemysłowy w dekadzie Edwarda Gierka* [Contribution of economic intelligence to industrial development in the decade of Gierek] [in:] *Dekada Gierka. Wnioski dla obecnego okresu modernizacji Polski* [The decade of Gierek. Conclusions from the point of view of current modernization of Poland], ed. K. Rybiński, Warszawa.

Bagieński W. (2017), *Wywiad cywilny Polski Ludowej w latach 1945–1961* [Civilian intelligence in Socialist Poland in the years 1945–1961], vol. 2, Warszawa.

Cain F. (2005), *Computers and the Cold War: United States Restrictions on the Export of Computers to the Soviet Union and Communist China*, "Journal of Contemporary History", vol. 40 (1).

Czertoprud S. (2002), *Nauczno-techniczeskaja razwiedka ot Lenina do Gorbaczowa*, Moskwa.

Grala D. T. (2005), *Reformy gospodarcze w PRL (1982-1989). Próba ratowania socjalizmu* [Economic reforms in the PPR (1982–1989). Attempts to save socialism], Warszawa.

---

[66] AIPN, sign. 01789/211, The report of the E-M team on the scope of intelligence work for the Ministry of Machinery Industry in 1972, Warsaw, January 11, 1973, c. 113.

Iwanek K., Burakowski A. (2013), *Indie. Od kolonii do mocarstwa 1857-2013* [India. From colony to superpower, 1857–2013], Warszawa.

Janowski L. J. (2011), *Bliżej Centrum czy na Peryferiach. Polskie kontakty gospodarcze z zagranicą w XX wiek* [Center or periphery. Polish economic contacts with abroad in the 20th century], Warszawa.

Kaliński J. (2012), *Gospodarka w PRL* [The Economy in the PPR], Warszawa.

Katorin J. K., Kurienkow J. W., Łysow A. W. (2002), *Bolszaja encykłopiedija promyszlennogo szpionaża*, Moskwa.

Krasnowolska A. (2010), *Historia Iranu*. [The history of Iran], Wrocław.

Larecki J.(2007), *Wielki leksykon służb specjalnych świata. Organizacje wywiadu, kontrwywiadu, policji politycznych świata, terminologia profesjonalna i żargon operacyjny* [A great dictionary of global special services. Intelligence, counterintelligence, political police, professional terminology and operational jargon], Warszawa.

Lascelles D. (1976), *Comecon to 1980*, The Financial Times Limited, London.

Macrakis K. (2008), *Seduced by Secrets. Inside the Stasi's Spy-Tech World*, Cambridge–New York.

Maddrell P., *Spying on Science: Western Intelligence in Divided Germany 1945–1961*, Oxford.

Martinet B., Marti Y. M. (1999), *Wywiad gospodarczy. Pozyskiwanie i ochrona informacji* [Economic intelligence. Acquisition and protection of information], trans. K. Bolesta-Kukułka, Warszawa.

Mastanduno M. (1992), *Economic Containment. CoCom and the Politics of East-West Trade*, Ithaca (New York).

Minkina M. (2014), *Sztuka wywiadu w państwie współczesnym* [Intelligence services in a contemporary state], Warszawa.

Paczkowski A. (2010), *Rezydentura wywiadu MSW w Ministerstwie Przemysłu Maszynowego (1971–1983)* [The stations of the Ministry of Internal Affairs intelligence in the Ministry of Machinery Industry] [in:] *"Budujemy socjalizm"…Materiały pokonferencyjne"* [Socialism in progress… Post-conference materials], ed. R. Klementowski, S. Ligarski, Warszawa.

Pawlikowicz L. (2013), *Aparat centralny 1 Zarządu Głównego KGB jako instrument realizacji globalnej strategii Kremla 1954–1991* [Central system of the KGB's First Chief Directorate as an instrument of implementing the Kremlin's global strategy in the years 1954–1991], Warszawa.

Paździora J. (2011), *Polska Miedź 1945-2010* [Polish Copper Industry 1945-2010], Wydawnictwo Chroma.

Siemiątkowski Z. (2009), *Wywiad a władza. Wywiad cywilny PRL w systemie sprawowania władzy* [Intelligence and government. Civilian intelligence of the PPR in the government system], Warszawa.

Sikora M. (2013), *Koncesjonowany kapitalizm. Służba Bezpieczeństwa MSW a „spółki polonijne" w PRL (1976-1989)* [Licensed capitalism. The Ministry of Internal Affairs Security Service and "Polish foreign companies" in the period of PPR (1976–1989], "Dzieje Najnowsze", IH PAN, XLV 2013/2.

Sikora M. (2014a), *Intelligence-interchange in the area of Science and Technology between Poland and Soviet Union, 1986-1990* [in:] *Technology in Times of Transition*. 41 ICOHTEC Symposium 2014, ed. E. Helerea, M. Cionca, M. Ivanoiu, Brasov.

Sikora M. (2014b), *Wirtschaftliche Innovation durch Spionage. Forschung, Entwicklung und der Geheimdienst in der Volksrepublik Polen 1970-1990*, "Jahrbücher für Geschichte Osteuropas", Jg 62/ Heft 4.

Sikora M. (2015a), *Pro publico bono? Wywiad w służbie przemysłu farmaceutycznego PRL 1973-1989. szkic problemu* [Pro publico bono? Intelligence at the service of pharmaceutical industry in the Polish People's Republic in the years 1973–1989. An outline of the problem], Szczecin.

Sikora M. (2015b), *Wywiad MSW PRL jako instrument przełamywania embarga i śledzenia globalnych trendów w mikroelektronice 1971-1990* [Intelligence service in the Polish People's Republic Ministry of Internal Affairs as an instrument of bypassing economic sanctions and following global trends in microelectronics in the years 1971–1990], "Studia Polityczne", ISP PAN, no. 4 (40).

Sikora M. (2017a), *"Terapia czarnorynkowa". Pomoc wywiadu MSW dla branży farmaceutycznej i biotechnologicznej w PRL 1960-1990* ["Black market therapy". Support of the Ministry of Internal Affairs intelligence for pharmaceutical and biotechnological industries in the Polish People's Republic in the years 1960–1990], "Kwartalnik Historii Nauki i Techniki", IHN PAN, no. 4/2017.

Sikora M. (2017b), *Clandestine Acquisition of Microelectronics and Information Technology by the Scientific-Technical Intelligence of Polish People's Republic in 1970–1990* [in:] *2017 Forth International Conference "Computer Technology in Russia and in the Former Soviet Union" SoRuCom 2017, 3-5 October 2017 Zelenograd, Russia*, ed. I. Krayneva, A. Tomilin, IEEE.

Sikora, M. (2017c), *Współpraca Departamentu I MSW z Hauptverwaltung Aufklärung MfS w zakresie tajnego pozyskiwania nowych technologii dla gospodarki PRL i NRD w latach 1980-1990* [Cooperation between the Ministry of Internal Affairs Department I and Hauptverwaltung Aufklärung MfS in the secret acquisition of new technologies for the PPR and the GDR in the years 1980–1990], "Pamięć i Sprawiedliwość", IPN, no. 2 (29).

Szirokow O. N. (2013), *Istoriczeskij opyt sotrudniczestwa stran sowieta ekonomiczeskoi wzaimopoczy w 1949-1991 godach*, Czerkasy.

Taubman J. (2012), *Węgiel i alternatywne źródła energii. Prognozy na przyszłość* [Coal and alternative energy sources. Forecasts for the future], PWN.

Weyhrauch B. B. (1986), *Operation Exodus: The United States Government's Program to Intercept Illegal Exports of High Technology*, "Computer/Law Journal", No. 203, vol. 7, article 2.

Zloch-Christy I. (2011), *Debt problems of Eastern Europe*, Cambridge University Press, New York - New Rochelle – Melbourne – Sydney.

Internet

U.S. Geological Survey, Mineral Commodity Summaries, January 2015, in http://minerals.usgs.gov/minerals/pubs/commodity/tin/mcs-2015-tin.pdf (log. August 11, 2015)