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EASY BUSINESS

BETTER MARKET CONNECTIVITY OF UKRAINE TO THE EU

Identification of the most promising sectors, subsectors, product and service categories, and EU markets

Contents

1. Introduction

"Better market connectivity of Ukraine to the EU" aimed at enhancing Ukrainian business export capabilities by facilitating market connections between Ukrainian industry associations, business networks, and their counterparts along the value chain in the EU.

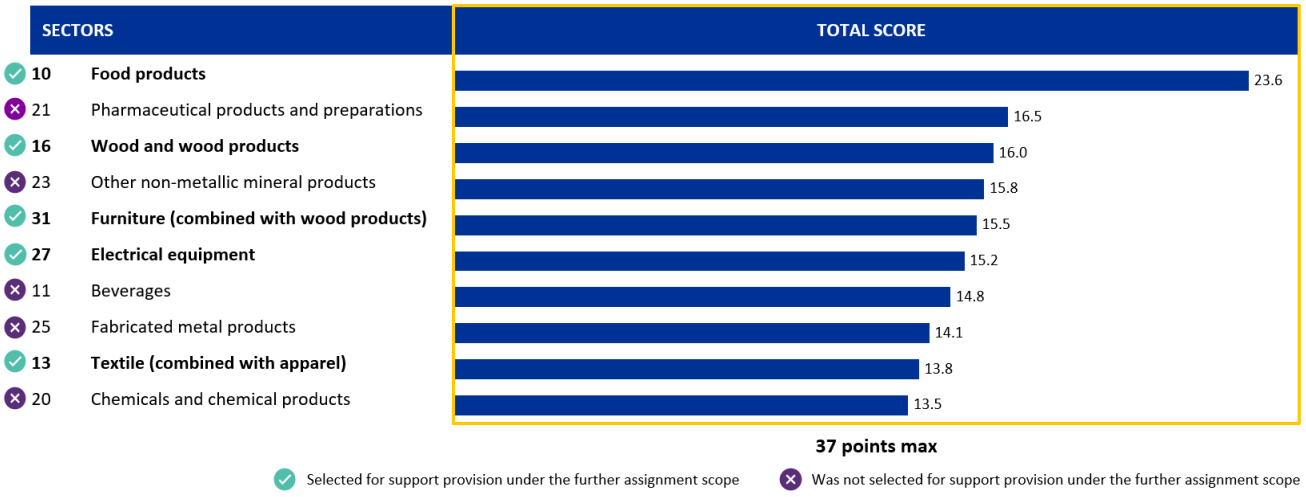
The ultimate objectives of the assignment included formalised European-Ukrainian network partnerships to facilitate EU market access and prepare for compliance with accession requirements, and new business partnerships and export connections established between EU and Ukraine on enterprise level.

To achieve the objectives, capacity building was performed for the selected industry associations and business networks from Ukraine to promote Ukrainian goods and services in the EU market and to improve the assistance provided to SMEs (incl. identifying capacity building needs, creating and implementing capacity building plans, and jointly developing roadmaps for internationalisation) as well as dialogue facilitation for the establishment of partner relations, networking, and matchmaking between Ukrainian and European industry associations and between SMEs in the priority industries, resulting in new trade partnerships.

However, in order to select the respective participants for the capacity building and dialogue facilitation, a foundational analysis on the industries' landscape in Ukraine was crucial. Hence, the initial phase of "Better market connectivity of Ukraine to the EU" implied the identification of the most promising Ukrainian sectors, sub-sectors, and product/service categories as well as respective EU markets for their export. Results obtained at this stage then served as the foundation for the subsequent activities related to export capacity-building programs for BSOs, networking, matchmaking and establishing partner relations between Ukrainian and European industry associations and businesses.

Particularly this report is dedicated to disseminating the results of the identification of the most promising Ukrainian sectors, sub-sectors, product and service categories as well as respective EU markets for them, and represents a short extract of the key insights, therefore, contains only the most important outputs.

The sector selection results imply 5 sectors identified as most promising and recommended for the further support provision: food products, wood products and furniture, electrical equipment, textiles and apparel, and ICT. The following figure represents the top-10 product sectors identified as a result of quantitative and qualitative analyses:



It is also worth noting that given the specifics of the assignment, there are several research constraints affecting the choice and analysis of sectors, sub-sectors, and products. More details on the methodological limitations could be found in the respective Methodology section of this report.

2. Methodology

The technical approach implied the sequential selection within several domains, encompassing (1) sectors, (2) sub-sectors within selected sectors, (3) product and service categories within selected sub-sectors, and (4) EU markets for the selected product categories. For each of them, a combination of quantitative and qualitative analyses was performed to form the respective shortlists.

2.1. Approach to definitions and classifications alignment

Under the scope of the analysis, the product sectors are treated as divisions of NACE (corresponding to Ukrainian *'КВЕД'*) classification; product sub-sectors - as particular NACE groups; and product categories as headings (4-digit codes) of the HS classification. Given the structural and methodological difference in NACE and HS classifications[1], matching between NACE sectors / sub-sectors and respective HS product categories was performed to enable correspondence and proceed with further data collection and analysis across different statistical units and dimensions, which is necessary given the staged process of transition from sector to sub-sector and further to product level.

Given the specifics of service sectors, the approach to their definition differs slightly from the one for product sectors. Within this research, service sectors are treated as sections of the NACE ('КВЕД') classification, and service sub-sectors as particular NACE divisions. However, this classification enables only accounting of indicators mostly related to domestic activity. Thus, to proceed with further analysis of export capabilities, matching service sectors / sub-sectors across NACE (*'КВЕД'*) classification with the Classification of External Economic Services (CEES) was conducted.

Defining study domains (i.e. sectors, sub-sectors, etc.) and matching product and sector categories with respective sectors and sub-sectors represent the first two out of three preparatory steps to the selection process. While the third preparatory step also allows to refine the selection approach, it is already concerned with narrowing down the list of sectors for the further selection based on key factors and is described in the following section.

2.2. Product and service sector selection

The methodology behind the sector selection was designed to gradually and systematically narrow down all sectors of the Ukrainian economy to the most promising ones. The process was slightly different for the product and service sectors due to the distinct sectors' essence as well as data availability considerations.

The actual selection process began with a third preparatory step to allow a better alignment with the project goals[2], immediately discard obviously irrelevant sectors given the reasonable requirements for the further support provision, and harmonize the technical and methodological details. For this purpose, "Filter 0" was applied to eliminate product sectors based on the criteria of export sufficiency, SME dominance, and higher value-added position. In other words, sectors that scored below the benchmark value in at least one of three indicators (i.e. export value, share of SMEs in the sector`s turnover, and prevalence of raw products exported mostly associated with lower value-added generation) were not subject to further consideration. Apart from that, sectors associated with the production of alcoholic beverages, tobacco products, military equipment and vehicles, dual use goods were also eliminated from the analysis. As a result of this stage, out of 29 product sectors initially mapped, 10 sectors were excluded.

Similar to product sectors, "Filter 0" adjusted for other criteria was applied to service sectors from the same considerations. The set of benchmark indicators included the dominance of private sector activity, sufficient exports, and significant SME presence. Beyond this, service sectors related to defense activities were eliminated from the analysis at this stage. Consequently, out of 18 service sectors initially identified, 16 sectors were excluded.

The remaining after "Filter 0" application 19 product and 2 service sectors sectors were subject to quantitative and qualitative analysis.

In particular, for the product sectors, the quantitative analysis was based on 25 indicators in four focus areas (i.e. income generation, growth potential, job creation, and export performance). Each absolute indicator was min-max normalised into a 0-1 scale, followed by calculating sectors' scores and ranking them from highest to lowest. The identified top-10 most promising sectors underwent further evaluation using qualitative analysis that was quantified to be integrated into the final scoring methodology. The qualitative approach implied an assessment across the value chain (sustainability and availability of domestic input supply, resilience of production and ability to organize sales) and enabling environment (policy framework, support programs existence and workforce availability). The above-mentioned quantitative and qualitative

[1] One is designed mostly to capture sectors` potential for growth, job creation, and income generation, while another is aimed at accounting export capabilities of product categories

[2] e.g. focus on the SMEs support, emphasis on export-oriented industries with high potential for value-added generation, ineligibility of certain sectors associated with risks to health or designed for civilian use that in the wrong hands could be used to suppress human rights or launch military/terrorist attacks, industries strategically important for Ukrainian internal consumption and defense capability under martial law

analyses represent a "top-down" approach to the sector selection since it mainly reflects Ukraine's side considerations and capabilities.

The final step of sector selection implied incorporating the EU demand considerations - a "bottom up" approach, which were reflected in a set of 4 quantitative indicators (e.g. EU demand, markets' growth and projections) integrated into the final selection stage. Based on the combined quantitative and qualitative assessments ("top-down" and "bottom up" approaches) described above, the final ranking of top 10 product sectors was obtained and the final recommendations on the priority product sectors were made.

Service sectors were analysed in a slightly different way, separately from product ones, due to the different nature of sectors (e.g. particular indicators and qualitative analysis are not applicable). For the service sectors, the quantitative analysis was based on 23 indicators across 5 focus areas (e.g. income generation, potential for growth, jobs creation, EU demand, export) was performed to rank the rest of sectors. The scoring process was similar to the quantitative analysis of the product sectors (in terms of indicators normalisation and final scores calculation). The final decision on the most competitive and suitable sector for support provision was made based on the qualitative analysis, which was focused on the investigation of the service sectors' internationalisation potential.

Box 1. *Limitations of the selection methodology*

Please note that the assignment specifics significantly shaped the approach to the sectors, sub-sectors, and products selection process, meaning that results obtained correlate with the assignment objectives and should be interpreted accordingly. In practice, incompliance with the particular criteria were reasonable enough to exclude the sector/sub-sector/product from further consideration, as they will be simply irrelevant for the support provision under the scope of the "Better market connectivity of Ukraine to the EU":

- **Strong focus on SMEs |** Under the scope, the networking support was aimed at SMEs with near-term growth potential. Consequently, the solid presence of SMEs (e.g. business entities' number or sector`s turnover) indicates a significant variety in terms of potential candidates for further support provision. Vice versa, sectors dominated and monopolized by large players, although being potentially competitive, are relegated to a lower priority.

- **Ineligibility of certain sectors |** Sectors associated with risks to health or designed for civilian use that in the wrong hands could be used to suppress human rights or launch military/terrorist attacks, industries strategically important for Ukrainian internal consumption and defense capability under martial law were not subject to analysis given the project`s policy considerations. For this reason, alcoholic beverages, tobacco products, military vehicles and equipment, weapons as well as dual-use products were excluded from the selection process where possible.

- **Priority focus areas |** The assignment emphasized four groups of factors as criteria leading the identification of priority sectors / sub-sectors: export, income and value added generation, growth potential, and job creation. Given this, sets of specific indicators and benchmarks within quantitative and qualitative analysis were calibrated accordingly.

- **Presence of active associations |** Facilitating market connections between Ukrainian industry associations and business networks and their counterparts along the value chain in the EU is declared as the assignment's primary objective. Consequently, the existence of active associations dedicated to particular industries, with established sophisticated links between industry representatives, makes the sector / sub-sector perfectly suitable for further support in building connections with foreign stakeholders.

- **Value chain position |** Given the prioritised focus areas (e.g. income and value added generation), the sectors' output value chain position was taken into account to concentrate on sectors that generate greater value added. As a result, Ukrainian sectors, whose actual export baskets are dominated by low value-added products (i.e. associated with raw materials or primary processing) are excluded from the further analysis.

- **Energy intensity |** Given the periodic deficit of energy supply due to attacks on Ukraine`s infrastructure, electricity consumption was taken into account as a proxy factor indicating the sector`s potential resilience and ability to function during outages. Apart from this, green transition increasingly affects the EU trade and industry regulation as well as consumer market preferences. Since sustainable and efficient energy use in industry matters for EU counterparts, energy consumption per enterprise was also taken into consideration.

- **Lengthy compliance procedures |** Under the assignment scope, the support provision to associations and businesses is limited in time, which particularly influenced the final recommendations on 4(+2) most feasible sectors. In practice, sectors associated with complicated export procedures and lengthy process of entering the foreign markets were classified as less promising for further support provision. Example - pharmaceutical

products and preparations. Although showing decent performance in terms of income generation and growth potential, the sector-specific procedures related to the EU non-tariff requirements compliance (GMP certification, etc.) are lengthy and complicated.

2.3. Product and service sub-sector selection

Based on the sectors selection results, the analysis dived further into the identification of the most promising sub-sectors within each of the top sectors identified (e.g. sub-sectors are compared against each other within a particular sector). While the quantitative scoring was performed based on the same set of indicators used for sector selection, the qualitative analysis had a more significant impact on the sub-sectors selection.

Qualitative analysis embraced such factors as the presence of SMEs, complexity of specific EU compliance requirements, import dependence, the presence of dedicated associations, and other factors that might hinder the exporting capabilities of sub-sectors. Methodological approaches towards scoring and selection of both product and service sub-sectors are to large extent similar, except for a few specific quantitative indicators.

2.4. Product and service categories selection

The analysis went further and identified two most promising product categories within each of the abovementioned product sub-sectors selected. Given the abundant total number of product groups, the analysis incorporated only quantitative scoring comprising the EU demand (4 indicators) and Ukraine's capabilities (5 indicators) indicators. The product categories (representing 4-digit HS codes) were compared against each other according to the developed methodology within each respective product sub-sector selected during the previous stage. As for the service categories, the selection process was based on the analysis of the Ukrainian IT industry.

2.5. EU markets selection

In order to provide connections between the identified most promising product categories and particular EU markets, where such products are in demand and Ukraine has potential, the additional market identification analysis was conducted for each of the selected product categories. The analysis was based on a set of qualitative and qualitative factors - EU demand, Ukraine's capabilities, informal market barriers and competitiveness (4 indicators for each category and 12 indicators in total), and quantified qualitative considerations such as openness to business, Ukrainian diaspora, English proficiency, logistics performance, etc. (9 indicators in total).

3. Overview of the selection results

The following sections outline the results of the identification of the most promising sectors, sub-sectors, product and service categories as well as their respective EU markets. The results and analysis provided represent the high-level evaluation of the output obtained as a result of the comprehensive multi-step methodology outlined in the previous section.

3.1. Overview of the most promising product and service sectors

Based on the initial sector filtering (referred to as "Filter 0" within the Methodology section), out of 29 product sectors, 19 remained for the quantitative and qualitative assessment. After the quantitative analysis revealed the remaining product sectors' rankings, the qualitative assessment as well as EU demand considerations were applied to the top-10 sectors in order to rank them among each other and select the most promising ones. The results of the product sector selection are outlined in the figure below.

Figure 1. *Results of the product sectors selection*

SECTORS	TOTAL SCORE	INCOME GENERATION	GROWTH	JOB CREATION	EXPORT	QUALITATIVE ANALYSIS	EU DEMAND ANALYSIS
10 Food products	23.6	4.3	3.7	4.2	4.7	4.5	2.2
21 Pharmaceutical products and preparations	16.5	4.1	3.9	1.6	1.3	4.5	1.1
16 Wood and wood products	16.0	2.0	2.1	2.5	2.6	5.5	1.4
23 Other non-metallic mineral products	15.8	3.4	2.3	1.8	1.7	3.5	3.0
31 Furniture (combined with wood products)	15.5	2.4	2.8	2.1	2.5	5.0	0.8
27 Electrical equipment	15.2	2.3	3.1	0.9	2.6	3.5	2.9
11 Beverages	14.8	1.4	4.8	1.7	1.9	4.0	0.9
25 Fabricated metal products	14.1	3.1	2.9	2.3	1.9	2.5	1.4
13 Textile (combined with apparel)	13.8	2.4	3.0	1.5	2.0	4.0	0.9
20 Chemicals and chemical products	13.5	2.9	2.5	1.5	2.4	1.5	2.6
	37 points max	**7 points max**	**6 points max**	**5 points max**	**7 points max**	**8 points max**	**4 points max**

Selected for support provision under the further assignment scope | Was not selected for support provision under the further assignment scope

The above-mentioned top-10 product sectors are ranked according to the applied scoring methodology, based on quantitative and qualitative assessment. However, the top product sectors that were selected for the further support provision slightly differ from those first top sectors provided in the figure above. Considering the specifics of the assignment, additional considerations (outlined in methodology limitations in the previous section) were taken into account when selecting the most promising product sectors suitable for the further support provision. As a result, 4(+2) sectors were selected to progress further - two sectors were also combined (i.e. furniture, apparel were united with wood products and textiles respectively, hence the "+2" sectors selected) with other sectors, given the close value chain relationship and shared associations.

The following information outlines the key findings, insights, and additional considerations derived from the detailed analysis across each of the top sectors outlined in Figure 1. Product sectors recommended for further selection and support provision are highlighted in green:

1. **Food products** emerged as the top-ranked sector across most of the focus areas, particularly in terms of job creation and export potential. After the full-scale invasion, Ukrainian businesses successfully reoriented their sales toward the EU market, with exports growing at 12% per year from 2017 to 2021 and maintaining growth at 19% in 2021-23. As of 2023, around half out of USD 10 bn in exported value was directed to the EU, leaving room for further intensification of the trade ties - Ukrainian untapped export potential to the European countries amounts to ~USD 1.8 bn. The food industry is a major contributor to the Ukrainian economy, bringing in 3% of the total value added (prior to war), 2% of the total turnover, and 3% of total employment. Additionally, the EU represents an enormous consumer market for food products, valued around EUR 983 bn in 2022 (largest compared to other industries), although the growth prospects here are limited, according to projections.

   The sector is dominated by SMEs that present a significant variety in terms of potential candidates for further support provision. Moreover, there are various associations dedicated to particular sub-sectors and product categories that make it suitable for building connections with foreign stakeholders. There are no substantial geographic disparities present since production gravitates towards the end consumers as well as to available resources. In terms of disadvantages, the sector consumes considerable amounts of energy resources. Yet, the sector is 3rd in terms of energy consumption per enterprise compared to other top product sectors. There are authorisation requirements for products of animal origin at both country and company levels. However, there are

many successful cases of authorised exporters from various sub-sectors. Finally, Ukraine actively harmonises its regulations in line with EU ones and food safety requirements at the country level are strict, leaving little room for 'bad' sourcing practices.

2. **Pharmaceutical products and preparations** ranked second, demonstrating strong performance in income generation and growth, contributing 0.4% to Ukraine`s total turnover. The sector has high technological capabilities and potential for high value-added products, as it ranks first among all sectors in product complexity and labor productivity. At the same time, the sector scores relatively low in EU demand and most of the export parameters. Despite the significant increase in trade with the EU after full-scale invasion (62% CAGR during 2021-2023), 77% of total export is still directed to the third countries, placing the sector at the bottom of the ranking in terms of export to the EU.

   Additionally, the sector is characterized by high energy consumption – 2nd across all top-10 sectors with respect to energy consumption per enterprise. There seems to be no active dedicated association of pharmaceutical products manufacturers. For instance, the Association 'Medicine Producers' was last mentioned back in 2018. However, there are some niche associations such as the Association of Producers of Innovative Medicines. In terms of the major concerns related to the potential support provision, the first major concern is the low number of producers under 'production of basic pharmaceutical products' (NACE 21.1) sub-sector (production of medically active substances, the pharmacological properties of which are used for the production of medicines) – only 26 legal entities present, out of which 15 are micro-enterprises. On the other hand, the second sub-sector (there are only two sub-sectors within the sector) – 'production of pharmaceutical preparations and materials' (NACE 21.2, focus on production of medicines) presents difficulties with GMP (Good Manufacture Practice) certification. The recognition of GMP certificates is necessary for the development of the pharmaceutical industry and exports to the European market. This can be done by extending the ACAA agreement between Ukraine and the EU to the pharmaceutical sector, which Ukraine has not accomplished yet. To access the EU market, Ukrainian pharmaceutical companies must undergo two GMP inspections—first in Ukraine and then at the EU member state level. This requirement greatly complicates the sale of Ukrainian drugs in European countries and leads to a significant increase in drug prices, making Ukrainian pharmaceutical products uncompetitive in the EU market. In addition, obtaining such certifications is a lengthy and costly process that makes only larger manufacturers capable of complying with EU requirements.

3. **Wood and wood products** showed strong export performance and job creation potential. The sector ranks first in terms of Revealed Comparative Advantage, indicating Ukraine`s competitiveness as a global supplier, with timber products twice as compatible as Ukraine`s food products. The wood industry scores relatively high in exports to the EU (~USD 0.7 bn) and to the world (~USD 0.8 bn).

   In terms of other key considerations, the sector is SME-sophisticated, while enterprises are typically located closer to resource-supplying regions – western and central. Wood producers have strong representation by a dedicated association that makes the sector perfectly suitable for building connections with foreign stakeholders. The industry`s energy consumption is one of the lowest across other sectors – 7th position with respect to consumption per enterprise. In terms of the main concerns, 'bad' sourcing practices were widespread before 2021. Since that time, the situation has significantly improved after the introduction of forestry management and procurement reforms. The forestry sector is dominated by state-owned and municipal entities that have licenses for timber logging and selling it to wood processors. Before reforms various 'schemes' involving bribery, illegal logging, and procurement were an issue, mainly due to the possibility of signing direct contracts. However, reforms that took place involved major changes : (1) SOE 'Forests of Ukraine' (uniting all forestry entities) was created that improved overall state-owned forestry management; (2) e-auctions were introduced as the only way for timber procurement, direct contracts practice was eliminated; (3) enlargement of forestry entities took place – out of around 350 directors only 150 were left; (4) introduction of smart tracking for procured timber – photos of timber are made to make sure it is the exact timber that was logged and also Forestry Service of Ukraine already introduced a GPS tracking tool as a pilot project aiming to scale the technology up. Hence, the reform had a significant positive effect with respect to the 'good' procurement practices. Some minor risks could persist since the reforms are recent, however, as a mitigation strategy, the support provision could only be provided to those companies that comply with legal procurement practices – procurement of timber through e-auctions only could be treated as one of the criteria for companies selection.

   Due to the close relationship with the furniture sector across the value chain, the sectors were combined for the purpose of further support provision.

4. **Other non-metallic mineral products**, which include such products as glass, cement, ceramics and stone products, showed the strongest EU demand, supported by the 9.6% growth of consumption during 2018-2022 and 3-4% growth projections for the next 5 years. However, growth, exports, and job creation parameters are rather low, apart from the 2d largest pre-war figure for the value added share (1.1%) and 4th largest share in total employment (0.9%). The sector is mainly dominated by SMEs.

Also, the sector is 4th in terms of energy consumption per enterprise with cement production accounting for almost a third of the sector's energy consumption. It is worth noting that the EU has recently introduced CBAM measures that are also applicable to cement products. Although experts note that CBAM will have the least effect on cement products, since it accounts for a low portion of CBAM-applicable products exported to the EU, imposition of CBAM on cement products is equivalent to 18% of ad valorem tax, which is the second largest percentage out of all CBAM-applicable exports. Hence, this will most likely have a negative effect on the exporting capabilities and competitiveness of Ukrainian cement producers.

Another concern to be taken into account is that the majority of the sector's products gravitate to the end consumers and local resources. For instance, glass is expensive to transport and so is generally supplied on a local or regional basis. However, increasing competition between companies has led to the glass being transported over further distances with cost as the limiting factor. Also, due to the low value-to-weight ratio of cement, cement is usually supplied within a close geographical proximity to the location of production, typically within a maximum radius of 150 to 250 km. Consequently, cement markets are local and geographically segmented, with competition occurring at a local/regional level. The same applies to lime and clay products. Even where intra-EU cross-border trade takes place, it typically reflects the proximity of production facilities in neighbouring countries, rather than differences in relative (cost) competitiveness of supply at a national (member state) level. This argument is also supported by the evidence provided by trade data. For instance, the top exporters of cement, plaster, asbestos, stone, etc. to the EU are Germany, Poland, China, Spain, USA, Italy, Belgium, France, Netherlands, and Austria – only 2 out of 10 suppliers are non-EU members. A similar situation could be observed in ceramic products exports to the EU – Italy, China, Germany, Spain, Poland, Turkey, USA, Portugal, Czechia, and France are the main exporters (only 3 out of 10 are non-EU members). Other concerns that place the sector below pharmaceutical and fabricated metal products include not that many active dedicated associations – only for cement and lime products the associations seem to be active. Also, Ukraine has underdeveloped production of flat glass, with the largest facility destroyed and occupied (in Lysychansk). Finally, the sector is mainly focused on the production of materials that are typically used in construction. Given the reconstruction needs of Ukraine, the sector is not perfectly suited for exporting.

5. **Furniture (the sector was combined with wood products)** has strong positions in growth and exports. The sector enjoys the 3d largest Revealed Comparative Advantage - Ukrainian products are almost 2.5 times as competitive as the ones from the average global supplier. Prior to the full-scale invasion, the Ukrainian furniture industry experienced the 3d highest EU and 2d highest world export growth rates (21% and 18% p.a during 2017-2021 respectively). Furniture value added also showed a considerable increase of 13% p.a. during 2017-2021. The sector benefits from Ukraine's vast forest resources, covering almost 10 ha of land. There is a strong presence of the dedicated association, making the sector perfectly suitable for building connections with foreign stakeholders. Energy consumption per enterprise is the lowest across other sectors. In addition, the industry is dominated by SMEs (around 7 thousand businesses, including both legal entities and individual entrepreneurs), while business entities are typically located closer to resource-supplying regions – western and central – making them less vulnerable to shelling and changes in the front line.

   Given the close relationship with wood products across the value chain, both sectors were combined for further analysis and support provision.

6. **Electrical equipment** yields high scores across growth, exports, and EU demand parameters. The sector is characterized by high technological capabilities, ranking 3rd in product complexity among all sectors. The industry`s total exported value is close to reaching USD 1 bn (2d best result after food products). Around 82% of the sector`s export is already oriented toward the EU markets, even though the unrealized export potential to the European countries is assessed at ~USD 0.8 bn (2d largest after food products).

   Energy consumption is also moderate – 6th out of the top-10 sectors. There is a dedicated association present – the Ukrainian Association of Electrical Equipment Manufacturers. Although the association does not demonstrate considerable activity, it is a part of a larger Association of Producers of Ukraine. The sector's production facilities gravitate towards central, eastern, western and southern regions. The only concern related to the sector's support provision is related to the dual-use products that often are a part of sub-sectors output. For instance, electrical lightning equipment and household appliances are the only two sub-sectors where the occurrence of 10-digit HS codes recognized as dual-use happens the least. At the same time, such 10-digit HS codes occur more often in such sub-sectors as electric motors, generators, etc., other electrical equipment, batteries and accumulators. Nevertheless, such occurrences do not define whole sub-sectors and typically, there are considerably more product categories that are not treated as dual-use products and, hence, are suitable for support provision. In terms of the potential support provision, concerns related to dual-use products could be mitigated by providing support only for those product categories that are not treated as dual-use. Finally, Ukraine successfully exports a variety of electrical equipment to the EU, including electro-thermic appliances (USD 172 mn), insulated conductors for voltage above 1,000 volts (USD 92 mn), refrigerators/freezers (USD 21 mn),

dishwashing machines (USD 11.4 mn), air/vacuum pumps (USD 46 mn), washing machines (USD 39 mn), carbon electrodes (USD 5.9 mn), and many other products.

7. **Beverages** demonstrated exceptional growth potential (the highest among all sectors, mostly due to the 104% pre-war rise in export value to the EU and 25% - to the world), and, at the same time, poor scores across income generation (lowest place), job creation, and EU demand. The sector's production facilities are mainly located in western (main source for mineral waters) and central regions.

   In terms of the main concerns, the non-alcoholic beverages sector does not seem to have an active association. The Association of Mineral and Drinking Waters was created in 2012, however, the most recent activity of the association dates back to 2015. Hence, this presents an issue considering the need to develop connections with foreign stakeholders. Another concern worth mentioning is the fact that the EU is the least dependent on non-alcoholic beverages (share of extra-EU imports in total imports) compared to other sectors. This could be explained by the fact that, typically, each country has its own local water producers. Bottled water could be considered a low-value-added product. Exporting bottled water abroad increases final consumption prices mainly due to logistics costs. This makes locally produced bottled waters (especially mass market) more competitive in local markets. Hence, the issue of the competitiveness of Ukrainian products could present a significant obstacle to building connections and partner search in the EU markets. Moreover, energy consumption per enterprise is relatively high (5th out of the top-10 sectors) given the lower value-added nature of the products. This could be potentially explained by the need to maintain water pumps since mineral waters are obtained from water wells.

8. **Fabricated metal products** showed balanced performance across all parameters, with particular strength in income generation (accounting for 0.4% in total turnover and 0.8% in total value added) and job creation (3d largest employer in Ukraine, with 0.9% in total employment). Although growth prospects were hindered by the full-scale invasion, the sector appeared to be relatively resilient compared to others (CAGR of -4% in export value during 2021-2023 versus the average of -23% for others experiencing decline). At the same time, the sector scores relatively worse across export and EU demand parameters as well as in qualitative analysis.

   The sector does not consume much energy per enterprise – 9th across top-10 sectors. However, the sector's production facilities gravitate towards Kyiv, Dnipropetrovsk, Kharkiv, Zaporizhzhia, Lviv and Odesa regions, half of which are close to the frontline. Another major concern related to the sector is the fact that the variety of products and sub-sectors is considerable – the sector's products include construction metal structures, metal tanks and reservoirs, steam boilers, weapons and ammunition (excluded from the analysis), cutlery, tools, and other metal products. Due to the high variability, the sector does not have a dedicated association. The only associations related to the sector's activities are niche ones, such as the Prefabricated Buildings Association and the Association of Installers of Engineering Systems. Hence, the foreign connections development could be complicated. Yet, the sector has more than 3,000 manufacturers and is dominated by SMEs.

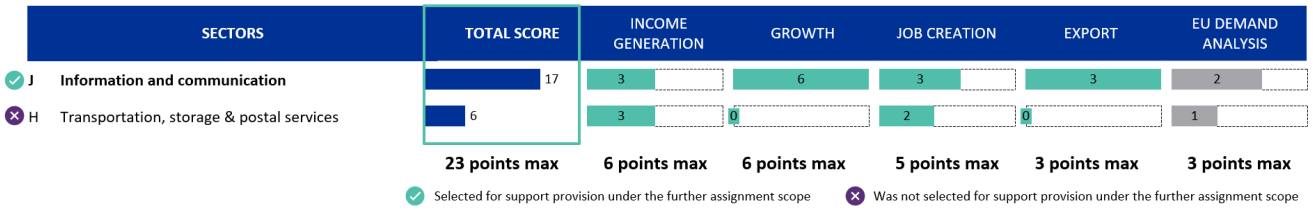
9. **Textiles (the sector was combined with apparel)** demonstrates high growth and has decent scores with respect to qualitative analysis and export parameters. The sector is dominated by SMEs (more than 500 legal entities, plus around 2 thousand of individual entrepreneurs), which represents an abundant variety of enterprises for potential support provision. Moreover, the sector has a strong and active association (UkrLehProm) that is focused on the light industry and dominated by textile manufacturing, which makes the sector perfectly suitable for building connections with foreign stakeholders. The sector also does not consume much energy – ranked 8th out of the top-10 sectors with respect to the consumption per enterprise. Finally, the Ukrainian textile sector is already actively integrated into the EU value chains. The mechanism of inclusion is based on the "Cut, make and trim" principle – many Ukrainian enterprises operate on a tolling basis mainly for European clients.

   Due to the close relationship with the apparel sector across the value chain as well as the shared association for both sectors, they were combined for the purpose of further support provision.

10. **Chemicals and chemical products** showed strength in export potential (which aligns with growing EU demand in this industry) despite the lower scores in other areas (e.g. exports, job creation, and growth parameters). However, the sector is the largest consumer of energy per enterprise (1st of 10 sectors), with basic chemicals, fertilisers, and nitrogen compounds being the most energy-consuming sub-sector. Additionally, it does not appear to be a high-tech industry in Ukrainian realities - the chemicals sector is dominated by fertiliser production, which is not considered a high-tech product. As a result, the product complexity index of the sector is also the lowest across analysed counterparts. Also, Ukraine is a net importer of chemical products, and the sector is also dependent on imported raw materials due to the absence or insufficiency of important raw materials (oil, natural gas, phosphates, viscous cellulose, rubber, etc.). Despite there is a dedicated association present (Ukrainian Chemists Union), the sector is less appropriate for the support provision compared to other promising sectors analysed.

Regarding the service sectors selection, as a result of initial filtering, only 2 sectors remained for the further quantitative and qualitative analyses. The results of the service sector selection are outlined in the figure below.

Figure 2. *Results of the service sectors selection*



The following description outlines the key findings, insights, and additional considerations derived from the detailed analysis (including the potential for internationalization analysis), across each of the top sectors outlined in figure 2. Service sectors recommended for further selection and support provision are highlighted in green:

1. **Information and communication** remains a driver of Ukrainian service exports, forming 5% of the country's GDP and employing over 300,000 specialists. Among all service sectors, IT demonstrates the highest potential for international integration and further growth. The sector is distinguished by high resistance to crisis phenomena and the ability to quickly adapt to market changes.

   According to the quantitative analysis of ICT and transportation, storage & postal services sectors, the ICT sector dominates taking the leading position. The sector is superior across growth, job creation, export, and EU demand parameters. The only parameter where two sectors yield the same score is income generation. The ICT sector has been growing rapidly, including its exporting capabilities, over the last decade – mainly as a result of the IT industry's growth. The sector is dominated by SMEs – both in terms of the total turnover and the number of enterprises. There are various dedicated associations, such as the IT Association of Ukraine, The Association "Telecommunications Chamber of Ukraine", the Ukrainian Association of Publishing Houses, etc. Moreover, there are numerous regional IT associations and clusters present in Ukraine. Hence, the ICT sector is perfectly suitable for building connections with foreign stakeholders. In addition, the ICT sector demonstrates the highest potential for internationalisation, according to the international experience analysis. For instance, the sector has demonstrated the highest growth rate compared to other exported services over the last decade. The sector also demonstrates strong resilience to economic shocks. During the COVID-19 period, the ICT sector was one of the few service sectors that continued its international growth. Other sector's advantages include low barriers to entry, low dependence on physical presence, and high skill transferability across borders.

2. **Transportation, storage, postal services** takes second place after the ICT sector. Although the sector yields lower scores across most of the parameters, the sector demonstrates decent performance in income generation as well as in the job creation. Regarding the latter, the sector employs almost twice as many workers compared to the ICT sector. However, the sector is behind the ICT sector in terms of the number of SMEs and the number of workers growth indicators. Despite the transportation services' global export value being more than 50% higher than the ICT's, the sector demonstrated lower global export growth rates over the last decade compared to the ICT sector.

   During COVID-19, the transportation sector experienced a considerable decline in global export values, although not as significant as travel services. Also, the sector has high job creation potential. However, the environmental concerns and dependence on physical presence are also high. It is also worth noting that the sector is limited with respect to particular sub-sectors. First of all, air transportation is currently prohibited in Ukraine. Secondly, rail transportation is operated only by the state-owned enterprise 'UkrZaliznytsia' (Ukrainian railway). Postal services are dominated by two large companies – private firm 'Nova Post' and state-owned enterprise 'UkrPoshta'. Sea freight transportation also experiences significant difficulties due to the full-scale invasion. This leaves car/truck and inland water transportation means the only suitable industries for potential support provision. Finally, there are some dedicated associations present for car/truck and rail transportation. However, there are no dedicated associations for postal services or inland water transportation.

As was mentioned previously, figures 1-2 represent the "raw" list of top 10 sectors determined by scoring. However, given the assignment specifics, the final list of the top 5 sectors (serving as input for collaboration with associations and subject to further sub-sectors, products and markets analysis), was refined and calibrated accordingly. The recommendations on **the final list of the top-5 sectors** are the following:

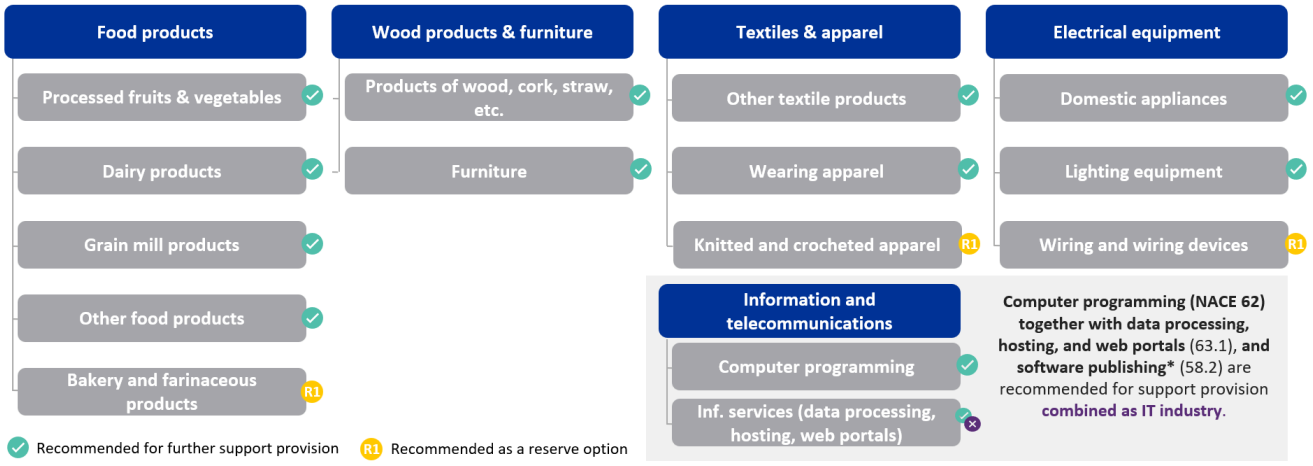
1. Food products
2. Wood, wood products, furniture
3. Electrical equipment
4. Textiles, apparel
5. Information and telecommunications (ICT)

3.2. Overview of the most promising product and service sub-sectors

Based on the selection of the most promising sectors (the final list provided in the end of the previous section), each sector's sub-sectors were analysed qualitatively as well as qualitatively. It is worth noting that particular sectors (e.g. food sector) consist of many sub-sectors, while some sectors (e.g. wood products and furniture) include only a few due to specifics of the NACE classification, according to which the sectors and sub-sectors were defined. However, the selection approach focused on the elimination of less promising for exports to the EU sub-sectors rather than a selection of a predetermined number of sub-sectors to progress further.

As a result of the sub-sectors selection process, 10 product and 1 service sub-sectors were identified as the most promising for exporting to the EU and further support provision under the assignment. The figure below summarizes the sub-sectors selection results.

Figure 3. *Results of product and service sub-sectors selection*



The following information outlines the key findings, insights, and additional considerations derived from the detailed analysis across each of the selected (recommended for further support provision) sub-sectors outlined in figure above:

- **Processing and preserving fruits and vegetables |** The sub-sector possesses the second highest revealed comparative advantage score (2.33) among all food sub-sectors analysed. Also, around 73% of exports are already oriented towards the EU markets. SMEs dominate in the sub-sector with around 70% of SMEs accounting for the total turnover. In addition, manufacturers of processed fruits and vegetables are not required to obtain authorisation in order to export their products to the EU markets. Finally, there are many success stories of exporting processed fruits and vegetables to the EU, including frozen and organic products, demand for which steadily rises.

- **Dairy products |** While exporters must obtain authorization (products of animal origin) in order to export their products to the EU, there are almost twice more authorised exporters (i.e. 59) compared to meat and fish processing producers (another sub-sector analyzed within the food sector). In addition the sub-sectors' products possess high unrealized export potential – 56% of current exports.

- **Grain mill products, starches |** The sub-sector yields strong export, income generation and EU demand positions. Around half of the existing exports account for the EU markets. The sub-sector is well established in the EU market mainly due to flour export – Ukraine was 2nd largest flour exporter to the EU. Producers of this sub-sectors' products also do not require authorisation in order to be able to export to the EU.

- **Other food products |** The sub-sector represents a mix of various miscellaneous products that are not assigned a specific division of NACE classification. Yet, the sub-sector includes various products that could present an interest to the EU consumers. More specifically, the sub-sector includes such niche products such as ready-to-eat frozen foods, food additives, sauces, yeasts, milk and cheese substitutes of vegetable origin, chocolate products, etc.). Despite the fact that the sub-sector is mainly dominated by sugar and chocolate confectionery and the former is banned for exports, the sub-sector could be considered as the promising one, including due to one of the highest exports to the EU and higher than 1 score on the revealed comparative advantage.

- **Products of wood, cork, straw and plaiting materials |** The sub-sector demonstrates strong export to EU growth (10.4% p.a. in 2017-2023 and 21.2% p.a. in 2017-2021) as well as the highest RCA score (6.63 in 2022) within the sector that indicates high potential for conducting foreign economic activities. The recent reforms

improved the situation with corruption, including issuing e-certificates on the origin of timber, which ensures compliance with EUTR, as well as the introduction of e-auctions, and SOE 'Forests of Ukraine'; sub-sector also includes niche products (wood pellets and briquettes) that are of an interest to the EU consumers. There is also an active dedicated association present in Ukraine.

- **Furniture |** The furniture sub-sector possesses significant EU export potential (USD 110 mn). In addition, the sub-sector is a large employer with 46 thousand workers employed within this industry. It is also mostly represented by SMEs. The furniture industry is regarded as a higher value added generation sub-sector, with furniture made of wood (fully or partially) representing the last stage of the value chain related to wood processing.

- **Domestic appliances |** The sub-sector accounted for 15% of the electrical equipment sector's turnover prior to the full-scale invasion in 2021 (3rd compared to other sub-sectors). It is also the only electrical equipment sub-sector with higher than 1 score (1.7) of revealed comparative advantage. The sub-sectors' exports are dominated by technological products: electrothermic appliances (72% of sub-sector's exports), washing machines (11%).

- **Electric lighting equipment |** The sub-sector demonstrated a positive pre-war trend in exports to the EU growth (24% p.a. in 2017-2023) and is mainly dominated by SMEs. In addition, Ukraine actively implements regulations on ecodesign requirements for energy-related products in compliance with Directive 2009/125/EC. The sub-sector has no dual-use products in its product categories, compared to other sub-sectors within the electrical equipment sector. Despite electric lighting equipment exporting capabilities are still developing, the sub-sector showed steady exports to the EU growth during the pre-war period.

- **Manufacture of other textiles |** The sub-sector relates to the manufacture of made-up textile articles, non-wovens and articles made from non-wovens, other technical and industrial textiles. It is an absolute leader in income generation, growth and EU demand parameters compared to other sub-sectors within the textile and apparel sector. The sub-sector is also mainly composed of SMEs with more than 400 of active legal entities and more than 1,700 individual entrepreneurs (as of 2022). The sub-sector has relatively deconcentrated production facilities across Ukraine`s regions. It also includes niche products (e.g. bedlinen, blankets, tarpaulins, tulle, wadding, cordages, carpets, technical textile etc).

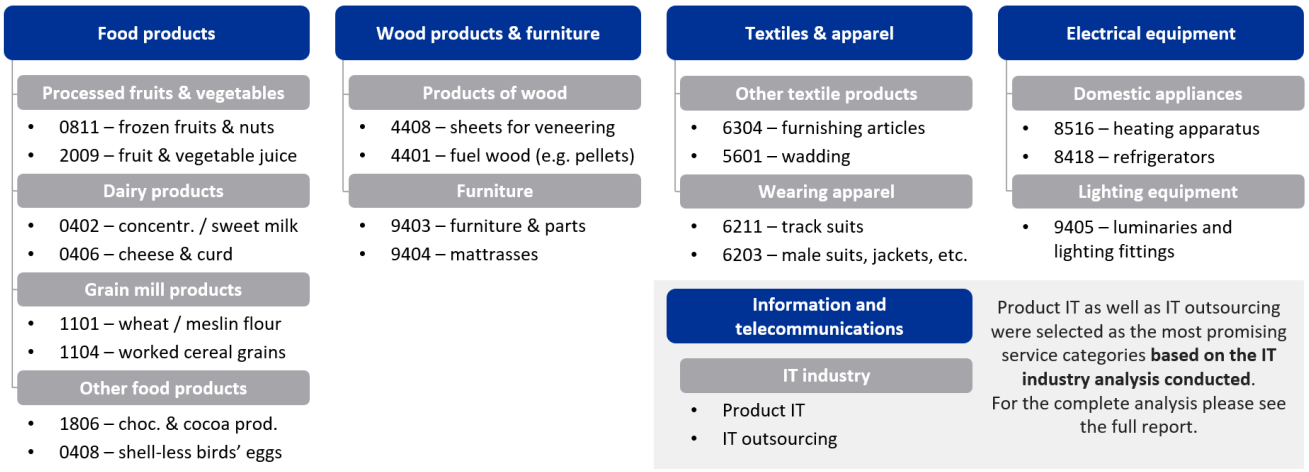
- **Wearing apparel, except fur apparel |** The sub-sector is represented by more than 1,000 of active legal entities and almost 7,000 of individual entrepreneurs as of 2022 (mostly in production of work clothes, production of other outerwear, manufacture of other wearing apparel and accessories) - represented mainly by SMEs. The sub-sector yields high export and jobs creation parameters in quantitative assessment compared to other sub-sectors within the textile and apparel sector. In addition, there are many successful cases of sub-sector's products being exported to the EU (including tolling schemes).

- **Computer technologies |** The sub-sector demonstrates significant export orientation and high and easy exportability. It possesses a high revealed comparative advantage score – 4.9. The sub-sector plays a crucial role in Ukraine's services export to the world and EU (about 30% and 40% of total services export, respectively); within the DCFTA, computer services are among sectors (Annex XVI-B) that are fully subject to liberalization for the cross-border provision of services (Regimes 1 and 2) without sectoral reservations on access to the EU market. Government support provided to the industry as part of the state policy in 'digital economy' development.

3.3. Overview of the most promising product and service categories and respective EU markets

Based on the results obtained from the sub-sectors selection stage, the most promising product and service categories were selected. As a result, 19 product and 2 service categories were identified as the most promising for exports to the EU. The following figure presents all of the product and service categories identified as most promising. It should be noted that, according to the developed methodology, product categories are treated as 4-digit HS codes.

Figure 4. *Results of the product and service categories selection*

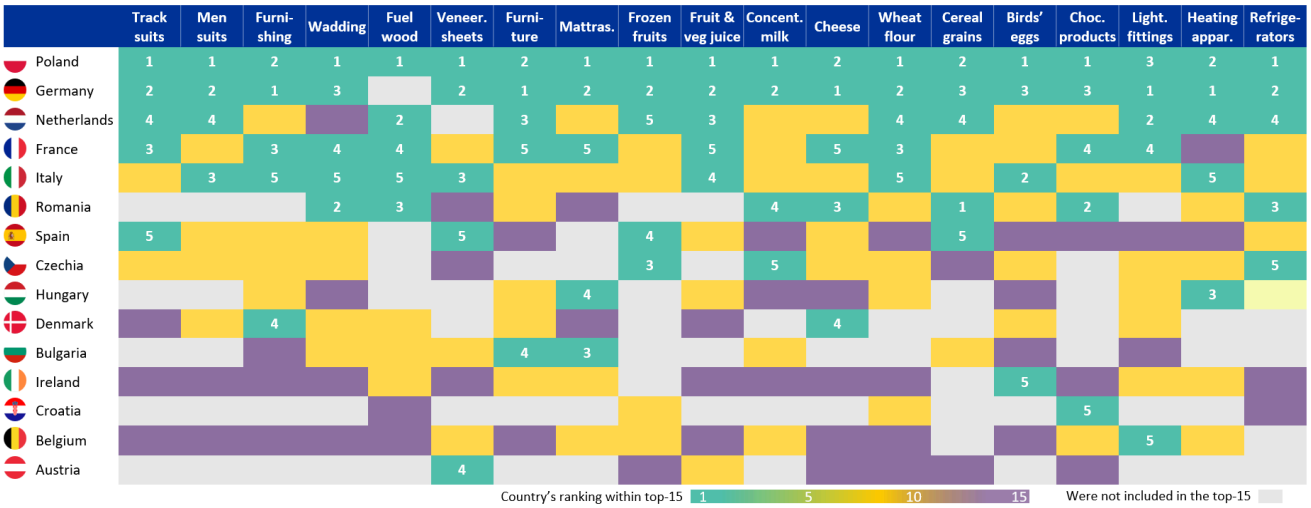


Finally, based on the product and service categories selection results, the most promising EU markets for each category were identified, according to the developed methodology outlined in the respective section of this study.

For instance, Poland, Germany, Netherlands, France, and Italy are the top-5 markets that appear in the highest ranks in terms of the exporting attractiveness for the most promising Ukrainian product categories identified. The results are not surprising as the analysis heavily relies on quantitative indicators, and large markets such as Germany or France would inevitably appear for many product categories

Yet, there could be found particularly interesting markets. For instance, Hungary is ranked 3rd for the heating appliance, Czech Republic - 3rd for the frozen fruits and 5th for refrigerators, Bulgaria - 3rd for mattresses and 4th for furniture, Austria - 4th for wooden veneer sheets, Romania - 4rd for cheese, 2nd for chocolate products and 3rd refrigerators, Croatia - 5th for chocolate products, and Denmark - 4th for furnishing apparel.

Figure 5. *Geographic markets / product categories combination matrix*



Given the limited data availability, the analysis of the most promising markets for service categories was conducted at the sector level (IT industry) - thus, for this stage, the IT industry and categories are perceived as interchangeable (IT products and IT outsourcing account for the majority of the industry's output). Germany, Poland, Lithuania, Estonia and Cyprus yield the highest market entry potential for Ukrainian IT business. Germany and Poland lead as the most feasible options due to their strong demand for IT services, favorable business environments, and Ukraine's already strong capabilities to compete. Lithuania and Estonia stand out as attractive digital hubs with high demand indicators, but both possess internally developed IT expertise as well as enjoy a notable presence of international players, resulting in high competition for Ukrainian firms. Cyprus offers the highest demand, indicating strong potential despite possible business-environment challenges.

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