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High-Tech Industry in the EU: Policy, Economy, Statistics

The analysis of the legal framework supporting the European Union's decisions on the EU industrial sector, particularly high-tech manufacturing, shows that the European Commission maintains a long-standing commitment to prioritizing technological development in industries. To enhance their potential and competitive advantages, mechanisms of industrial, scientific-technological, and innovation policy are primarily employed. At the same time, research results show the growing trade deficit EU high-tech trade. The aim of the article is to deepen understanding on the policy and economic dimensions of high-tech activity, as well as to statistical estimates of production and international trade flows of high-tech goods in EU between 2008 and 2023.

The economic-statistical analysis revealed that, since the early 2000s, the EU has gradually increased its trade deficit in high-tech goods with China. In 2009, the negative balance was €43.1 billion, rising to €73.1 billion by 2019; in 2022, the trade deficit with China reached a historic high of €129.6 billion; by the end of 2023, it was €105.5 billion. Countries such as Thailand, South Korea, Malaysia, Taiwan, and Vietnam have significantly increased their exports of high-tech goods to the EU since 2019, contributing to a growing negative balance.

Before the pandemic in 2019, imports from Asian countries of high-tech goods in the groups of Electronics & Telecommunications and Computers and office machines grew at the highest rates. In the category of Electronics & Telecommunications, imports from China increased from €63,013.9 million to €89,228.1 million from 2019 to 2023; imports from Taiwan – from €3,644.7 million to €16,489.4 million; and imports from Vietnam – from €110.2 million to €14,053.8 million. In the category of Computers and office machines, imports from China increased from €40,177.4 million to €42,752.0 million; imports from Taiwan – from €802.6 million to €9,917.6 million; and imports from Vietnam – from €21.1 million to €2,787.2 million. This led to a significant trade deficit for the EU in high-tech goods from these countries.

The work substantiates that the EU leadership has adopted new political documents, which prioritize reducing strategic external dependency on imports and implementing measures to enhance their effectiveness. It should serve as benchmarks for developing policies for the growth of high-tech industries in Ukraine amid wartime conditions and post-war economic recovery.

Key words: *EU, Industrial Policy, International trade, high-tech products, high-tech industries, exports, imports, trade balance.*

Introduction. The industrial sector of the global economy, particularly high-tech industry, is becoming increasingly global in nature. The development of advanced technologies, the production of high-tech products based on these technologies, their entry into global markets, and the expansion of international integration in this field have become a more important strategic model and locomotive of economic growth for many countries. In this context, the export of high-tech goods has become an indicator of the effectiveness of innovative activities, the achieved level of technological intensity in industry, and the efficiency of public budget and private capital expenditures on innovation development in the country. It is also an integral part of the statistical toolkit for assessing the outcomes of the implementation of national innovation strategies and the correctness of the chosen strategic priorities. The expansion of production in high-tech sectors of industry and the growing volumes of international trade in their products are observed in both industrially developed countries and developing nations. Over the past decade, among the countries supplying high-tech goods to the European Union market, besides China, which is continuously increasing its presence, countries such as Vietnam, Malaysia, and Turkey have emerged [1].

Literature review. Such trends have led to the emergence of several studies aimed at clarifying the correspondence between the current technological and innovation level of national industries and the country's position in the global market, as well as providing an adequate assessment of the country's specialization.

For example, C. Lall [2] argues that in many cases, the rise of high-tech industries in developing countries may be somewhat of a statistical illusion, as they tend to specialize in labor-intensive processes within technology-intensive sectors. Similarly, J. Meyer, A. Butkevicius, and A. Kadri [3] note in their work that the expansion of exports from developing countries is increasing through their participation in labor-intensive segments of the electronics industry within the context of international division of labor. In work "High-Tech Exports from Developing Countries: A Symptom of Technology Spurts or Statistical Illusion?" [4], the author examines the relationship between research and development expenditures and the export of high-tech goods in general, and in electronics specifically. It is argued that high-tech exports from developing countries are primarily based on the influx of foreign direct investment and participation in international production chains [5].

The authors of the study also confirm that the impact of foreign direct investment on high-tech exports is significant [6]. In the work [7], panel data for countries with varying levels of economic development is analyzed. The empirical results underscore the necessity for countries that are catching up to leaders to implement policy measures aimed at transforming the production structure and enhancing local scientific, technological, and innovation capacities. This is essential for achieving higher added value and stable income from exports. The authors of the study [8] also confirm that the level of competitiveness of exporting countries that do not rely on endogenous innovations and do not expand their local scientific and technological potential capable of producing advanced technology products remains low. Participation in high-tech trade enhances a country's ability to achieve higher productivity, prosperity, and economic well-being. However, the government must pay more attention to mechanisms that stimulate the development of high-tech industries. The aim of the article is to deepen understanding on the policy and economic dimensions of high-tech activity, as well as to statistical estimates of production and international trade flows of high-tech goods in EU between 2008 and 2023.

Results and discussion. The financial crisis that erupted in 2008 changed the world. In 2009, few could have predicted its scale and long-term consequences for the economy, industry, and particularly high-tech industries. The EU faced the Great Recession during 2008-2009, which had catastrophic effects on economic growth, investment, employment, and the financial stability of many member states. However, high-tech industries, in general, demonstrated rapid recovery and growth after 2009. During this period, EU leadership took decisive actions, primarily aimed at rescuing banks and assisting struggling economic entities, while also launching reforms to enhance industrial capacity.

In particular, in 2010, the "Europe 2020" strategy was adopted to replace the Lisbon Strategy, focusing on smart, sustainable, and inclusive growth. This new strategy outlined flagship initiatives, a significant portion of which aimed to enhance the competitiveness of industries in EU countries. These initiatives are reflected in several documents. One of the foundational documents that established the principles of the policy was the document "An Integrated Industrial Policy for the Globalisation Era Putting Competitiveness and Sustainability at Centre Stage" [9]. A separate section of the document titled "A new industrial innovation policy" emphasized to the governments of EU countries that innovations in the context of rapid technological development are a key factor for productivity, improving energy and material efficiency, enhancing the quality of goods and services, and creating new markets. However, the challenge for the EU is the weak transformation of ideas into marketable goods and services. Therefore, a new industrial innovation policy is needed. Without it, the EU will not be able to compete successfully in the global market, both in high-tech industries and in traditional sectors.

In 2011, the European Commission presented the document "Industrial Policy: Reinforcing competitiveness" [10], which called on EU member states to implement structural reforms and to adopt a coherent and coordinated policy across all member states to enhance the economic and industrial competitiveness of the EU based on the development of technologies and innovations to promote long-term sustainable growth. The EU industry needs to accelerate its efforts to implement new technologies to maintain its competitive advantage in high-tech and traditional sectors. The document emphasized the necessity of investing in industrial innovations to bridge the gap between fundamental research and markets. A comprehensive approach to bringing new products and services to market should include support for demonstration projects and pilot testing grounds, as well as specific measures regarding state aid, and the launch of incentives for researchers to commercialize results and collaborate more closely with industry. The government, for its part, should more actively utilize the mechanism of public procurement for innovative solutions.

In 2012, the European Commission presented the document "A Stronger European Industry for Growth and Economic Recovery Industrial Policy Communication Update" [11], emphasizing the need for EU governments to strengthen investment support in innovation. The document stated that the development of a range of new technologies lays the groundwork for a new industrial revolution based on green energy, clean transport, new manufacturing methods, new materials, and intelligent communication systems. This will transform the global industrial landscape. As competitors from the US and Asia invest heavily in these technological sectors, Europe needs to expand its investments in technological innovations to advance its industry. The EU emphasized the need to leverage national policy tools to support the reindustrialization of Europe based on advanced technologies, mobilizing all available resources and comprehensively employing various influence mechanisms. "New investment is now urgently needed to stimulate economic recovery and bring innovation and new technologies back onto factory floors. If Europe does not keep up with investment in the adoption and diffusion of these technologies, its future competitiveness will be seriously compromised". It is noted in the document. A separate section of the document is dedicated to strengthening industrial policy, particularly increasing investment in innovation. The European Commission laid the groundwork for a proactive approach to industrial policy, prioritizing the establishment of the right framework conditions to stimulate new investments in research, development, and innovation, accelerate the adoption of new technologies, and improve resource efficiency. Among the tasks set is the development of advanced manufacturing technologies for clean production. The European Commission laid the foundation for coordinating the policies of the EU and member states, as well as joint efforts to create advanced manufacturing technologies to ensure wider dissemination and commercialization of the results of public-private partnerships in project implementation.

Demand-side innovation measures were also initiated, including innovative public procurement. Public-private partnerships played an important role within the framework of Horizon 2020, particularly in robotics and sustainable processing industries. EU member states supported the commercialization and implementation of advanced manufacturing technologies by fostering cross-border cooperation, taking into account their national specialization and the needs of the local economy.

In 2014, the communication from the European Commission "For a European Industrial Renaissance" stated that the EU was emerging from the longest recession [12]. The document noted that, overall, the EU industry demonstrated its resilience during the economic crisis, remaining among the global leaders with a surplus in manufacturing trade amounting to €365 billion (€1 billion per day), primarily generated by several high- and medium-tech sectors. These include automotive manufacturing, machinery and equipment, pharmaceuticals, chemicals, aviation, space, and others. A significant focus of the recommendations to the governments of EU countries regarding the "industrial renaissance" was on issues of industrial modernization., specifically investments in innovation, new technologies, production resources, and skills. EU leadership again emphasized that Europe's comparative advantage in the global economy continues to be defined by high-value-added goods and services. In this context, innovation and technological progress will remain the main source of competitiveness for the EU industry. It was particularly noted that digital technologies would enhance productivity in both high-tech and traditional industries. Their transformative power and growing influence across all sectors are redefining traditional business and production models, leading to the emergence of a range of potential new products and innovations in the services sector within industry.

One of the tasks set by the European Commission in "A New Industrial Strategy for Europe" 2020 [13] was to strengthen Europe's industrial and strategic autonomy, in other words, to reduce dependence on supplies of critical materials and technologies from other countries. The priority is to support the development of key technologies that are strategically important for Europe's industrial future. These include robotics, microelectronics, high-performance computing and cloud data infrastructure, block chain, quantum technologies, photonics, industrial biotechnology, biomedicine, nanotechnology, pharmaceuticals, advanced materials, and technologies. Their development will enhance the potential of both high-tech and traditional industries. Special attention is given to innovations for creating medical products and pharmaceuticals, which is essential for ensuring Europe's security and autonomy in the context of events related to the COVID-19 pandemic.

In May 2021, the European Commission presented an updated EU Industrial Strategy, taking into account new circumstances, particularly the repercussions of the COVID-19 crisis. This strategy aims to implement targeted efforts to stimulate innovation across various industrial ecosystems and reduce external dependencies on the supply of strategic goods to accelerate the green and digital transitions [14–15]. An analysis of the strategic dependencies and vulnerabilities of the EU has been conducted, particularly in several technological fields and industrial sectors (raw materials, batteries, active pharmaceutical ingredients, hydrogen, semiconductors, cloud and edge technologies). The analysis of strategic dependencies revealed the following: there are 137 products in sensitive ecosystems on which the EU relies heavily on foreign suppliers, out of a total of 5,200 analyzed products (these products account for 6% of the total value of all goods imported into Europe). Over 50% of these products, on which Europe depends, are supplied from China, as well as from Vietnam and Brazil. It was found that 34 products are the most vulnerable, as there is very low potential for diversifying their supply or replacing them with EU-made alternatives. This group of 34 products includes various raw materials and chemicals (intermediate products for industry) used in several strategic manufacturing sectors, as well as in the healthcare system. Although these products account for only 0.6% of the total value of all goods imported into Europe, they are of strategic importance for high-tech industry. (A similar situation regarding dependency on secured goods, whose production was concentrated in one country – Germany – was observed during the last century and intensified during World War I. This is detailed in the work [16]).

As part of the strategy implementation, special attention is given to the development of advanced technologies that will enable European high-tech industries to expand their leadership in emerging markets for future products and services. This involves stimulating the synthesis of digital and key enabling technologies (the six technologies: micro- and nanoelectronics, nanotechnology, industrial biotechnology, advanced materials, photonics, and advanced manufacturing technologies). This will facilitate the integration of physical and digital systems for technological development in industries and stimulate the emergence of entirely new sectors. Since enterprises in different EU countries do not fully leverage the advantages of these advanced technologies (their level of adoption varies by sector, country, and region), the European Commission has initiated a number of mechanisms to address this situation [17–19]. As part of the implementation of the industrial strategy, particularly the technological development of European manufacturing, the European Commission initiated the establishment of Advanced Manufacturing Support Centre. The goal of this initiative is to create favorable conditions for businesses to assess the prospects of implementing advanced manufacturing solutions and to transform organizations into next-generation enterprises with more competitive, modern, and sustainable production. To stimulate technological innovations, the EPPN (European Network for Pilot Production Facilities and Innovation Hubs) has been launched. This infrastructure (pilot plants and open innovation test beds) enables small and medium-sized enterprises, as well as startups, to implement innovative projects and quickly respond to their needs for scaling innovative products. The goal of establishing the EPPN is to create favorable conditions for technological innovations and the demonstration of innovative products, as well as to promote the development of an innovation ecosystem in Europe and create an attractive business environment to facilitate collaboration across the entire value chain and the market introduction of high-tech goods and services.

According to the results of 2019, prior to the COVID-19 pandemic and economic crises, there were 41,895 enterprises in the high-tech manufacturing sector in the EU. As a result of the EU leadership's efforts to preserve and enhance the industry's potential, this number increased to 42,400 enterprises. Among the leading countries in terms of the number of companies in high-tech industries are Germany (9,027 enterprises in 2021 compared to 8,702 in 2019) and Italy (5,471 enterprises in 2021 versus 5,333 in 2019). In Poland, the number changed from 4,467 to 4,216 enterprises (Fig. 1 1, constructed by data from [20]). The total volume of high-tech products sold shows an upward trend during the period from 2009 to 2023(Fig.2, 3 constructed by data from [21]).

At the same time, against the backdrop of significant efforts to strengthen the scientific and technological potential and innovation in high-tech industries, there is an increase in the import of high-tech goods into the EU. Asian countries, in particular, are expanding their presence in this market at a rapid pace, where transnational companies (including those from Europe) have established affiliated manufacturing of high-tech products (Tables 1–3 constructed by data from [22], in the tables: USA – United States of America, UK – United Kingdom, UAE – United Arab Emirates).

Since the early 2000s, the EU has gradually increased its trade deficit in high-tech goods with China. In 2009, the negative balance was €43.1 billion, rising to €73.1 billion by 2019. In 2022, the trade deficit with China reached a historic high of €129.6 billion. By the end of 2023, it was €105.5 billion. Countries such as Thailand, South Korea, Malaysia, Taiwan, and Vietnam have significantly increased their exports of high-tech goods to the EU since 2019, contributing to a growing negative balance.

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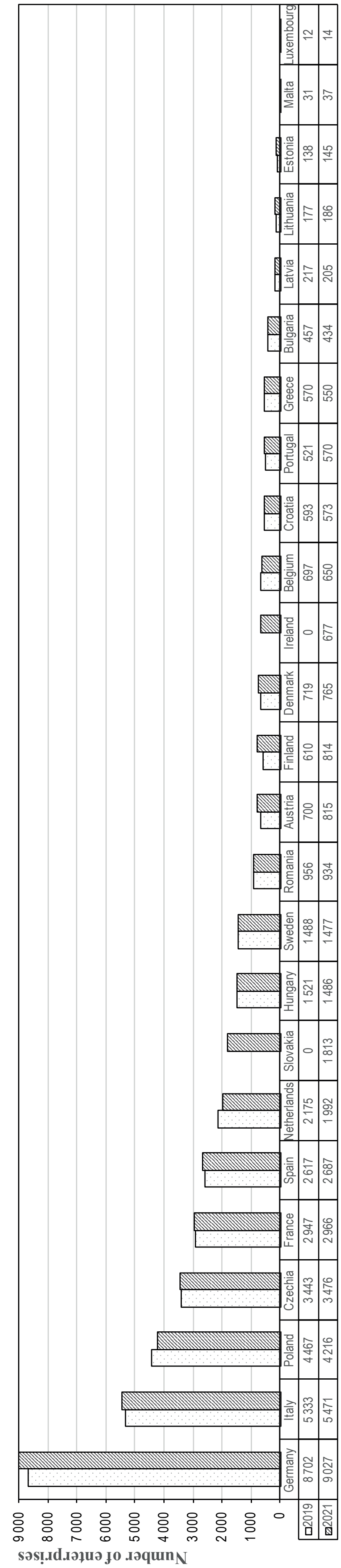
Conclusions. The analysis of the legal framework supporting the European Union's decisions on the EU industrial sector, particularly high-tech manufacturing, shows that the European Commission



	Germany	Italy	Poland	Czechia	France	Spain	Netherlands	Slovakia	Hungary	Sweden	Romania	Austria	Finland	Denmark	Ireland	Belgium	Croatia	Portugal	Greece	Bulgaria	Latvia	Lithuania	Estonia	Malta	Luxembourg
2019	8 702	5 333	4 467	3 443	2 947	2 617	2 175	0	1 521	1 488	956	700	610	719	0	697	593	521	570	457	217	177	138	31	12
2021	9 027	5 471	4 216	3 476	2 966	2 687	1 992	1 813	1 486	1 477	934	815	814	765	677	650	573	570	550	434	205	186	145	37	14

Figure 1. High-tech manufacturing by country: number of enterprises

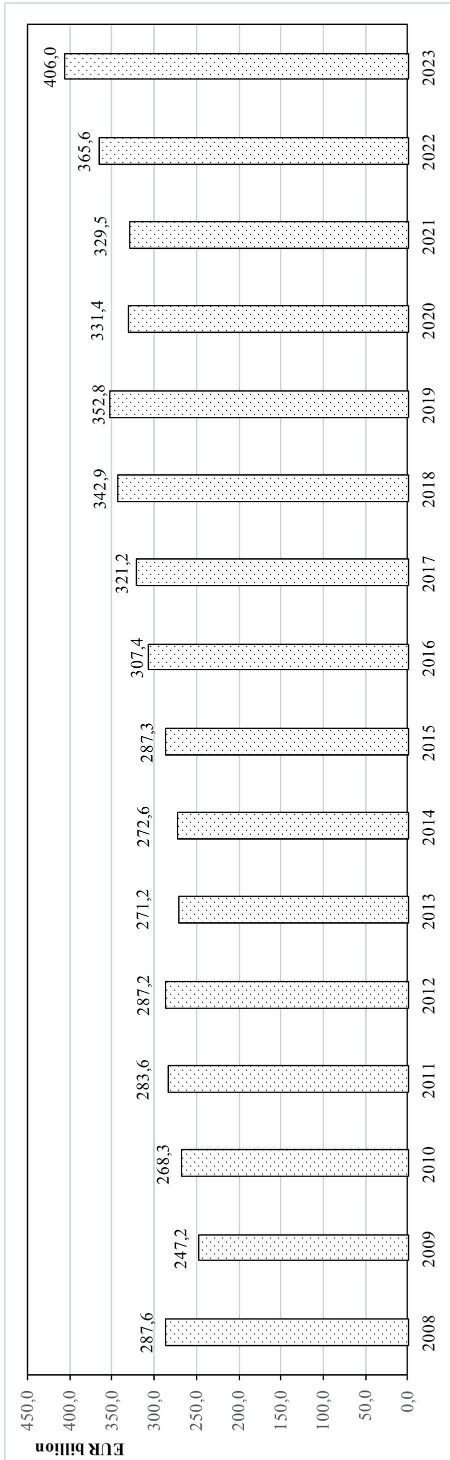


Figure 2. Total sold production of high-tech products, EU-27, 2008–2023

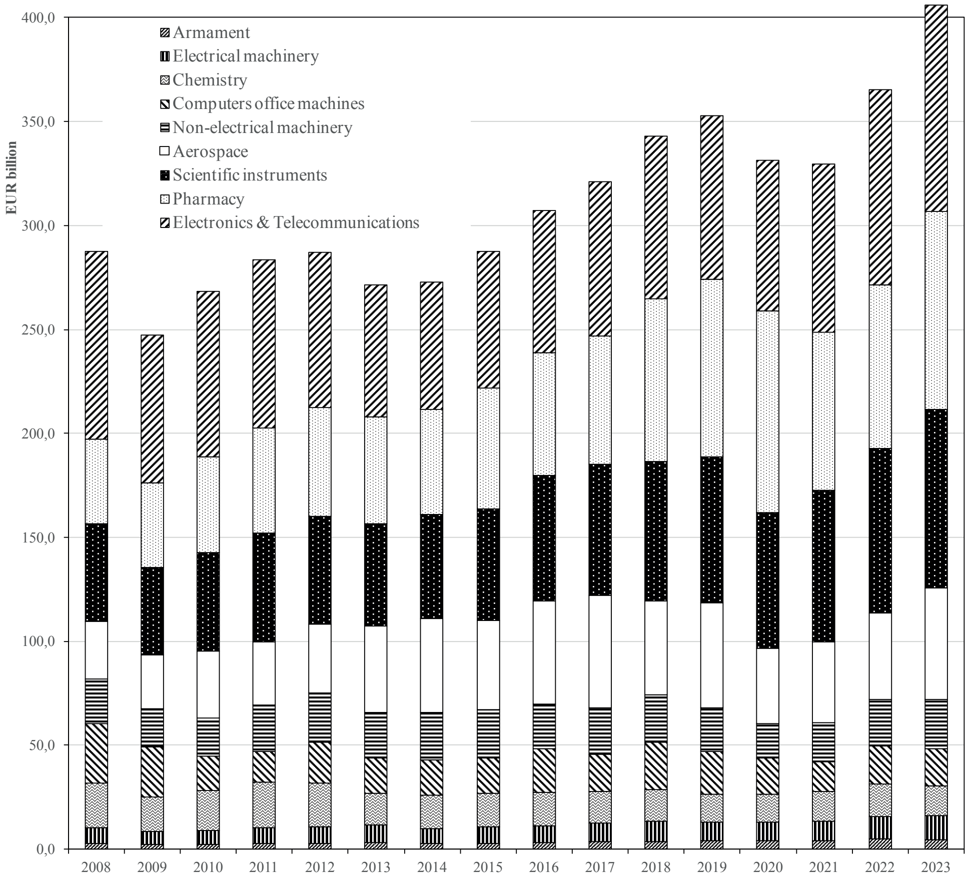


Figure 3. EU-27 sold production of high-tech products by group, 2008–2023

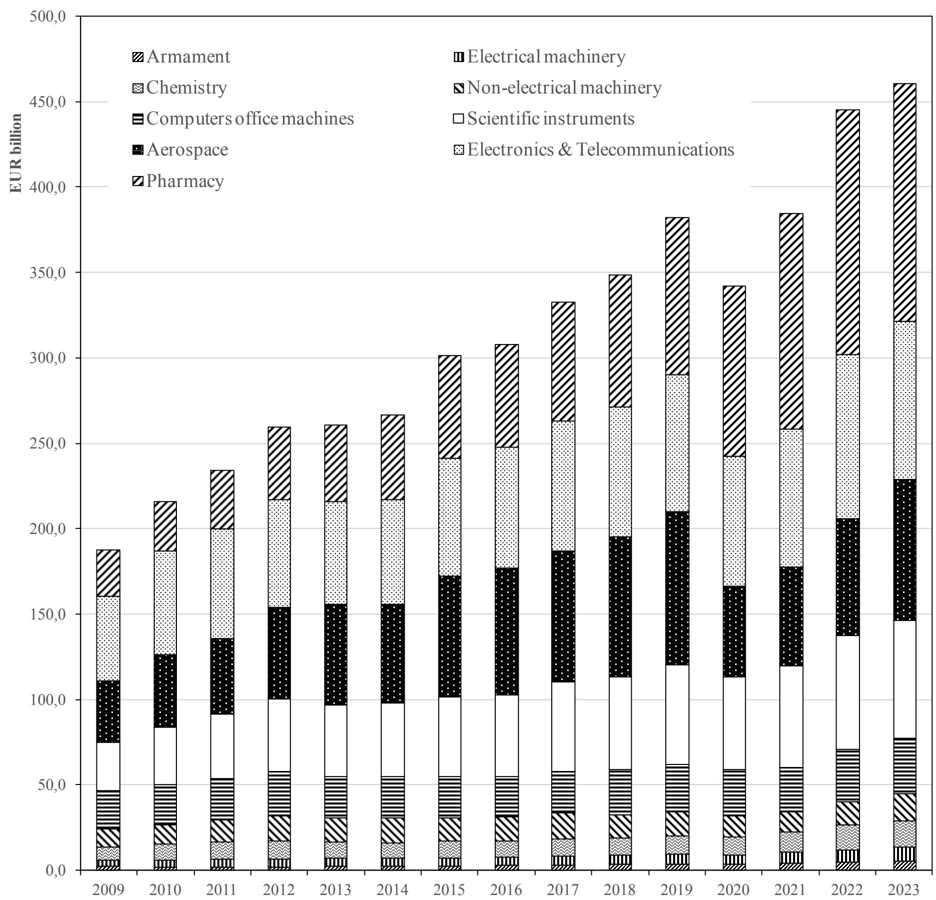


Figure 4. EU-27 exports of high-tech products by group, 2009–2023

Table 1

EU-27 imports of high-tech products, TOP 15 partners, 2010–2023

(EUR million)

Country	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate from 2010 to 2023, %
China	80 701	82 113	81 314	76 421	78 757	96 356	96 602	107 355	113 633	118 833	126 071	149 441	183 289	154 655	91,6
USA	42 599	45 125	51 459	48 571	50 433	64 276	69 021	74 608	78 710	83 674	65 912	74 572	91 549	107 820	153,1
Switzerland	14 960	16 755	17 698	17 708	18 405	19 795	20 791	22 343	21 356	22 450	24 047	30 198	29 778	31 328	109,4
Taiwan	9 408	8 906	8 157	7 567	7 787	8 582	10 063	11 055	11 596	12 056	12 230	16 436	23 464	28 449	202,4
UK	23 427	23 777	21 100	20 245	21 731	24 096	24 909	27 313	26 234	26 903	24 845	16 506	19 627	20 412	–12,9
Vietnam	836	2 650	6 505	8 938	8 165	10 390	11 962	13 688	14 075	14 495	14 563	14 615	18 083	19 238	2200,5
Malaysia	7 639	7 480	6 889	6 600	7 411	8 636	8 422	9 949	10 267	13 162	13 172	13 880	17 891	15 017	96,6
South Korea	11 222	8 905	8 328	8 127	7 747	7 875	7 181	11 025	10 767	10 439	11 002	12 530	16 292	16 922	50,8
Japan	13 724	13 035	12 045	10 376	9 956	10 032	10 215	10 439	10 894	11 081	9 740	11 086	12 228	12 132	–11,6
Thailand	4 092	3 514	3 610	3 861	4 461	4 894	5 454	6 389	6 906	6 500	6 123	7 821	9 558	9 693	136,9
India	2 295	2 203	1 871	1 655	1 515	1 537	1 642	1 898	2 054	2 499	2 562	3 185	7 319	8 063	251,4
Singapore	6 839	7 517	7 786	7 979	6 810	6 984	6 194	6 359	6 906	7 153	5 445	5 773	7 033	7 824	14,4
Israel	...	...	...	1 536	1 737	2 079	1 944	2 074	2 124	2 139	2 025	4 351	7 022	6 463	320,9
Canada	3 248	3 509	3 406	3 309	3 197	3 724	4 719	4 179	4 430	4 791	4 337	4 905	6 689	6 840	110,6
Mexico	2 496	2 805	2 992	3 044	2 786	3 536	4 008	4 134	4 420	5 117	5 037	5 066	6 153	6 610	164,8
Other	20 873	19 720	19 291	17 236	18 198	21 332	18 001	18 945	23 391	23 205	19 504	23 243	26 436	26 063	24,9
All Countries Extra-EU	244 359	248 014	252 451	243 173	249 097	294 123	301 128	331 752	347 762	364 497	346 615	393 609	482 411	477 530	95,4

Table 2

EU-27 trade balance in high-tech products for top 20 partners, 2019-2023

(EUR million)

2019	2020	2021	2022	2023					
Country	**Balance**	**Country**	**Balance**	**Country**	**Balance**	**Country**	**Balance**	**Country**	**Balance**
UK	15 611	USA	23 666	USA	23 423	USA	26 670	UK	23 621
USA	12 508	UK	10 580	UK	20 330	UK	21 966	USA	20 250
Russia	10 666	Russia	10 516	Russia	11 906	Türkiye	10 719	Türkiye	11 656
Turkey	7 680	Turkey	7 479	Turkey	8 158	Japan	6 770	Brazil	7 104
India	6 520	UAE.	5 454	UAE.	6 156	Brazil	6 264	Saudi Arabia	7 087
UAE	6 030	India	4 817	India	5 691	Russia	5 925	India	5 205
Brazil	5 086	Norway	4 517	Norway	5 636	Norway	5 363	Hong Kong	5 107
Norway	4 681	Brazil	4 224	Japan	4 466	Hong Kong	4 408	Norway	4 854
Canada	3 349	Canada	3 447	Canada	2 785	India	3 020	Canada	3 311
Hong Kong	2 213	Hong Kong	1 742	Hong Kong	2 320	Singapore	1 969	Japan	2 943
Japan	1 709	Singapore	1 564	Singapore	1 912	Canada	1 828	Singapore	1 452
Singapore	1 640	Japan	825	Israel	327	Mexico	1 460	Mexico	1 433
Mexico	563	Mexico	–509	Mexico	14	Israel	–1 054	Israel	–1 270
Switzerland	–877	Switzerland	–701	Thailand	–5 065	Switzerland	–2 153	Switzerland	–3 131
South Korea	–3 231	Thailand	–4 018	South Korea	–5 071	Thailand	–6 254	Thailand	–6 479
Thailand	–3 507	South Korea	–4 903	Switzerland	–5 744	South Korea	–7 114	South Korea	–6 948
Taiwan	–7 250	Taiwan	–7 588	Malaysia	–9 952	Malaysia	–12 436	Malaysia	–9 234
Malaysia	–8 495	Malaysia	–9 544	Taiwan	–10 801	Taiwan	–14 967	Vietnam	–15 919
Vietnam	–10 994	Vietnam	–12 839	Vietnam	–12 015	Vietnam	–15 124	Taiwan	–21 100
China	–73 118	China	–83 502	China	–100 397	China	–129 645	China	–105 548

Table 3

EU-27 imports of high-tech products by group, 2019, 2021, 2023

(EUR million)

High-tech products	China			Taiwan			Vietnam		
	2019	2021	2023	2019	2021	2023	2019	2021	2023
Electronics & telecommunications	63 013,9	75 367,4	89 228,1	3 644,7	10 948,4	16 489,4	110,2	12 102,0	14 053,8
Scientific instruments	4 898,1	6 644,4	10 144,0	3 112,5	468,1	1 078,4	121,3	178,7	1 490,2
Pharmacy	1 536,0	6 279,9	2 372,7	709,8	38,6	33,8	21,4	1,7	3,5
Aerospace	1 653,1	893,8	1 499,9	489,6	190,8	221,6	289,0	6,5	45,1
Non-electrical machinery	1 110,1	1 027,0	1 352,7	1 064,9	173,0	224,9	186,5	12,2	19,8
Computers and office machines	40 177,4	52 161,4	42 752,0	802,6	4 074,1	9 917,6	21,1	1 889,2	2 787,2
Chemistry	1 073,7	909,5	1 271,0	178,2	49,8	78,6	194,1	148,2	347,5
Electrical machinery	4 284,1	4 916,3	5 947,1	1 016,2	394,9	358,8	17,6	212,1	490,5
Armament	48,7	71,8	87,9	26,0	59,2	46,4	44,4	1,7	0,5
Total high-tech	117 795,2	148 271,6	154 655,3	11 044,4	16 396,9	28 449,4	1 005,5	14 552,3	19 238,0

maintains a long-standing commitment to prioritizing technological development in industries. To enhance their potential and competitive advantages, mechanisms of industrial, scientific-technological, and innovation policy are primarily employed. However, the financial crisis of 2008-2009 and the subsequent outbreak of COVID-19 in 2020 revealed vulnerabilities in European industry, demonstrating real threats to the stability of supply chains for strategic goods—mostly intermediate goods essential for uninterrupted industrial operations. These crisis phenomena prompted EU leadership to adopt new strategic documents that justified the need to expand the product lines of existing companies in EU member states, as well as to establish new production facilities and relocate some manufacturing from Asian countries.

In the work [23], the authors focused on the barriers to the innovative development of the industries and the establishment of high-tech manufacturing in Ukraine. Among the issues highlighted were the lack of clear policy and comprehensive implementation of the national innovation strategy, as well as the administration of processes related to scientific, technological, and innovative activities of the industries. It was also noted that there is no monitoring of the implementation of state priorities regarding innovation in the national statistical observation. Specifically, Form No. 2-innovation (conducted once every two years) titled “Survey of Innovative Activities of Enterprises for the Period 2022–2024” (approved by the State Statistics Order on April 18, 2024, No. 123) does not contain any questions like “Has your enterprise developed or implemented innovative products (goods, services) or innovative processes in line with the strategic priority directions of innovative activity in Ukraine?” According to the Law of Ukraine on “Priority Directions of Innovative Activity in Ukraine”, eight priorities have been identified: technological renewal and development in the fields of national security and defense; adoption of new technologies for the high-tech development of the transport system, rocket and space industry, aviation and shipbuilding, armaments, and military equipment; technological renewal and development of the agro-industrial complex; and the implementation of new technologies and equipment for quality medical services, treatment, pharmaceuticals, etc. The aforementioned issues and other weaknesses and barriers to development demand changes in Ukraine’s innovation ecosystem, particularly focusing it on national interests.

The new strategic documents EU [14], which prioritize reducing strategic external dependency on imports and implementing measures to enhance their effectiveness, should serve as benchmarks for developing policies for the growth of high-tech industries in Ukraine amid wartime conditions and post-war economic recovery, as well as the establishment of statistical monitoring of their results. These issues should become areas for further research.

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Високотехнологічна промисловість у ЄС: політика, економіка, статистика

Аналіз правової бази ЄС, що врегульовує промисловий сектор Співтовариства, зокрема високотехнологічне виробництво, показує, що Європейська комісія дотримується багаторічної позиції щодо пріоритетності технологічного розвитку індустрій. Для підвищення потенціалу та конкурентних переваг галузей насамперед використовуються механізми промислової, науково-технічної та інноваційної політик. Водночас результати авторського дослідження показують дедалі зростаючий торговий дефіцит ЄС у торгівлі високотехнологічними товарами. Метою цієї статті є поглиблення розуміння засад політики та економічних рішень щодо високотехнологічної діяльності, а також статистичне оцінювання масштабів виробництва та міжнародної торгівлі високотехнологічними товарами в ЄС у період 2008–2023 рр.

Економіко-статистичний аналіз показав, що з початку 2000-х років ЄС збільшив торговельний дефіцит за високотехнологічними товарами з Китаєм. У 2009 р. негативне сальдо становило 43,1 млрд євро й у подальшому збільшилося до 73,1 млрд євро до 2019 року. У 2022 році дефіцит торгівлі з Китаєм за цією категорією товарів досяг історичного максимуму – 129,6 млрд євро; цей показник дещо скоротився до кінця 2023 року і склав 105,5 млрд євро. Такі країни, як Таїланд, Південна Корея, Малайзія, Тайвань і В’єтнам суттєво збільшили експорт високотехнологічних товарів до ЄС з 2019 року, що й обумовило зростання негативного сальдо.

У 2019 р. (до початку пандемії та пов’язаних із нею кризових явищ) імпорт із азійських країн високотехнологічних товарів у групах “Електроніка і телекомунікації” і “Комп’ютери та офісна техніка” зростав найвищими темпами. Закрома, за першою групою імпорт із Китаю збільшився за період 2019–2023 рр. з 63 013,9 млн євро до 89 228,1 млн євро; імпорт із Тайваню – відповідно з 3 644,7 млн євро до 16 489,4 млн євро; імпорт із В’єтнаму – зі 110,2 млн євро до 14 053,8 млн євро. За цей самий період у категорії “Комп’ютери та офісна техніка” імпорт із Китаю збільшився з 40 177,4 млн євро до 42 752,0 млн євро, із Тайваню – з 802,6 млн євро до 9 917,6 млн євро; із В’єтнаму – з 21,1 млн євро до 2 787,2 млн євро.

Зазначені тенденції зумовили зростання торгового дефіциту ЄС за високотехнологічними товарами, зокрема з азійських країн.

У роботі показано, що керівництво ЄС останніми роками ухвалило низку нових політичних документів, де вказується на такі пріоритетні завдання, як зниження стратегічної зовнішньої залежності від імпорту й запровадження заходів щодо підвищення ефективності індустрії. Зміни у нормативно-правовому забезпеченні технологічного розвитку промисловості ЄС, а також актуалізовані пріоритети для країн-членів мають стати орієнтирами для реформування політики та запровадження заходів розвитку високотехнологічних галузей в Україні як в умовах воєнного часу, так і під час повоєнного відновлення економіки.

Ключові слова: *ЄС, промислова політика, міжнародна торгівля, високотехнологічна продукція, високотехнологічні індустрії, експорт, імпорт, торговельний баланс*.

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