
МІЖНАРОДНЕ ПРАВО

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TECHNOLOGY TRANSFER: INTERNATIONAL LEGAL REGULATION

The paper highlights main trends in international technology transfer law regulation development. The priority challenges related to overcoming the fragmentation of international legal regulation in the research area are outlined. The components of technology transfer are analyzed and the legal principles of their international legal regulation are developed.

Keywords: international technology transfer, international technogenic transfer, international law.

Иващенко Д. Трансфер технологий: международно-правовое регулирование.
Отражены основные тенденции развития международно-правового регулирования трансфера технологий. Определены приоритетные вызовы, касающиеся преодоления фрагментации международно-правового регулирования в исследуемой сфере. Проанализированы составляющие трансфера технологий и разработаны правовые принципы их международно-правового регулирования.

Ключевые слова: международный трансфер технологий, международный техногенной трансфер, международное право.

Background. The difficulty in regulating international technology transfer lies precisely in the fact that it has a cross-sectoral and multi-level nature. Currently, given the cross-sectoral nature of technogenic transfer, states, legal entities (including transnational corporations) and academic / scientific institutions are the main actors in legal relations. By their nature,

they are asymmetric. Meanwhile, the process, means, forms and methods of technology transfer at both the private and commercial levels, as well as scientific cooperation on this matter, underpin the legal regulation of international technology transfer today, while international public-law regulation at the global level remains undeveloped and insufficient.

The doctrine of international law faces the task of analyzing the process of technology transfer from both a macro- and a micro- perspective – to overcome the fragmentation of legal regulation of global technogenic transfer generated by its multidimensionality.

Therefore, we have a number of asymmetric entities, cross-border and cross-sectoral legal relations. At the international level, we need to create and streamline a set of legal rules, in particular, universal standards and principles that would form the basis for the settlement of such multi-vector and hybrid relationships [1].

Analysis of recent researches and publications. Technology transfer has been emphasized as a challenging task and important driver in innovation and the creation of sustainable growth in the World Intellectual Property Report 2019 [1]. L. Peter [2] outlines that Technology transfer as an important task in a wider context has been approved within different fields of research as well as in the regulation and policy planning documents. J. Weis, A. Bashyam, G. Ekchian, K. Paisner, N. Vanderford [3] emphasize that most existing instruments and tools of regulating international technology transfer are not enough due to modern world development.

Materials and methods. The empirical basis of the study is the acts of international and national legislation, materials of jurisprudence, modern scientific and legal research on technology transfer. The study is based on a wide spectrum of knowledge acquisitions. In particular, the dialectical method provided a comprehensive consideration of the issues of technology transfer in the correlation of its economic, social, and legal content. With the deductive method the current state of judicial doctrine and practice is overviewed. The method of analysis is used to systematize scientific legal research on the issues of technology transfer, as well as to study the novelties of international, domestic and foreign law.

The **aim** of the article is to introduce a substitution of the concept «technology transfer» by the concept «technogenic transfer» as well as outline main trends and frameworks of development of the technogenic transfer international regulation.

Results. The very concept of technology transfer as defined in the Law of Ukraine On state regulation of activities in the field of technology transfer is too narrow for the subject of study [4]. Of course, the concept of «technology transfer» can be used in a broad and narrow sense, but for the purposes of our study, we consider it appropriate to introduce the concept of «international technogenic transfer», which is not only an understanding of

technology transfer in a broad sense, but also fully reflects kinetic intersocial processes in international relations of the techno sphere of human existence.

Those inter-societal technogenic exchanges that take place on a global scale and are referred to as «technology transfer» are much deeper and more synergistic. In essence, they are one of the dimensions of technological evolution and development of the techno sphere.

Since technological evolution is reflected in the implementation of another factor of growth – in the processes and procedures of intersocial transfer of complex components of techno genesis, which includes all elements of technology transfer such as:

- valuable final technological results of production;
- special production tools;
- technological information relevant to similar types of technological products;
- existing, new and innovative technologies for the current stage of human development of integrated systems;
- relocation and use of labor resources – technical specialists;
- full cycles of technological production systems;
- intangible technogenic knowledge and know-how.

All technologies, which are improved by the level of scientific achievements at each stage of growth, have already become a reality in the history of mankind, or those that are just being created, determine the substantive basis of intersocial transfer of complex components of techno genesis. At the same time, the completeness of the multifactorial system of technogenic growth of each social system and levels of ownership of their subjects' technological values, not only form the basis of proposals for intersocial exchange, but also determine the main parameters of technogenic diffusion, in particular, technogenic relations.

Thus, it would be worth proposing a new definition in international legal doctrine, which would more successfully reveal the studied technogenic processes, namely:

International technogenic transfer is a set of international legal relations that serve the processes of accumulation and exchange in the global society of technogenic assets, based on the capabilities of the collective mind of society to common creativity and its structurally organized capabilities to produce not only new technologies but also processes of actual technogenic reality, caused by domestic and international living conditions, in order to develop global techno genesis, the transition to a new level of knowledge and overcoming technological gaps between «individual societies» [5].

Why is it so necessary to shift the focus of attention on the regulation of private legal relations and to completely change the approach to solving the problems of the global level of technogenic transfer. International law

now faces the challenge of fundamental transformations in the field of the concept of international technogenic transfer and its transformation into a system of compulsory principles of international law that will consolidate the foundations of the process of sustainable / balanced development of Mankind and, finally, push the global community to harmonize the contemporary problems of humanity with the needs of humanity. generations on the path to bio-techno-singularity. It should be defined that techno-singularity is a future period of human development, when the pace of technological change will be so rapid and their impact so deep that human life will undergo irreversible transformations.

Regardless of whether this theory and model of development is utopian or dystopian, this era will transform the concepts on which humanity will create the realities of its existence, from business models to the cycle of human life, including death itself. R. Kurzweil and apologists of this theory consider it as a certain hypothetical moment, after the onset of which, technological progress will become so fast and complicated that it will be inaccessible to understanding and will be characterized by the following, after the creation of artificial intelligence and self-replicating machines, the integration of man with computers, or a considerable leaping human brain at the expense of biotechnology.

Thus, author considers it appropriate to introduce the term bio-techno-singularity, as mentioned above. Within the next thirty years, humanity will have the technical ability to create superhuman intelligence. Soon after, the human age we know of will be over – a new milestone in the history of development will begin.

The rapid development of scientific and technological progress leads to the fact that it inevitably becomes a factor of revolutionary and profound changes in the development of mankind. Artificial intelligence, genetic engineering, innovation and nanotechnology, international technogenic transfer are the levers of forming a new world. Therefore, a qualitatively new dimension of human existence and, as a consequence, a new world order will be created. This will bring new challenges to humanity in all spheres of life, first and foremost in the field of international law [6].

It follows that, given the overall pace of human development, the system of international law is transforming and adapting to the needs of the modern world and its future too slowly.

The set of norms that currently regulates the processes of creation and transfer of technologies at the international level, although fragmented, but already has a clear subject of legal regulation – international relations arising in the field of technogenic transfer. That is, a set of social legal relations that arise in the process of implementing innovative activities, scientific cooperation, creation, implementation and transfer of new technological products and advanced modern technologies.

Thus, it meets one of the main requirements of the institution and branch of law – the existence of the subject of legal regulation as the originality of social relations, their qualitative homogeneity.

International technogenic transfer is also characterized by a common method of regulation for international law – the method of coordinating the will of states. This is evidenced by the adoption of the Code of Conduct on Technology Transfer, although it was not adopted – the norms developed by expert groups were borrowed from many international agreements that laid the foundations for regulating international technogenic transfer and analyzed in the previous section of our study.

It should be noted that the norms of international technogenic transfer cover a very wide range of social relations in many spheres of human existence, and are also characterized by the asymmetry of the participants in these relations. And, although such relations are governed by the rules of various branches of international law (e.g. international intellectual property law, international economic law, international environmental law, etc.), the fragmentary nature of their regulation is ineffective, so it can be stated that it is impossible to regulate the sphere of these social relations by the norms of other branches of the system of international law [7]. And, in this context, it is still worth talking not about the fragmentary nature of the subject of the right of technogenic transfer, but rather about its complex, intersectoral and polystructural nature. As we see in the rights of international technogenic transfer there are even some features of the field of law, not just the institution. Currently, this complex only lacks the characteristics of the autonomy of the norms that make up the content of the industry [8].

At the present stage of development of international law, we can already talk about the beginnings of the formation of the institution of international technogenic transfer law, but there are a number of issues that need to be addressed in order to achieve this goal. International technogenic transfer can turn from a set of norms of related direction into an institution of law, and as a consequence, into a full-fledged branch of international law in the future. First of all, at the international level it is necessary to create a basic framework for this in the form of a number of international regulations that would outline the principles and guidelines of international technogenic transfer, systematize and unify its norms. If we are talking about further transformation into a branch of law – it is necessary to consider the possibility of creating an international organization that would deal with issues of technogenic transfer, as well as a global network of technogenic transfer, as discussed earlier.

For any institution or industry, first of all, it is necessary to create a hierarchical system of norms, which would be based on norms-principles that would embody the basic principles of its functioning. Therefore, in our opinion, it would be appropriate to offer as a special for the institute and in the future field of international man-made transfer. We see the need to establish seven sectoral principles that are equivalent, but in the list are

from the most general to the most specific. Thus, the following principles of international technology transfer are to be developed:

- of sovereignty of the mind;
- value;
- of universality;
- of consolidation of resources;
- of standardization and unity of formats;
- of accessibility and equality of participants;
- of quality and expert evaluation.

More deep set out of aforementioned principles spreads beyond the purposes of the paper and is the subject to author's PhD research. In addition to the fundamental principles and to ensure them, the industry of international technogenic transfer will also need to create its own institutional mechanism, which will as well be discussed in author's PhD research.

Conclusion. Therefore, it is necessary to create a world-wide platform for communication and interaction of all participants in technogenic transfer, beginning with the adoption of a mandatory international act, such as a Convention, which would systematize and unify approaches to understanding the phenomenon of technogenic transfer, laying down the basic principles, goals and ideas of implementation technogenic transfer. The relations under study need to be more clearly structured, systematized and separated into a separate institution of international law.

With regard to the creation of a global platform that facilitates international technogenic transfer, the idea of creating a global innovation network and, in the future, an international technogenic transfer organization, within which institutions such as the Agency for International Technogenic Transfer and the World Technology Fund, would be attractive.

Another problem besides the structuring and systematization of legal rules governing the international technogenic transfer is the consideration of the human factor and the balance in the paradigm «Sovereignty of mind / Creator right» – «The value and property of all mankind».

The purpose of the research is to create an approach to international legal regulation at the global level by developing a model of the «Convention on International Technogenic Transfer» that could form the basis for the establishment of the Institute, and in the future, possibly in the field of international law of technogenic transfer.

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Іващенко Д. Трансфер технологій: міжнародно-правове регулювання.

Постановка проблеми. Міжнародно-правове регулювання техногенного трансферу наразі носить фрагментарний характер, оскільки проєкт відповідного Кодексу не ухвалено, а норми права, які тим чи іншим чином регулюють цей предмет, розкидані в багатьох міжнародних актах різної правової природи. Отже, міжнародно-правове регулювання в сфері техногенного трансферу на сьогодні є неефективним і потребує трансформацій.

Аналіз останніх досліджень і публікацій показав, що попри наявність окремих наукових доробок, залишається не розв'язаною важлива науково-практична проблема щодо міжнародно-правового механізму регулювання трансферу технологій.

Мета статті – проаналізувати існуючі погляди та запропонувати авторське тлумачення «міжнародного техногенного трансферу», основних

принципів його регулювання та окреслити подальший розвиток досліджуваної галузі.

Матеріали та методи. У ході дослідження використано методи аналізу, дедуктивний, індуктивний і порівняльно-правовий.

Результати дослідження. На сучасному етапі розвитку міжнародного права Україна не має чітко сформованої та регламентованої не лише галузі, а навіть інституту, який би регулював процеси, пов'язані з трансфером технологій. Спроба прийняти Кодекс поведінки у сфері передачі технологій мала б вагомий внесок, проте так і не реалізована.

Проект Кодексу зосереджувався лише на правах та обов'язках приватних суб'єктів під час передачі технологій і форм передачі, разом з тим набагато ефективніше розробити загальний понятійно-категоріальний апарат сфери міжнародного техногенного трансферу та розробити загальні міжнародно-правові принципи регулювання міжсоціумних техногенних відносин, створивши певну систему норм і принципів, що надалі еволюціонуватимуть спочатку в інститут права, а згодом і в самостійну галузь міжнародного права у сфері техногенного трансферу.

Висновки. Першочерговим завданням міжнародної спільноти у сфері правового регулювання техногенного трансферу є створення інституту міжнародного техногенного трансферу. Доцільним також є формування засад майбутньої галузі права на базі створеного інституту. Задля досягнення поставлених цілей необхідно прийняти Конвенцію з питань міжнародно-правового регулювання техногенного трансферу, яка б стала тим кодифікаційним актом, що надав би системності та впорядкованості мозаїчній сукупності норм, регулюючих на сьогодні досліджуваний процес.

Ключові слова: міжнародний трансфер технологій, міжнародний техногенний трансфер, міжнародне право.