

Conference track «10.7 Ensuring the economic security of the state in the context of modern global challenges: economic and legal aspects (in collaboration with the Faculty of Economics of the Belarusian State University).»

Scientific securitization issue ensuing technological sovereigntization

Academic supervisor – Хоменко Татьяна Ильинична

Даниленко Софья Андреевна

Student (bachelor)

Belarusian State University, Экономический факультет, Minsk, Belarus

E-mail: soffia.danilenko@gmail.com

Contemporary ICT sphere is distinguished by the cross-border nature and the invasive digitalization of all activity domains. Such a conjuncture accentuates technological sovereignty on national agendas. The following trend is observed nowadays: in order to protect domestic technological assets from destructive external shocks, states resort to export controls over CETs and virtuoso scientists and intend to enhance their influence on the international S&T arena. This phenomenon was coined as science securitization. It signifies the reconceiving of state policy regarding the scientific process and its upshots due to the augmenting prioritization of national interests. This inexorably forces a transition towards more restrictive practices apropos of technologies, that ensues formation of a less corybantic landscape of international S&T cooperation and exhibits autarkic traits. Scientific securitization is manifested in three hypostases – the so-dubbed 3P model – which represents the union of three policies: promotion, protection, and projection of influence.

The policy of promotion comprises the measures of accumulating power to strengthen strategic autonomy and technological sovereignty via facilitating research in critically important areas. Its pillars are targeted funding for scientific R&D with a defensive focus and consolidating civilian and defense research (scientific advances acquire a dual-use purpose for enhancing capability in geopolitical competition) [5]. The Act on the Promotion of Ensuring National Security through Integrated Implementation of Economic Measures enacted as of 2022 in Japan is a case in point. Its goal is to solidify Japan's status as an innovative hegemon. The preamble of the act emphasizes the need to prevent harm to national security through economic measures (particularly, the development of critical technologies). By and large, the act shows a clear adherence to the idea of strategic indispensability [4]. More importantly, the naikaku published a list of 20 DCTs (designated critical technologies), which include engines and hydroacoustic sensors, AI, ML, robotics, etc. – in brief, the locomotive sectors of the Japanese economy. Furthermore, all these DCTs encompass dual-use technologies that could become determinants of the country's future military advantage. Over recent years – as evidenced by the OECD's report in 2023 – the practice of data localization is gaining momentum. To be specific, legislative requirements are involved for storing and processing digital data exclusively within national or regional jurisdiction without transferring it abroad. According to statistics, the number of data localization measures in effect worldwide more than doubled between 2017 and 2023. Less than a decade ago only 67 such barriers were introduced in 35 countries, whereas by the end of 2023 there were 144 restrictions in 62 countries. In addition, approximately 100 data localization measures had been introduced in 40 countries of late [1, 4].

The policy of protection comes down to safeguarding critically important knowledge from unauthorized transfer to foreign states along with suppressing external intervention in science. Essentially, it is about reorienting protective measures so that not only TaaS but also scientists, know-how, and scientific technologies at the ideation stage are under the auspices of the state. It is vital to mention that protection also encompasses measures for: 1) identifying technologies

that are sensitive (to national security requirements) with impending compilation of registers;
2) detecting foreign think tanks that pose a threat to the nation's interests [5].

Ultimately, the policy of influence projection considers science as a foreign policy tool for distributing national interests and forging strategic alliances. For instance, the European Commission's concept of science diplomacy 2024 regards S&T as "pieces on the global geopolitical chessboard". To paraphrase, the idea of a collision between global society and nations that necessitates revision of the interaction between S&T progress and diplomacy is emphasized. Thus, new soft power tools have appeared on the institutional horizon – deployment of innovation attachés and creation of tech-embassies (table). Particularly noteworthy is the makeover of Track II diplomacy that entails granting a mandate for decision-making to corporate tech dominators and delegating the authority to conduct negotiations and preliminaries vis-à-vis S&T [2, 5].

Due to securitization's focus on shielding national interests, one cannot deny the presence of several detrimental outcomes on the extraterritorial level. Observances to commence with, are the deteriorating staffing in the scientific institutions and the tapering of reciprocal innovations flows, which inevitably lead to a decline in the quality of R&D. Furthermore, the fragmentation of the scientific space widens the gap between nations and creates the risk of effective cooperation in solving global problems ceasing. In the long run, not just intercultural consensus yet also economic competitiveness of countries that isolate themselves face enervation. Hyper-intensive securitization insinuates, nolens volens, neglecting the needs of the population, as the citizenry finds itself behind a H&S curtain. In this regard, pursuing a balance between developing scientific potential under domestic domes and engaging in international collaborations are of irrefutable significance. To shun scientific mercantilism, it behooves states to embark on the minimal quantity of regulations and concomitantly to unveil inner knowledge utmostly.

Источники и литература

- 1) Act on the Promotion of Economic Security. Act No. 43 of 2022 // e-Gov Law Search: <http://laws.e-gov.go.jp/law/504AC0000000043>
- 2) Del Giovane C., Ferencz J., López-González J. The Nature, Evolution and Potential Implications of Data Localisation Measures // OECD Trade Policy Paper. No. 278. Paris: OECD Publishing, 2023.
- 3) Nishiyama M. How Will the Economic Security Law Change Japan's Sci-Tech Policy? // The Tokyo Foundation: <https://www.tokyofoundation.org/research/detail.php?id=943>
- 4) OECD Science, Technology and Innovation Outlook 2025 // OECD: https://www.oecd.org/en/publications/oecd-science-technology-and-innovation-outlook-2025_5fe57b90-en.html
- 5) Tech Ambassadors Around the World: A Comparative Analysis // TDGI: <https://tdgi.org/tech-ambassadors-around-the-world-a-comparative-analysis/>

Иллюстрации

Country	Description of initiatives
United Kingdom	Appointment of a Consul General and Technology Delegate in San Francisco to integrate diplomacy and tech-engagement after Brexit
Brazil	Unveiling of the Innovation Diplomacy (PDI) program with a network of 65 diplomatic missions that have sections for science, technologies, and innovations (SECTECs)
Denmark	Opening of a tech embassy in Palo Alto
Switzerland	Creation of a network of technological embassies (Swissnex)
Japan	Focus on multilateral cooperation and the development of standards with reliance on its industrial power to establish global technological pre-eminence

Рис. : Exemplary initiatives of countries within influence projection policy