

## INDIRECT COMMERCIALIZATION OF SCIENTIFIC RESULTS BY RESEARCH INSTITUTES. SELECTED ISSUES

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**Abstract.** The subject of the article is the characterization of the commercialization of the results of scientific activity. The starting point is to point out the Polish specificity of the legal regulation of the conduct of scientific activity and its coherence with the market environment. A special place in this regard is occupied by research institutes. The author presents the legal possibilities of commercialization of the results of scientific activity conducted by research institutes focusing on the so-called indirect commercialization, which he discusses in detail. In addition to procedural issues, the article discusses in detail the prerequisites for commercialization, including in particular the legally defined objectives of its implementation, the regulation of which indicates the specificity of Polish solutions.

**Keywords:** commercialization of scientific results; research institute; scientific activities; types and rationale of commercialization of scientific results

### INTRODUCTION

On the 5th of September 1977, the Voyager 1 space probe was launched from Cape Canaveral in the U.S. Its name comes from the space program of the U.S. National Aeronautics and Space Administration (NASA). 16 days before the launch of Voyager 1, on the 20th of August 1977, Voyager 2 was launched. The purpose of the Voyager program was to conduct studies of the outer planets of the Solar System and the outer part of the heliosphere.<sup>1</sup> The realization of the program was helped by a special alignment of Jupiter, Saturn, Uranus and Neptune, occurring once every 175 years, which allowed both space probes to take advantage of the so-called gravitational assist.<sup>2</sup> It

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<sup>1</sup> The Heliosphere is the space where the Sun's influence is dominant in the Solar System.

<sup>2</sup> The possibility of using gravitational assist due to the unique arrangement of gas giants (outer planets of the Solar System) was discovered in 1965 by Gary Flandro, an employee of one of NASA's research centers, the Jet Propulsion Laboratory [Flandro 1966, 329-37; Ziółkowski 2017].

provided the probes with optimal conditions for achieving flight parameters to reach the planned celestial bodies and study them thoroughly. After the original goal was achieved, the Voyager program's mission was extended, and the two probes traveling through the abyss of space were assigned further targets.<sup>3</sup>

To this day, on board both probes are 12-inch disks made of gold-plated copper, which are a kind of time capsule and a source of knowledge about us and our planet. The data stored on the disks make it possible (as it seems to us) to determine the location of the Solar System and Earth, contain basic mathematical information, the pattern of the DNA code, human anatomy, but also include 115 encoded images illustrating humans and animals,<sup>4</sup> as well as numerous sounds (including folk songs of various cultures, music and human laughter) and sounds of nature, including, among others, the sound of the wind, the thunder of a thump lightning, birdsong.<sup>5</sup> On the gold disc were recorded greetings to potential recipients spoken in 55 languages. Unfortunatously, because not quite corresponding to the essence of the matter, but the famous "Witajcie istoty z zaświatów" in Polish was uttered by Maria Nowakowska-Stykos.<sup>6</sup>

## 1. INTRODUCTION. THE RELATIONSHIP BETWEEN SCIENCE AND PRACTICE

Human activity in space, although it is only one of many examples of the synergy of science and economy, is an exceptionally spectacular one. Today we all benefit from computers, cell phones, geo-location, durable and flexible materials and other wonderful inventions and discoveries, without always remembering that their sources are in the vast majority of cases related to space research. The strong coupling between the results of scientific research and the conveniences they bring us in everyday life is usually not apparent at first glance. Only a deeper reflection on the origins of most modern devices and practical solutions leads us to the conclusion that they are the result of the work of scientists. This remarkable interpenetration of

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<sup>3</sup> Since the Voyager 1 and Voyager 2 space probes continued to perform admirably after achieving successive scientific goals, the mission of the Voyager program was extended 3 times.

<sup>4</sup> The disk also recorded images of cities, building architecture, food and Earth's landscapes.

<sup>5</sup> It takes more than 5 hours to play all the sounds recorded on the "golden disc". The full record of the disks is available at: <https://voyager.jpl.nasa.gov/golden-record/> [accessed: 01.11.2022]. The placement of some of the data on the "golden disks" was accompanied by heated discussion. With the safety of our species at stake, there was concern, in particular, about revealing the location data of the Solar System.

<sup>6</sup> You can listen to the recording at <https://soundcloud.com/nasa/golden-record-polish-greeting>

science and everyday life is the driving force behind the development of modern civilization.

Bearing it in mind, the Law on Higher Education and Science<sup>7</sup> emphasizes the specific purpose and mission of the system of higher education and science, indicating that one of their key elements is to contribute to the innovation of the economy (preamble, Article 2 of the Law). Hence, scientific activity should be in close correlation with the needs of the social and economic environment of scientific entities [Agmon and von Glinow 1991]. Thus, it includes not only strictly theoretical research, but also research that has a practical dimension. In order to take advantage of the potential of science, European and national legislators have introduced numerous legal instruments and economic mechanisms that promote the transfer of knowledge from the scientific sector to the economy. In order for scientific activity to remain in close correlation with the needs of the market, the need for active involvement of universities and other scientific institutions in the activities of entrepreneurs is emphasized. Such a goal was served, among other things, by the establishment of a package of Laws on innovation, the law introducing implementation doctorates, the law on research institutes,<sup>8</sup> or the law on the Research Network: *Lukasiewicz*.<sup>9</sup> Building bridges between science and the economy is also the subject of the government's national economic strategy,<sup>10</sup> or the National Research Program.<sup>11</sup>

According to Article 4 of the Law on Higher Education and Science, scientific activity includes scientific research, development work and artistic activity. The law divides scientific research into basic research and applied research. Basic research is understood as empirical or theoretical work aimed primarily at acquiring new knowledge about the fundamentals of phenomena and observable facts without aiming at direct commercial application, while applied research is work aimed at acquiring new knowledge and skills, aimed at developing new products, processes or services or introducing significant improvements to them. Development work is defined as activities involving the acquisition, combination, formation and use of currently available knowledge and skills, including information technology

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<sup>7</sup> Law of 20 July 2018, i.e. Journal of Laws of 2022, item 574 as amended.

<sup>8</sup> Law of 30 April 2010, Journal of Laws of 2022, item 498.

<sup>9</sup> See justifications to the bills, substantive opinion to the government bill on the Research Network: *Lukasiewicz*, parliamentary print no. 2148, NIK report KNO.410.003.00.2018 – Transfer wiedzy i technologii poprzez spółki jednostek naukowych, p. 5.

<sup>10</sup> Resolution No. 8 of the Council of Ministers of 14 February 2017 on the adoption of the Strategy for Responsible Development until 2020 (with an outlook until 2030 (M.P. item 260).

<sup>11</sup> Assumptions of the state's science, technology and innovation policy – Annex to the Resolution of the Council of Ministers No. 164/2011 of August 16, 2011 on the establishment of the National Research Program.

tools or software, for production planning and the design and development of changed, improved or new products, processes or services, excluding activities involving routine and periodic changes made to them, even if such changes are improvements. The definitions of scientific research indicated above and set forth by the law have not only a theoretical dimension, but also relate directly and indirectly to practice, including, first and foremost, the possibility of using their results in the economy. Already within the framework of basic research alone, which is considered primarily theoretical, is also included empirical work, which, even if not aimed at direct commercial application, must take into account the realities of the market within which it is conducted. There is no difference with applied research, and development work shows the greatest connection with market practice. It is impossible to carry out this type of scientific activity without contact with the real needs of the market, without knowledge of the current research results and anticipation of the directions of change and development of social and economic needs in the future. As a result, all centers scientific and cooperating specialists must be in permanent contact with the socio-market environment and constantly improve their skills.

## 2. THE CONCEPT AND ROLE OF RESEARCH INSTITUTES

In this context, the system of higher education in Poland is built on the basis of universities, which focus their activities on conducting scientific activities and education, and a special type of entity whose primary task is to combine science and practice, which are research institutes. The statutory definition of a research institute clearly indicates the primary purpose of its activities, which is to conduct research and development work for the purpose of implementation and application in practice. According to Article 1 of the Law on Research Institutes, a research institute is a state organizational unit, legally, organizationally and economically and financially separate, which conducts scientific research and development work aimed at their implementation and application in practice. Unlike universities, where the emphasis is primarily on conducting scientific activity and education, research institutes are established for close cooperation between science and the market environment, so as to provide a bridge between the worlds of science and economy. Serving this purpose is the internal organizational structure of the institutes, the rules of their operation, the possibility provided by the law to create science and industry centers, which can take the form of clusters, technology parks and technology platforms, but above all the subject matter and scope of their activities. The realization of both goals, i.e. the conduct of scientific activities and their implementation by research institutes, is the *sine qua non* of their existence. The bond connecting the two

goals is so strong that the legislator treats them as one. Both objectives of the activities of research institutes must be implemented simultaneously. The requirement that research institutes simultaneously carry out scientific research and development work and their implementation is unanimously emphasized in the reports and inspection reports of the Supreme Audit Office, case law and the doctrine of the subject. Consequently, both the insufficient amount of research carried out by an institute and the failure to implement their results in practice may be grounds for their liquidation. The decision of the minister supervising a given institute in this regard is discretionary, and in making the decision is guided by substantive, financial and organizational considerations (Article 7(1) of the Law on Research Institutes).

The law identifies three main scopes of research institutes' activities: core activities, educational activities and other activities. The core activity of an institute is based on conducting scientific research and development work, adapting the results of such scientific activity to the needs of practice, and implementing them (Article 2(1) of the Law on Research Institutes). The development of the institute's possible core activities is specified in Article 2(2) of the Law on Research Institutes. Educational activities are specified more precisely as education in doctoral school and postgraduate studies, related to the scientific research and development work conducted by the institute, but the law does not exclude the possibility of the institute also conducting other forms of education. The remaining, so-called "other" activity of research institutes includes within its scope a business activity that is financially and accountably separate from the rest of its activity and is carried out in accordance with the principles set forth in the Business Law [Cilak 2015, 72ff]. However, the so-called other activity of the institute must be related to the scientific research and development work conducted by the institute and carried out to the extent and in the form indicated in the institute's statutes.

### 3. COMMERCIALIZATION OF THE RESULTS OF RESEARCH AND SCIENTIFIC WORK BY RESEARCH INSTITUTES

In the context of the interface between science and the economy, both representatives of the doctrine and the legislator use three specific concepts, the content of which should be clearly distinguished. These are technology transfer, commercialization and technology implementation. By the term technology transfer is understood the totality of activities related to making available the results of scientific research, a term often used in the context of broad and widespread transfer of research results. Technology transfer can be paid or unpaid, and in this way it fundamentally differs from commercialization, which is understood as the totality of activities related to making research results available to third parties for a fee or transferring the results

to such entities. On the other hand, technology implementation is the introduction of the developed technology to the market in the form of specific products or services [Barszcz 2016, 20; Witek 2008, 56; Jarosz-Żukowska and Żukowski 2014, 230-31].

The Law on Research Institutes does not contain a normative definition of the concept of commercialization of the results of scientific research and development work.<sup>12</sup>

The Law on Higher Education also does not provide such a definition, although it also uses the concept. The gap created in this regard is filled by the doctrine.<sup>13</sup>

The views expressed in this regard in the doctrine differ in detail, but the common axis in defining commercialization is the conviction that it is a process whose immanent and fundamental purpose is the transfer of knowledge from scientific institutions to the market, for the benefit of both the entity disposing of specific knowledge (the so-called innovator) and the entity acquiring it. As a result, the innovator obtains economic benefits from the implementation of the results of the scientific work carried out into the practice of market operation, but may also combine these benefits with feedback related to the practical use of knowledge for further scientific research or development.<sup>14</sup>

This approach to commercialization allows us to distinguish its two types: direct and indirect. Direct commercialization is not defined in the Law on Research Institutes, but the Law on Higher Education and Science, which is applicable in this regard on the basis of systemic interpretation, stipulates that it consists in the sale of the results of scientific activity or know-how related to these results, or in putting these results or know-how to use, in particular on the basis of a license, lease and rental agreement (Article 148(4) of the Law on Higher Education and Science).<sup>15</sup> Its essence is thus based on the personal (direct) involvement of the entity that holds the right to the results of scientific activity in their transfer to the economy. Indirect commercialization, on the other hand, is defined in Article 17(5) of

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<sup>12</sup> Hereinafter: commercialization.

<sup>13</sup> See, for example Markiewicz 2009, 38-39; Kluczek 2011; Łobejko and Sosnowska 2013; Matusiak 2010; Jasiński, Ludwicki 2007; Jasiński 2011; Głodek and Pietras 2011; Jarosz-Żukowska and Żukowski 2014, 219ff.

<sup>14</sup> See Evaluation of the process of commercialization of the results of R&D work and cooperation of scientific units with entrepreneurs under Priority Axis I of the Operational Program Innovative Economy (Sub-measure 1.1.2 and Sub-measure 1.3.1), December 2013; NIK Information materials: Information on the results of the audit: Commercialization of scientific research results, KNO.410.006.00.2015, Warsaw 2016.

<sup>15</sup> See also Barszcz 2016, 28ff.

the Law on Research Institutes.<sup>16</sup> Thus, the essence of indirect commercialization is the indirect transfer of knowledge from scientific institutions to the market. For this purpose, the institute research, as an entity that has the right to the results of scientific activity, can create capital companies or join existing ones, which, however, meet certain requirements. These are known as special purpose companies. The task of these companies is to transfer the results of scientific research or development work to interested beneficiaries operating commercially in the market.

It should be emphasized the compatibility of the process of commercialization of the results of research and development work carried out at the institute with the object of its core business of adapting the results of such scientific activity to the needs of practice and their implementation.

#### 4. RATIONALE FOR INDIRECT COMMERCIALIZATION

The legal basis for the indirect commercialization of the results of research and development work of a research institute is provided by Article 17 of the Law on Research Institutes, and first of all, its paragraphs 5, 5a and 6. According to it, an institute may, with the consent of the supervising minister, in order to commercialize the results of research, development work and know-how related to such results, as well as in order to carry out activities in the field of technology transfer and dissemination of science and to obtain funds for statutory activities, establish capital companies and take up or acquire shares in such companies, and generate income therefrom. In addition, in the event that an institute establishes a capital company for the purpose of implementing or managing research infrastructure projects, as well as taking up or acquiring shares and interests in such companies, the supervising minister is required to consult with the minister responsible for science before granting approval. Regardless of the assumed purpose of commercialization, the object of the company's activity, must be related to the scientific research and development work carried out by the institute. Thus, the performance of indirect commercialization by a research institute is possible only if the following prerequisites are met together: 1) the establishment of the special-purpose company or the acquisition or purchase of shares in the special-purpose company is preceded by the prior approval of the relevant minister supervising the activities of the research institute; 2) the object of activity of the special-purpose company must be related to the scientific research and development work carried out by the institute; 3) a special purpose vehicle may be established only for the purpose of

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<sup>16</sup> The Law on Higher Education and Science defines indirect commercialization analogously in Article 149.

commercialization of the results of scientific research, development work and know-how related to these results, as well as to carry out activities in the field of technology transfer and dissemination of science, and to raise funds for statutory activities or to implement or manage research infrastructure projects.

The establishment of a special-purpose company or accession to such a company does not, in principle, deviate from the standard registration procedure for a capital company. The exception in this regard is the obligation to obtain the approval referred to in para. 1. In formal terms, obtaining the consent of the minister supervising the activities of the research institute is the final stage of preparatory work (preceding registration in the National Court Register) in the process of establishing a special-purpose company or taking up or acquiring shares in such a company. Before obtaining approval, the institute should prepare a set of documents justifying the need for and legitimacy of establishing such a company (or joining it). Among them should also be documents confirming that the prerequisites referred to in items. 2 and 3. The law does not prejudge the form and procedure in which the minister supervising the activities of the research institute should apply for approval. However, the minister's consent is a form of business rationing and as such takes the form of an administrative decision issued in administrative proceedings. Hence, a request for consent should meet the requirements set forth in Article 63 of the Code of Administrative Procedure.<sup>17</sup> The party applying for consent is entitled to all the legal remedies available to a party to standard administrative proceedings. It should be noted that in the consent procedure, Article 17(5a) of the Law on Research Institutes imposes an additional requirement on the minister supervising a specific research institute to consult with the minister responsible for science, in the event that the research institute intends to establish a special-purpose company or join such a company by taking up or acquiring shares in it, and its purpose will be to implement or manage research infrastructure projects. However, this additional requirement relates to the consent authority and is beyond the scope of influence of the consent applicant. However, in view of the possible obligation to consult (consult the minister responsible for science), the research institute should, when preparing the relevant documentation, take into account this procedural aspect so that its analysis by the body issuing the opinion is convincing to it as well.

Regardless of whether a research institute forms a special-purpose company or joins an existing one, the Law requires that the object of the company's activities be related to the institute's scientific research and development work. First of all, it should be emphasized that the Law does not require

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<sup>17</sup> Law of 14 June 1960, Journal of Laws of 2021, item 735.



that the company's subject matter be limited only to activities that are in such connection. Thus, a special-purpose company may also carry out other activities, even if they are not in any way related to the scientific activities of the institute. An absolute and sufficient condition at the same time is the conduct of activities that remain in such a relationship, but this does not determine the scope of the company's conduct of other activities.

In this regard, however, some caution should be exercised due to the peculiarities of research institutes, which are state legal entities. Hence, it is necessary to distinguish between the legal situation in which a research institute forms a special purpose company and the legal situation in which a research institute joins an already existing company. In the first case, the indication by the research institute of the object of its activity beyond the scope of its scientific activity may be taken into account by the authority granting approval for the establishment of the company rather exceptionally, i.e. only if it is justified by other circumstances (e.g. financial, organizational, or logistical support of the company or institute, in the scope of its research). In other cases, going beyond the boundaries of the connection between the scientific activity being carried out and the company's activities will certainly be met with a refusal of the minister's approval to establish the company.

The second situation, i.e. when a research institute joins an already existing company, is slightly different. In this case, it is understandable that the company may conduct a relatively wide range of business activities, not always related to the scientific activities of the institute. Then, the involvement of the research institute in the company will be evaluated from the point of view of the scale and importance of the information obtained from cooperation with the company (regardless of its other activities) for the scientific research and development work carried out at the institute.

It should be emphasized that the Law on Research Institutes does not specify what kind of relationship the object of the special-purpose company's activity has to do with the scientific activity conducted at the institute, i.e. how strong this relationship is to be, on what scale this relationship is to occur. Since the consent of the minister overseeing the activities of a research institute to establish (join) a special-purpose vehicle is discretionary, it is up to the competent minister (and, in the case referred to above, also the minister responsible for science) to assess whether and how strong the relationship is to be. Without a doubt, however, it seems reasonable that the relationship must be based on the mutual exchange of information between the SPV and the research institute. The transfer of such information should bring tangible economic, financial, organizational, commercial, etc. benefits to the SPV, while the research institute should provide information gained from the practical experience of the SPV's operations. This was also the

position taken by the Supreme Audit Office in its information on the results of the audit, stating that “in the case of proper cooperation, the benefits of information exchange will be mutual. The scientific sector can obtain information on the desired directions of research and development, which will create the premises for the proper use of scientific potential, while business entities would get access to those research results that will create the possibility of generating profits.”<sup>18</sup> Taking into account the definitions of scientific research and development cited above, which are the main axis of research institutes’ activities, it can be assumed that the degree of involvement of a research institute in a special purpose vehicle should be proportional to the value of the information it obtains as a result of this cooperation and the effectiveness for its scientific activities, bearing in mind that scientific activities are of an unquantifiable nature and often cannot be easily translated into concrete results.<sup>19</sup>

It is also worth noting that the minister granting approval for the establishment of a special-purpose company or the institute’s accession to such a company, regardless of the above, will also be guided by the criteria of legality, reliability, expediency, economy and economy. This is because these are criteria for evaluating the institute’s activities in managing its property (Article 16(4) of the Law on Research Institutes). When applying for the approval in question, the institute, expecting a favorable decision, should also demonstrate the reasonableness of the appropriate involvement of its property either in the establishment or in the subscription or acquisition of shares in the SPV from the perspective of these criteria.

Associated with the establishment of a special-purpose company by a research institute is the need to transfer to it the rights to the results of scientific activities developed at the institute. In this regard, a sales contract may be used, the legal construction of the contribution of intellectual property rights as a contribution to the company (in-kind contribution), the establishment of a license on intellectual property rights and the contribution thereof to the company, the establishment of a paid license on the intellectual property rights, or contribution of intellectual property rights for a fee in exchange for subscription warrants.<sup>20</sup>

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<sup>18</sup> NIK Report KNO.410.003.00.2018 – Transfer wiedzy i technologii poprzez spółki jednostek naukowych, p. 5.

<sup>19</sup> Scientific researches, especially creative ones, are combined with an immanent risk of failure. Their effects cannot be predicted with 100% certainty. However, this does not affect the nature of the relationship between the institute and the company [Krzewiński 2014, 8].

<sup>20</sup> See more extensively Barszcz 2016, 20.

#### 4.1. Commercialization objectives

The third premise of indirect commercialization by a research institute relates to its purpose. In this regard, the law basically indicates four possibilities: 1) commercialization of the results of scientific research, development work and know-how related to these results; 2) carrying out activities in the field of technology transfer and dissemination of science; 3) raising funds for statutory activities, or 4) implementation of projects in the field of research infrastructure or its management.

It should first be noted that the research institute independently chooses the purpose or purposes for which it wants to commercialize. The law does not require that commercialization be carried out for all of the aforementioned purposes together.

The first objective listed is the most commercial in nature. Indirect commercialization carried out through the establishment or incorporation of a company by a research institute in the simplest form of this purpose amounts to the transfer of intellectual property rights to interested third parties, usually entrepreneurs, in exchange for appropriate compensation. The second and fourth legally permissible purposes allow the institute's scientific activities to be most fully realized through close cooperation between representatives of science and marketing practice. These goals correspond directly to the definition of scientific research, especially applied research and development work, which was mentioned in the first part of this paper.

Commercialization, as the purpose of forming a company, should be understood as the desire to monetize (obtain property benefits) the results of research, development work and the know-how associated with these results. It is no coincidence that the phrase "commercialization" is repeated here when defining the first of the possible purposes of forming a special purpose vehicle (this term is used in the process of indirect commercialization). This procedure is intended to emphasize the non-altruistic nature of the undertaking undertaken by the institute. In order to carry out commercialization understood in this way, the institute must equip the SPV with the appropriate intellectual capital, transferring to it the results of its research, development work and the right to dispose of them. Thus, the realization of this goal requires the transfer of rights to information resulting from the scientific activities carried out by the research institute to the company. The results of NIK inspections of special-purpose companies operating in the market, established by scientific entities, clearly indicate a low rate of return of these companies, which was mainly due to the insufficient knowledge resources transferred to them.<sup>21</sup> As NIK points out, the turnover of SPVs is

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<sup>21</sup> NIK Report KNO.410.003.00.2018 – Transfer wiedzy i technologii poprzez spółki jednostek naukowych, p. 9ff.

an indirect indicator of the effectiveness of information exchange between science and the economy. Hence, the NIK recommends that when creating or joining SPVs, adequate intellectual resources should be contributed and that the companies should be equipped with appropriate legal instruments that allow them to effectively manage these resources.<sup>22</sup>

The practice to date, accepted by the bodies that control the activities of research institutes and other scientific units that create SPVs, indicates that this objective consists, in particular, in: 1) selling rights to the results of scientific research or development work; b) concluding confidentiality, cooperation, agency, partnership, framework or consulting agreements, as well as exchanging letters of intent; c) granting licenses; d) establishment of spin-off companies; e) carrying out consulting and research projects; f) filing of industrial designs and utility models; g) obtaining patents in Polish and foreign patent offices.<sup>23</sup>

The second legally permissible purpose of a research institute's involvement in a special-purpose company is to carry out activities in the field of technology transfer and dissemination of science.

The constituent elements of this purpose are combined on a conjunction basis, which means that this purpose is legally permissible only on the condition that its two elements are fulfilled simultaneously. This determination of the permissibility of forming or joining an SPV is not coincidental. The establishment of a company for the purpose of commercializing the results of research, development work and the know-how related to these results is static in nature. In this case, the institute already possesses specific knowledge, which it makes available through commercialization to interested parties, usually entrepreneurs. Meanwhile, technology transfer is a dynamic process and involves adapting the results of ongoing research and development work to their practical application. This is also how the legislator understands it, *expressis verbis* indicating that it is about "conducting activities in the field of ..." Of course, the transfer of technology can be based only on its transfer to interested beneficiaries without modification and improvement of the developed results of scientific activity (patents, ideas, new solutions and technologies). However, then it would be sufficient to form a company on the basis of the purpose specified in para. 1. With the above in mind, the essence of the second legally permissible purpose of establishing / joining/ a special purpose vehicle of a research institute comes down to the establishment of a specific cooperation between the research institute and

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<sup>22</sup> See also: NIK: Komercjalizacja wyników badań naukowych, KNO.410.006.00.2015, Warsaw 2016.

<sup>23</sup> See also Commission Regulation (EU) No. 316/2014 of 21. March 2014 on the application of Article 101(3) of the Treaty on the Functioning of the European Union to categories of technology transfer agreements, Official Journal of the EU of 28 March 2014, L 93/17.

the special purpose vehicle, as well as any subsequently established spin off or spin out companies. This cooperation should be based on the mutual interpenetration of the institute's research or development work and the needs of the market, including, in particular, the verification of models, solutions, technologies developed by scientists (employees of the institute), and informed by the institute by the SPV.<sup>24</sup> The emanation of such cooperation may be the creation of a special organizational unit in the special purpose vehicle, the purpose of which will be to mediate the exchange of information, including, above all, the needs and experience gained by the company and the institute's employees.

Dissemination of science, which is an immanent part of the first element of the objective in question, can be implemented through training, consulting and other forms of popularization of knowledge and science.

The third objective of indirect commercialization of the results of scientific activity, as indicated in the law, is the acquisition of funds for statutory activities. As it seems, it constitutes an independent and separate purpose of capital involvement of a research institute, permitted by law. This interpretation of the provision is supported by its historical interpretation<sup>25</sup> and the essence of the enumeration, which is the subject of the regulation of Article 17.5 of the Law on Research Institutes. In addition, the provision formulated in this way meets the findings of the Supreme Audit Office made in connection with the audit of the economic efficiency of the activities of the commercialization of universities and research institutes in Poland.<sup>26</sup> Treating the goal of "raising funds" as separate from the other goals of indirect commercialization may also be justified by the need to increase the competitiveness of research institutes, as state legal entities. However, the separation of raising funds for statutory activities as a separate objective of indirect commercialization of the results of scientific activity may be questioned. The basis for doubts in this regard may be the construction of the provision. For the legislator used here not very fortuitously a conjunction "and", which, in accordance with the principles of logic, suggests the necessity of combining

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<sup>24</sup> See W. Włosiński: [https://forumakademickie.pl/fa-archiwum/archiwum/2000/04/artykuly/22-okolice\\_nauki.htm](https://forumakademickie.pl/fa-archiwum/archiwum/2000/04/artykuly/22-okolice_nauki.htm) [accessed: 01.11.2022].

<sup>25</sup> It is worth noting that at the stage of parliamentary work, the original wording of the current Article 17(5) (Parliamentary print No. 1629 of January 9, 2009) did not include the premise of raising funds. It was added only at the stage of work in the parliamentary committee. Until this change was made, the wording of Article 17(5) was essentially consistent with Article 14(8) of the previous law in this regard, i.e. the Law of 25 July 1985 on research and development units, which omitted the element of raising funds.

<sup>26</sup> See NIK report KNO.410.003.00.2018 – Transfer wiedzy i technologii poprzez spółki jednostek naukowych; NIK: Informacja o wynikach kontroli: Komercjalizacja wyników badań naukowych, KNO.410.006.00.2015, Warsaw 2016; See also Kotowicz-Jawor 2017; Sieniewska 2014.

the acquisition of funds for statutory activities with the activity of conducting activities in the field of technology transfer and dissemination of science, i.e. the second legally defined objective of indirect commercialization of the results of scientific activity indicated above. Meanwhile, taking into account the arguments indicated above, the conjunction “and” does not so much refer to the content of the individual objectives referred to in Article 17(5) of the Law on Research Institutes, but to their catalog. However, this issue may be debatable and, for these reasons, would require statutory clarification on the occasion of the next amendment of the Law.

Assuming the legitimacy of singling out this purpose as separate from the other purposes of indirect commercialization of the results of scientific activity, it should be emphasized that it does not mean that the research institute is free to determine the object of activity of the company formed on its basis. Regardless of the purpose for which the institute forms a company, Article 17(5) must always be interpreted together with Article 17(6) and (8) of the Law on Research Institutes. Consequently, the subject matter of the company’s activities must be related to the scientific research and development work carried out by the institute. Otherwise, the institute will not obtain the approval of the competent minister referred to in Article 17(5) of the Law on Research Institutes, and may face refusal of registration by the registration court, which is also required to examine the compliance of the registered company’s documents with the applicable laws.

The fourth stated purpose that allows a research institute to be involved in a special purpose vehicle is to implement or manage research infrastructure projects. “Research infrastructure” is a broad term under which various types of investments can be included, e.g. laboratories, data banks, energy banks, observatories, archives, collections or libraries, research vessels and aircraft, power plants, and above all infrastructure IT (e-infrastructure). The construction and operation of research infrastructures requires extensive expertise, which the SPV can acquire from the research institute. Since the construction and operation of infrastructures are costly undertakings, and the work on their establishment and operation requires extensive expertise, cooperation between a research institute and a special purpose vehicle operating a specific research infrastructure is an ideal combination of science and economy.

It should be noted that the objective in question was defined relatively broadly. In fact, the legislator used the phrase “implementation of research infrastructure projects,” which means that the SPV does not have to be established to produce the research infrastructure in question, but it is sufficient that it participates in part of the process aimed at its creation or is part of the structure related to its operation. Consequently, a special purpose vehicle may also be established for the sole purpose of providing support

services to the entity operating a particular research infrastructure or being responsible for its proper operation.

The legislator emphasizes that the establishment of a special-purpose company or accession to it by an institute may not only take place within the framework of projects related to research infrastructure, but also the purpose may be to carry out projects related to the management of already existing research infrastructure. This means that the SPV may manage such infrastructure, participate in its management, or provide other, auxiliary, additional services in this regard.

Although, in defining the third purpose, the law does not explicitly require that it be for-profit, the involvement of a research institute in a special-purpose vehicle, disregarding the commercial nature of this type of investment, will be met with the refusal of approval by the relevant minister overseeing the institute's activities. In this regard, Article 16(4) of the Law on Research Institutes is applicable, mandating that the institute's property be managed in accordance with the principles of legality, reliability, expediency, economy and economy.

## CONCLUSIONS

The current speed of the Voyager 1 space probe is estimated at about 62,140 km/h.<sup>27</sup> This is the highest speed ever achieved by a manufactured object in human history. Assuming that it takes about 10 minutes to read this article, during this time the Voyager 1 probe has moved another 10,000 km away from Earth, i.e. about  $\frac{1}{4}$  of the Earth's circumference.

Currently, both Voyager probes are exploring the outer limit of the heliosphere in interstellar space, although this was not their original goal. On Aug. 25, 2012, Voyager 1 became the first man-made object to leave the Solar System and enter interstellar space. A few years later, in 2018, signals sent by Voyager 2 also confirmed its entry into interstellar space.

On the 14th of February, 1990, Voyager 1 sent a photo to Earth that went down in history under the name Pale Blue Dot.<sup>28</sup> Carl Sagan, in a book titled *Pale Blue Dot. A Vision Of The Human Future In Space*<sup>29</sup>, from the title of which was taken the name of the Earth seen from a distance of more than 6 billion kilometers, described our pollen suspended in the immensity of space as follows: “[...] Look again at this dot. This is Our home. This is Us. On it everyone you love, everyone you know. Of whom you have ever

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<sup>27</sup> For comparison, the velocity of a bullet fired from an AK-47 rifle is about 2574 km/h.

<sup>28</sup> Photo from NASA collections, accessed at <https://www.jpl.nasa.gov/images/pia00452-solar-system-portrait-earth-as-pale-blue-dot> [accessed: 04.11.2022].

<sup>29</sup> Published by Random House Publishing Group, A Ballantine Books, Ney York 1994.

heard. Every person who has ever existed has lived their life there. It is the sum of Our joys and sorrows. [...] Every saint and every sinner in the history of Our species, lived there. On a speck of dust suspended in the rays of the sun.”

Admittedly, he didn't mention research institutes in this statement, but I think he can be forgiven for that. However, it is worth noting that Voyager's voyage would not have been possible if it were not for the cooperation of the world of science and practice to realize man's dream of conquering space.

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