



REPUBLIC OF KOSOVO

MINISTRY OF INDUSTRY,
ENTREPRENEURSHIP AND TRADE



KOSOVO CHEMICAL PROCESSING VALUE CHAIN STUDY

REPORT

OCTOBER 2023



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DISCLAIMER

This study has been financed by GIZ. This disclaimer informs readers that the views, thoughts, and opinions expressed in this study belong solely to the authors, and do not necessarily represent the viewpoint of GIZ.

The report represents a value chain study, it has been drafted through in-depth interviews with sector SMEs along value chain functions. The viewpoint of the authors has been based on the collected data. The sample may be representative for capturing the dynamics of the market trends and the value chain; however, it might not represent a correct quantitative overview of the sector industry. The authors of the study cannot be accountable for any consequence that can arise from using the information in this report by a third party. There is no claim that the information presented in the report is entirely correct.

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List of Abbreviations

AI	Artificial Intelligence
BiH	Bosnia and Herzegovina
BMO	Business Membership Organizations
CEI	Council of European Investors
CEFTA	Central European Free Trade Agreement
CNC	Computer Numerical Control
ECIKS	Economic Initiative for Kosovo
EA - MLA	European Accreditation Multilateral Agreement
ERP	Enterprise Resource Planning
EU	European Union
GIZ	Gesellschaft für International Zusammenarbeit GIZ (GmbH)
HS	Harmonized Commodity Description and Coding Systems
GAWB	Green Agenda for the Western Balkans
ICMM	Independent Commission for Mines and Minerals
ILAC – MRA	The International Laboratory Accreditation Cooperation Mutual Recognition Arrangement
IPA	Industrial Property Agency
KAD	Kosovo Accreditation Directorate
KBRA	Kosovo Business Registry Agency
KCC	Kosovo Chamber of Commerce
KCGF	Kosovo Credit Guarantee Fund
KIESA	Kosovo Investment and Enterprise Support Agency
KMA	Kosovo Metrology Agency
KMC	Kosovo Manufacturing Club
KSA	Kosovo Standardization Agency
MESPI	Ministry of Environment, Spatial Planning, and Infrastructure
MFLT	Ministry of Finance, Labour and Transfer
MIGA	Multilateral Investment Guarantee Agency
MIET	Ministry of Industry, Entrepreneurship, and Trade
MSME	Micro, Small and Medium Enterprises
NACE	Nomenclature statistique des Activités économiques dans la Communauté Européenne
NCEI	National Council for Economy and Investment
R & D	Research and development
SAA	Stabilisation and Association Agreements
SME	Small and Medium Enterprises
TAK	Tax Administration of Kosovo
VTC	Vocational Training Centres
USAID	United States Agency for International Development

Executive Summary

The present report is one of several cluster mapping reports that take a closer look at selected key sectors in the Republic of Kosovo. The chemical processing sector is still at an embryonic stage but has shown an impressive growth pattern over recent years. Despite the fact the Kosovo only covers small shares of the entire chemical industry, mainly paints and coatings for construction purposes as well as bath and shower and cleaning products for private consumers, this sector shall not be overlooked in the future. Many Kosovar businesses benefited from booming global construction industry and increasing demand for healthy and naturally sourced cosmetic and body care products. And the outlook is quite promising since these industries are supposed to grow further in the near future. Like in other sectors, the Kosovar chemical processing industry benefitted from supply challenges as a result of Covid-19 or the Ukraine crisis by being able to offer sustainable supply for regional and European buyers.

The chemical sector represents a small sector compared to other industrial sectors in Kosovo, but it has nonetheless recorded a significant growth trend in the past years. This growth was mainly driven by export, where during the 2017-2021 period specific products within the sector have recorded high growth rates of export, over 175% for products such as paints and coating and over 1000% for products such as soaps, shampoos or detergents. Countries from the region and Europe appear as main export destinations. Currently, this sector registers over 300 active companies, with over 1,000 employees. Findings from the interviews with sector companies show that the utilization rate of production capacities that varies among existing businesses, averaging around 70%.

Despite the promising findings, the chemical processing sector is still very embryonic. The study identified a set of barriers which might hamper the further development of the sector:

- Weak product competitiveness
- The chemical processing sector is dominated by micro and small enterprises
- Unsecured access to raw material
- The sector is comparable unorganised and has weak linkages to existing support entities
- Limited access to public support and finance
- Lack of up-to-date technical knowledge
- Limited market knowledge
- The lack of certification bodies and laboratories hinders the export potential

Based on the findings of the field work, following recommendations are given, which are further specified in Chapter 8.

Recommendation 1: Support of workforce development

Recommendation 2: Setting up a chemical processing cluster, "Chemistry Cluster Kosovo"

Recommendation 3: Setting up a voucher system to improve the level of digitalisation within MSMEs

Recommendation 4: Streamline the Export Promotion Support Landscape

Recommendation 5: Setting-up and Implementation of an Innovation Fund

Recommendation 6: Reduction of dependency of raw-material from abroad

Recommendation 7: Setting-up an internationally harmonised conformity assessment system

These practical recommendations are foreseen to contribute to sustainable improvement to the competitiveness of the chemical sector in Kosovo, as well as improve the sector resilience from the global supply disturbances.

Introduction

When considering industrial sectors with great growth potential in Kosovo, only a few think of the chemical sector. This is true, on the one hand, because this sector is comparatively small and lacks the typical chemical industry companies. On the other hand, this might overlook subsectors of the chemical industry that already have a certain relevance. It is therefore worth taking an in-depth look at the industrial structure of the chemical sector.

The chemical sector is currently being significantly influenced by two particular events or trends. On the one hand, the Covid-19 pandemic and the current Ukraine crisis resulted in a dedicated trend toward shortening existing value chains. European buyers are becoming more interested in sourcing from West-Balkan than from overseas. Constant supply and good price-quality ratio matters, which is increasingly requested by international buyers. On the other hand, the global trend towards more sustainability is causing a dramatic rethinking in the chemical industry. Particularly because the chemical sector requires considerable amounts of energy and has been responsible for a number of environmental problems worldwide in the past.

The Kosovar chemical industry can benefit from these two current trends. On the one hand, the proximity to important export markets is a significant advantage because Kosovar suppliers can guarantee a secured supply. On the other hand, the local industry can meet the increasing demand for sustainably processed products by using environmentally friendly and naturally sourced raw materials. Especially the fact that the chemical industry in Kosovo is dominated by micro and small companies can be an advantage in terms of flexibility and innovativeness.

Findings in this report are derived from interviews with 47 companies of the chemical sector in Kosovo. These companies represent a sample of manufacturing sector companies based on the overall structure of the industry.

This Value Chain Mapping Report contains important findings intended for the Ministry of Industry, Entrepreneurship and Trade (MIET) and is supported by the Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH with the objective of improving the overall competitiveness of the chemical sector in Kosovo. The chemical processing sector has been overlooked for years but is on its way to moving higher on the political agenda. The further integration of Kosovo's chemical processing industry into global supply chains will offer a great opportunity for growth, innovation and increased competitiveness.

The report presents conclusions that draw the main barriers and constraints along the chemical industry value chain in Kosovo. Finally, a number of recommendations and policy interventions that promise to improve the sector competitiveness are provided in the final part of the report.

1. Methodology

A structured methodology involving primary and secondary research, has been applied for this value chain mapping report. This has enabled the research team to conduct an in-depth analysis of the chemical value chain, assessing the sectors' constraints, dynamics, and trends, as well as to propose specific recommendations for improving the competitiveness of the sector. The detailed methodological approach is described below.

The first activity of the research team consisted of desk research - analysis of relevant reports and studies for the chemical sector in Kosovo, as well as reports on regional and global trends. One of the outcomes of this activity was the preparation and presentation of the value chain map, which depicts actors and stakeholders process how the product channels from primary production to end customer. The value chain map of the chemical sectors presents the actors and stakeholders of the sector and their role. Furthermore, collection and analysis of the official statistics with regard to trade data has been conducted. The research team has collected data from the Kosovo Agency of Statistics (KAS) and Kosovo Customs to estimate the chemical sector size and better understand sector dynamics, domestic demand and growth trends.

A survey with chemical sector companies has been carried out as part of the primary research activity for this study. A representative sample of companies was drafted, based on which 47 sector companies have been interviewed. The survey sample was derived in close cooperation between the research team, MIET and the GIZ. The sample is not comprehensive of the population, however it consists of specific sectors which were assessed as strategic by the MIET and GIZ (Table 1).

Table 1: List of targeted chemical sectors through primary research

Manufacture of paints, varnishes, and similar coatings
Manufacture of soap, detergents, and cleaning products
Manufacture of other inorganic based chemical products
Manufacture of adhesive products
Manufacture of synthetic fibres
Manufacture of chemical fertilizers
Manufacture of essential oils

Manufacture of other organic-based chemical products

Manufacture of synthetic rubber

The number of respondent companies in the sample provides a sufficient threshold, surpassing minimum number of observations for inferential statistics. Thus, it allowed the research team to conduct empirical analysis.

Besides of the interviews, the research team conducted further tasks for data validation and cleaning. A mixture of qualitative and quantitative data, both from primary and secondary research was employed in this value chain mapping report, therefore, it represents a robust methodology for value chain analysis.

Finally, a validation workshop was organized with chemical sector stakeholders. The purpose of the workshop was to present and validate the findings from the primary research. The workshop took place in August 2022, and it included stakeholders from national institutions and sector companies.

2. Global Trends in Chemical Industry

Both sub-sectors, paints, and coatings on one side, but also soaps, detergents and cleaning products on the other side strongly benefited from a significant increase in demand worldwide. The global paint and coatings industry was valued at about €160 billion in 2021¹. The bath and shower product market are supposed to reach a value of €48 billion in 2023. As far as the detergents market is concerned, it was valued at €120 billion in 2021 and is expected to reach €175 billion in 2031². The boom of these sub-sectors, which are the key markets for Kosovar paints and coating as well as soap, detergents, and cosmetics producers, assured constantly high demand for such products. The Covid-19 pandemic also increased the demand of private consumers for disinfection products, but also cosmetics.

Despite the very promising outlook, the Kosovar industry is under transformation and upcoming trends are of high relevance to the entire industry.

Medium-Term Impact of Covid-19 pandemic

The sub-sectors considered in this study were also hit by disrupted supply chains as a result of the Covid-19 outbreak. In response, companies constantly apply innovative techniques to stabilize their operations. Improved stock and warehouse management helped to assure proper delivery time. Digital tools were also increasingly applied, especially in the cosmetic sector, to find new sales channels during Covid-19 since traditional methods did not work properly. Many producers of soaps, detergents and natural cosmetics, incl. Kosovar, established new e-sales channels due to tough lock-down regulations in order to better reach out to their customers. Consequently, the Covid-19 pandemic provided a significant digitalization push for this sector. Paints and coating producers tried to move back operations in-house by trying to reduce outsources activities. By doing so, they re-gain better control over the entire production process and increase the share of value-added realized within the companies. Such activities also reduce dependency on suppliers³.

Improved sustainability

Sustainable production is considered a major trend impacting the entire chemical processing industry. Consequently, sustainability has become a major trend for paints and coating production in recent years. This trend led to reduced energy and raw material consumption due to higher process efficiency and increased use of renewable materials. An important focus was given to reducing Volatile Organic Compounds (VOC)⁴.

¹ The Farnsworth Group, Market Watch: Trends in the Paint and Coatings Industry, 2021, <https://www.thefarnsworthgroup.com/blog/trends-paint-and-coatings-industry>

² Transparency Market Research, 2021, Global Detergents Market, <https://www.transparencymarketresearch.com/detergents-market.html>

³ Meta Arh, Mateja Novak, Michael McManus, Mateja Dermastia, 2021, Value Chain Resilience in the Time of COVID 19 with Focus in Food and Natural Cosmetics, DOI:10.13140/RG.2.2.27618.45760

⁴ FORTUNE BUSINESS, 2022, Paints and Coating Market Forecast 2022 – 2029, <https://www.fortunebusinessinsights.com/industry-reports/paints-and-coatings-market-101947>

A global regulatory push affected the paints and coating manufacturers to reduce VOCs, which are important for high shelf life and improved durability, but also negatively impact air quality and human wellbeing. Tougher regulations and increased consumer demand strongly influenced the shift towards alternative and low-VOCs products and constraints on production processes using products with VOCs. Using plant-based ingredients and shifting from solvent-based to water-based coatings is a dedicated response of the industry, which results in reducing the carbon footprint by replacing crude oil.

Increased use of natural ingredients is of high relevance for the domestic soap, detergent and cosmetic sector as well, but gained increased importance over recent years. Private consumers increasingly prefer natural ingredients over artificial ones.

Green production

Other relevant trends are the European Green Deal⁵ and improved customer demands for environmental production. The industry has to respond properly to waste minimisation, process efficiency enhancement, and increased use of renewable materials and energy. But also, applying thinner coatings to reduce the amount of coating is another response of the industry toward environmentally friendly production. New coating technologies, like pigging technologies or powder coating, are related to emerging trends⁶. Pigging, or liquid product recovery, solutions are appropriate for water- and solvent-based paints and coatings. They allow a variety of tangible benefits, from waste minimisation to increased yield and cost savings.

Digitalisation

Digitalisation is not new for most enterprises operating in the chemical processing sectors. Especially most enterprises in Europe and the US have implemented digital solutions already and, thus, now focus more on further improvements of operations. However, it can be seen that digitalisation is now more and more used to improve the sustainability of production and firm-level operation⁷. The major new digital applications will be used to reduce resource use, pollution, energy consumption and wastage. It will also create demand for a circular economy enabled by digital technologies such as Artificial Intelligence (AI) or Internet-of-Things. Systems for sustainable power and fuel consumption, dispatching systems for efficient logistics, and autonomous solutions that enable reduced energy consumption are some that are currently established or that are being implemented in the chemical processing industry.⁸

Using digital tools to understand better firm-level data produced during the manufacturing of the chemical products is another important trend. Due to high automation of the production processes, plenty of data is produced but not properly used so far. The use of AI and Machine Learning can help analyse large sets of structured and unstructured data. AI-powered knowledge management solutions can help companies enhance the efficiency of capturing and sharing knowledge between teams and departments⁹.

⁵ <https://errin.eu/tags/european-green-deal>

⁶ The Farnsworth Group, Market Watch: Trends in the Paint and Coatings Industry, 2021, <https://www.thefarnsworthgroup.com/blog/trends-paint-and-coatings-industry>

⁷ Gulf Petrochemical & Chemicals Association, 2022, <https://www.gpca.org.ae/2022/02/27/digitalization-in-the-chemical-industry-what-next/>

⁸ Deloitte, 2022, the Future of Digitalization in the Chemical Industry, <https://www2.deloitte.com/us/en/pages/energy-and-resources/articles/future-of-digitalization-in-the-chemical-industry.html>

⁹ Gulf Petrochemical & Chemicals Association, 2022, <https://www.gpca.org.ae/2022/02/27/digitalization-in-the-chemical-industry-what-next/>

Transparency and Traceability

As far as the cosmetic market is concerned, private consumers are more interested in learning more about the products themselves, their origin, how they are produced and to what extent sustainability, social and environmental criteria are met. Thus, transparency and traceability gained increased importance. New digital tools¹⁰ help the producer to provide such information. Companies that succeed in demonstrating proper transparency are supposed to gain new forms of competitive advantage, which means that price and quality are no longer the main competitive advantage. A recent Harvard Business Review report¹¹ confirmed that consumers are willing to pay up to 10% more for products from transparent companies.

¹⁰ like phy2app digital tool for improved transparency, <https://www.phy2app.com/transparency>

¹¹ Ryan w. Buell, 2019, Operational Transparency, Harvard Business Review

3. Kosovo Industry Snapshot

The lack of firm-level and, to some extent, industry-level data, as well as the level of informality in the economy - estimated both in output and employment - makes it difficult to accurately estimate the size and the overall chemical processing sectors' performance in Kosovo. Besides the primary data collected through a small-scale survey, this study makes use of other existing publicly available (albeit scarce) data on the chemical sector to assess sector trends and provide an approximation of the overall situation of the sector. The main data sources that this assessment explores include the Tax Administration of Kosovo (TAK), the MIET, and the Kosovo Business Registry Agency (KBRA).

Based on the turnover data provided by TAK, there is clear evidence of an ever-increasing trend in the chemical sector. The total number of active businesses was 293 in 2021, while the sector's turnover in the formal market in that year reached almost €55 million, which is an increase of 14% compared to the pandemic year 2020 or a 34% increase when compared with 2017 (Table 2). In addition, the number of active firms has also increased over time; on average, the number of firms increased by 12% during this period (2017 – 2021). Moreover, the data also show that the level of employment broadly followed the output trend. This suggests an improvement of the sector at both intensive and extensive margins; employment in 2021 increased by 6.5% compared to the preceding year, or an average increase of 5% over this five-year span. Such information is of crucial importance for the private sector itself, potential investors, policymakers, and other stakeholders in Kosovo that support private sector development. However, it has to be noted that trading firms operating in this sector have not been considered within the Value Chain Mapping Study.

Table 2. Size of the Chemical sector in Kosovo (2017-2021)¹²

Indicator	2021	2020	2019	2018	2017
Number of active firms	293	262	225	201	178
Number of employees	979	915	868	814	792
Total turnover (€)	55.268.169	47.518.517	44.615.559	41.157.104	36.,685.119

Source: TAK

¹² Sub-sectors considered in this study. Traders operating in the Chemical sector were not considered

Profile of Sector Companies

The data given in Table 2 confirm the upward trend in terms of the size of the chemical sector over recent years. Whereas the number of businesses increased by around 70% from 2017 to 2021, the employment just raised by 24%. The reason behind this might be that a significant share of new firms/start-ups have emerged, which are still in a very embryonic stage.

Based on the evidence provided by TAK, the number of actual active firms is smaller than those already registered and have the “active” status in the business registry.¹³ On the other hand, KBRA data show that there are currently 511 registered firms, while 43 firms have been closed. This discrepancy suggests that there is a large number of firms in the sector that are inactive or temporarily exited the market.

Tabela 3. The industrial structure of firms in the Chemical sector

Division (Sector)	Group (Industry)	Class (Industrial sub-sector)
Manufacture of chemicals and chemical products	Manufacture of basic chemicals, fertilisers and nitrogen compounds, plastics and synthetic rubber in primary forms	Manufacture of industrial gases
		Manufacture of dyes and pigments
		Manufacture of other inorganic basic chemicals
		Manufacture of other organic basic chemicals
		Manufacture of fertilisers and nitrogen compounds
		Manufacture of plastics in primary forms
		Manufacture of synthetic rubber in primary forms
	Manufacture of pesticides and other agrochemical products	Manufacture of pesticides and other agrochemical products
	Manufacture of paints, varnishes and similar coatings, printing ink and mastics	Manufacture of paints, varnishes and similar coatings, printing ink and mastics
	Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations	Manufacture of soap and detergents, cleaning and polishing preparations
		Manufacture of perfumes and toilet preparations
	Manufacture of other chemical products	Manufacture of explosives
		Manufacture of glues
		Manufacture of essential oils
	Manufacture of man-made fibres	Manufacture of other chemical products n.e.c.
		Manufacture of man-made fibres

Source: KBRA, 2022

¹³ Data obtained by the business registry published by the Kosovo Business Registry Agency <https://arbk.rks-gov.net/page.aspx?id=1,42>

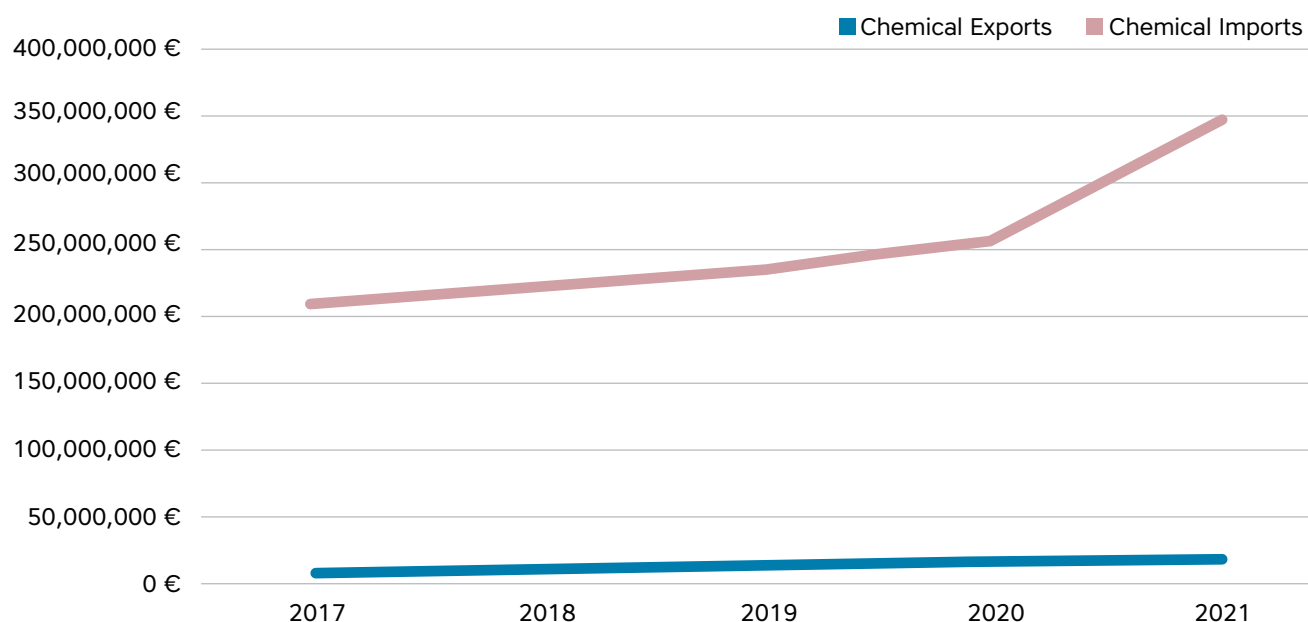
Six main industry groups comprise the chemical industry in Kosovo. This categorisation stems from division in the NACE nomenclature ('Nomenclature Statistique des Activités Économiques dans la Communauté Européenne'), namely, manufacture of chemicals and chemical products (Table 3). The first and the largest category, the manufacture of basic chemicals, fertilisers and nitrogen compounds, plastics and synthetic rubber in primary forms, mainly includes firms (117 active firms as of 2021) in the production of dyes and pigments as well as the manufacture of plastics in primary forms (72% of the total firms in this category). In the second group, the manufacture of pesticides and other agrochemical products, there are only 8 registered businesses, however, none of them was active as of the end of the fiscal year 2021. There are 40 companies that are currently active in the manufacture of paints, varnishes and similar coatings, printing ink and mastics. One of the emerging industries in the Chemical sector is the manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations. In 2021, there were 101 active businesses around Kosovo producing soap, detergents, cleaning preparations, and perfumes, mainly for the domestic market. A relatively small number of active firms (30) are engaged in the manufacture of other chemical products. Lastly, there are only five companies engaged in the manufacture of man-made fibres in Kosovo.

3.1 Kosovo Chemical Sector Trade Trends

Data shown in Figure 1 and this section are based on the Kosovo Customs data. Kosovo's exports of chemical products have recorded a constant growth over the last five years. A sharper growth is observed in 2020, mainly driven by increased demand for hygiene-related products, resulting in high nominal growth of around 137% but a relatively smaller increase in real exports or net weight of all exported products by around 51%.

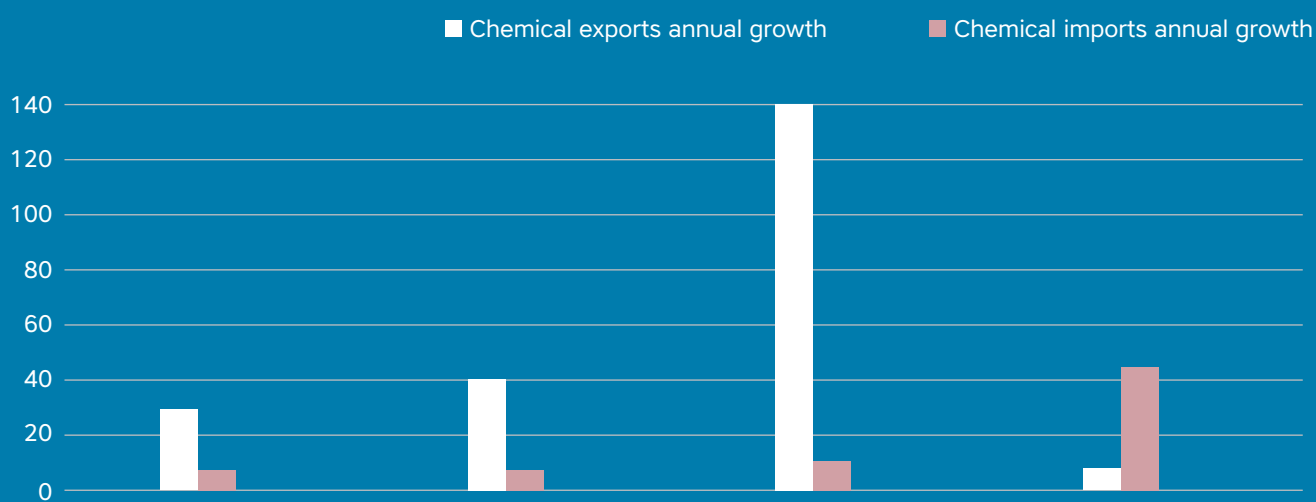
As given in Figure 1, from around €3,7 million in 2017, overall chemical exports have reached around €16,8 million in 2021. On the other hand, imports of chemical products have shown a slower growth, from around €205 million in 2017 to around €365 million in 2021.

As observed by the export trends shown in Figure 2, it is obvious that prices have an increasing tendency, but the growth rate of exports also suggests a positive export perspective for Kosovar producers. Import prices, on average, have recorded a sharper increase compared to export prices, suggesting increased price competitiveness of Kosovar chemical products in the export market.

Figure 1. Kosovo chemical sector annual value of imports and exports, 2017-2021

Source: Author's

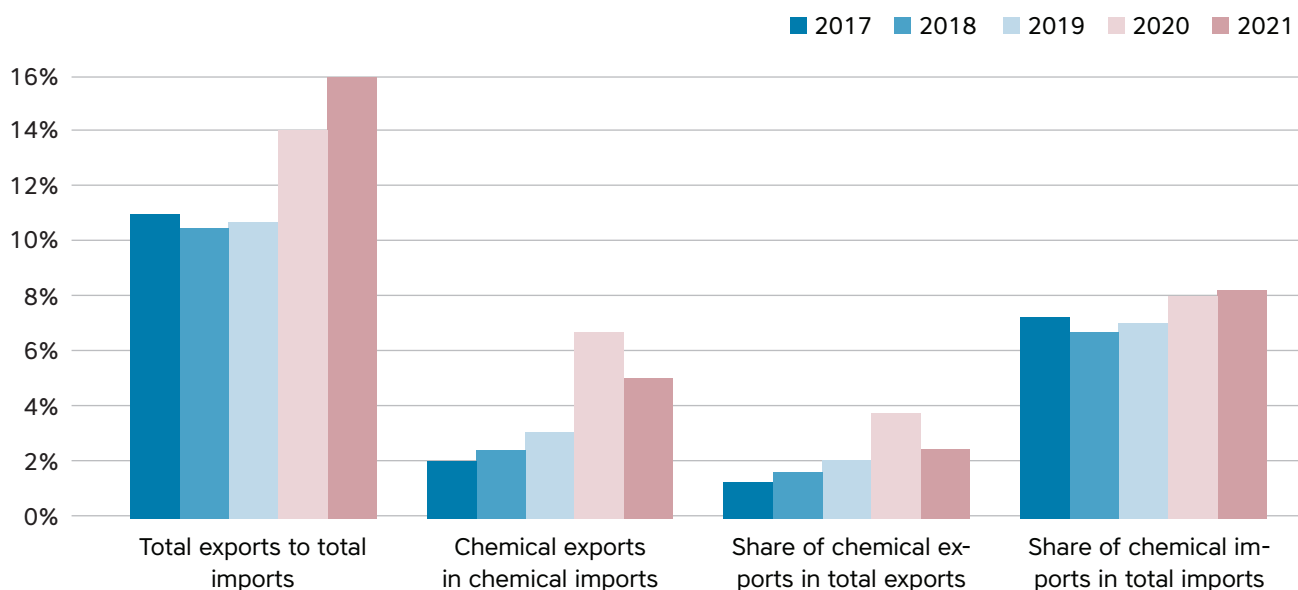
Looking at the growth trend (Figure 2), chemical exports shows a promising outlook, with a yearly increase in export growth rate since 2017, with an average of 52% over the last three years. A slower growth trend is observed in terms of imports, with an average growth rate of around 16%. A sharper growth is recorded in 2020 for exports, while higher import growth was recorded in 2021). These changes are mainly affected by the changes in the global supply chain due to the effects of the Covid-19 pandemics and the war in Ukraine.

Figure 2. Kosovo chemical sector annual growth rates of imports and exports, 2018-2021

Source: Author's calculation, Kosovo Customs Data

In the last five years, the coverage ratio of chemical exports to imports was between 2% and 6%, but with a notably growing trend of exports during 2018-2021 (Figure 3). With respect to the chemical sector trade balance, exports have recorded an increasing trend, from 1% in 2017-2018 to between 2% and 4% of total exports during 2019-2021. Looking at the import trend, chemical imports trend was relatively stable over the years, accounting for around 7%-8% of overall Kosovar imports.

Figure 3. Kosovo chemical sector, market trends, 2017-2021



Source: Author's calculation, Kosovo Customs Data

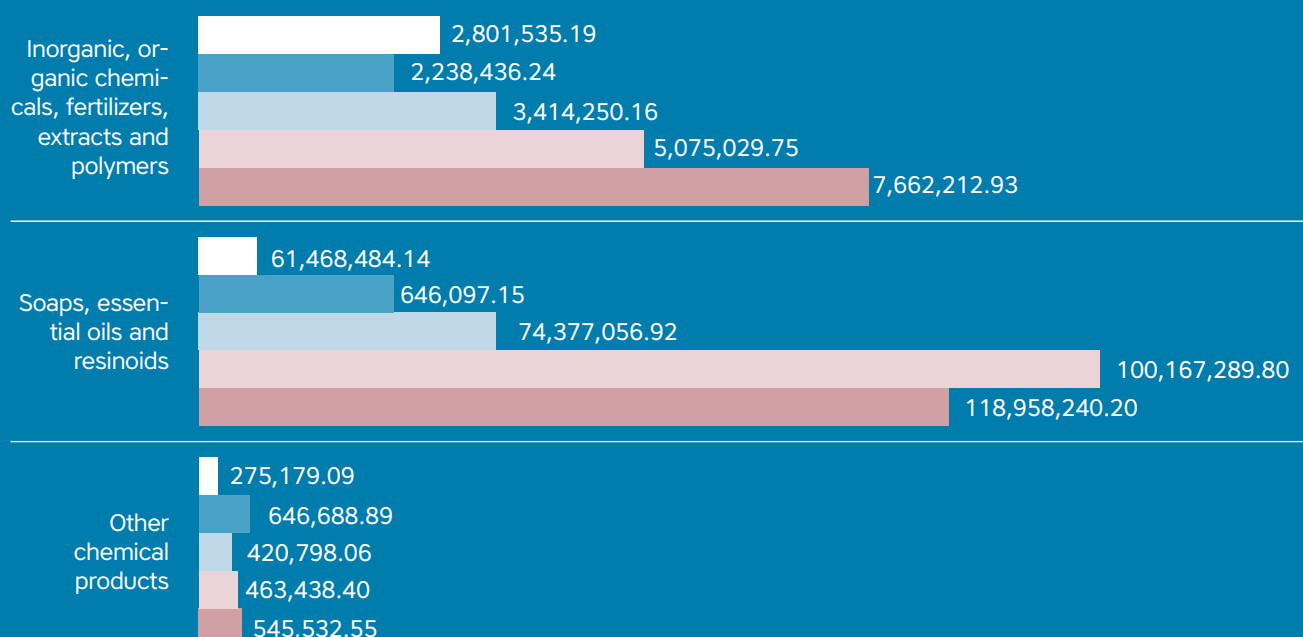
Main subsectors have been analysed to provide clearer trade dynamics of the chemical sector. Subsectors are defined based on the product codes used by the Kosovo Customs. These codes are harmonised with the United Nations International Trade Statistics, the Harmonized Commodity Description and Coding Systems (HS). The analysis is done base on the following subsectors:

- Fertilizers, extracts and polymers (mainly paints and coating)
- Soap, essential oils and resins
- Other chemical products

Figure 4 below shows export trends by subsectors between 2017-2021. Continuous growth is indicated by the first two product categories: inorganic, organic chemicals, fertilizers, extracts and polymers, as well as soaps, essential oils and resinoids.

Figure 4. Kosovo chemical sector exports, by subsector, 2017-2021

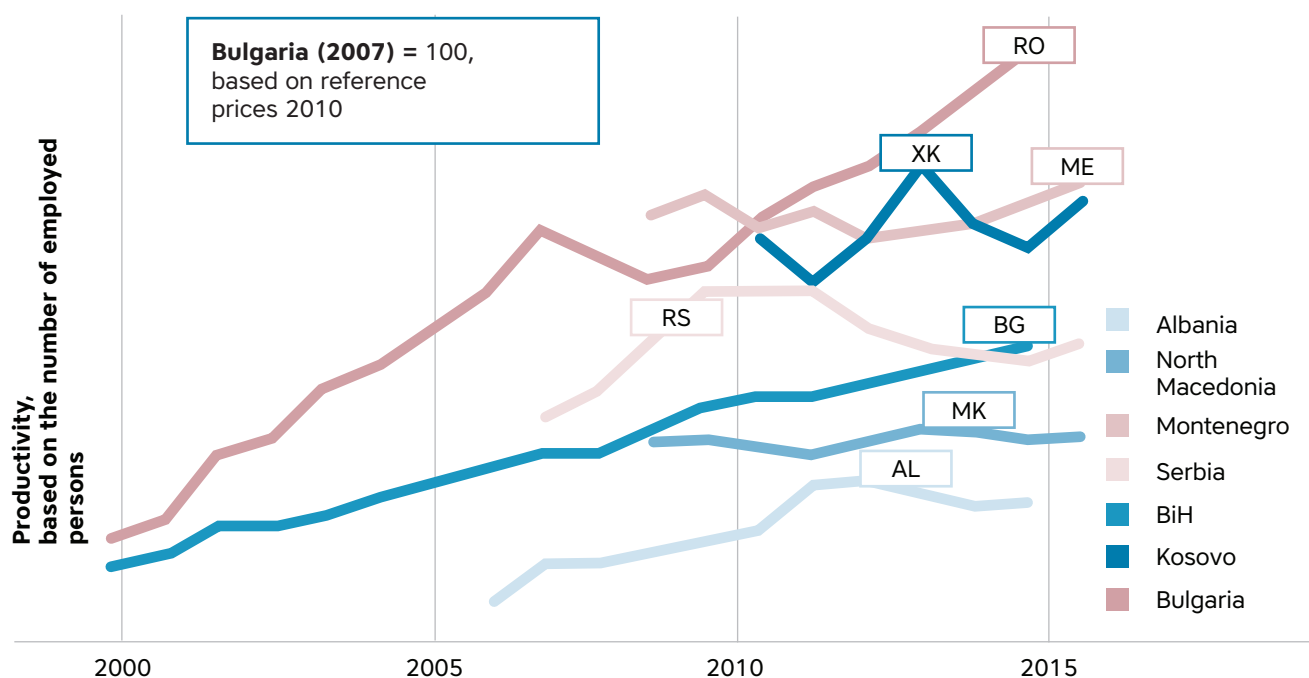
■ 2017 ■ 2018 ■ 2019 ■ 2020 ■ 2021



Source: Author's calculations, Kosovo Customs Dataset

Inorganic/organic chemicals, fertilizers, extracts and polymers (mainly paints and coatings) have recorded a continuous positive export growth trend, from around €2.8 million in 2017 reaching to around €7.6 million in 2021 (+171%). A similar growth trend is observed in soaps, detergents, essential oils and resinoids, growing from around €688 thousand in 2017 to around €8.5 million in 2021 (over 12 times), but with its growth peak in 2020 (reaching over €10 million). Other chemical products represent a subsector also with a high rate of growth in exports (around 100%), but with a very small share in overall exports, or an overall amount of around €0.5 million in 2021. These observations reveal that chemical products manufactured in Kosovo have an increasing demand in export markets, also triggered by the increased demand for hygiene-related products due to the Covid-19 pandemic situation.

Chemical imports show a relatively slow growth trend in general. Main imported products that account for about 58% of all chemical imports include inorganic and organic chemicals, fertilisers, extracts and polymers.

Figure 5. Productivity levels, total economy

Source: wiiw Western Balkan Productivity Database, EU KLEMS Release 2019

3.2 Productivity and Competitiveness Analysis with Selected Peers

Analysing the chemical sector in Kosovo in a regional context provides a better picture on productivity and competitiveness of the industry. Kosovar chemical producers mainly compete with similar companies in the region, with businesses in North Macedonia and Serbia being the most competitive.

Kosovo has recorded a value-added per capita growth rate of around 3% for the period between 2009 – 2017, similar to other countries in the region¹⁴. In addition, as shown in Figure 5, Kosovo had a positive productivity improvement trend compared to most of the countries in the region, except of Romania that has outperformed all other countries, and Montenegro that shows a similar trend with Kosovo. Despite a quite positive trend in terms of productivity, and a good performance compared to most of the countries in the region, Kosovo stands behind most of them in terms of investment in research and development that lead to innovation.¹⁵ Kosovo also has the highest rate of unemployment in the region, at around 25%¹⁶. As investment in innovation and productivity are key to an improved performance, relevant institutions should design policies that would support an increased R&D intensity in the chemical sector.

¹⁴ Reiter, Oliver; Schwarzhappel, Monika; Stehrer, Robert, 2020, Productivity and competitiveness of the Western Balkan countries: An analysis based on the wiiw Western Balkan Productivity Database, Policy Notes and Reports, No. 37, The Vienna Institute for International Economic Studies (wiiw), Vienna

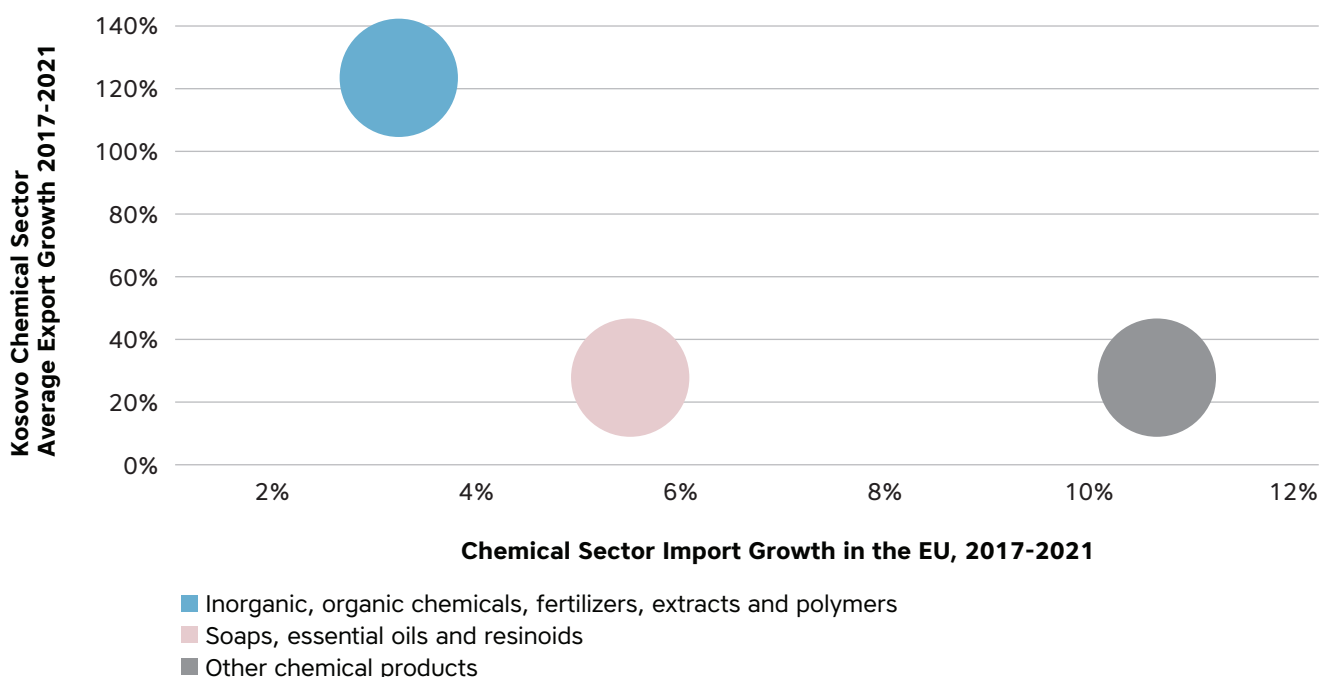
¹⁵ OECD, 2022, SME Policy Index: Western Balkans and Turkey, 2022.

¹⁶ OECD, 2021, Competitiveness in South East Europe, 2021, A Policy Outlook, <https://www.oecd-ilibrary.org/sites/66c185f2-en/index.html?itemId=/content/component/66c185f2-en>

Trade competitiveness of the Kosovo chemical sector is illustrated in Figure 6. In the horizontal axis, the corresponding values represents the average rate of growth of EU imports between 2017-2021, while the corresponding value in the vertical axis represents the average rate of growth of Kosovo exports between 2017-2021. Each chemical subsector is depicted by a bubble. The average growth of imports in the EU market is highest in tertiary chemical products (e.g. types of glues) followed by inorganic and organic chemicals, fertilisers, extracts and polymers, with a lower rate of growth in the imports of soaps, essential oils and resinoids.

As the diagram illustrates, in all subsectors, chemical exports have a relatively high average growth rate, with the highest rates of exports of soaps, essential oils and resinoids (with over 100% average growth), followed by inorganic and organic chemicals, fertilisers extracts and polymers. A high growth rate in exports of chemical products may suggest an increased recent tendency of Kosovar chemical companies to produce and export higher value-added products. The growth rates of exports are much higher than the growth rate of the EU imports, indicating that Kosovar products gain additional market share. This observation suggests a high competitiveness and growth potential of this industry, especially in the soap, detergents and cosmetic sectors.

Figure 6. Growth of national supply and international demand for chemicals exported by Kosovo in 2021



Source: Author's calculation, International Trade Centre, Kosovo Customs Dataset, period: 2017 - 2021

Looking at a more recent period, between 2019 – 2021, besides Kosovo, the export of chemical products has grown significantly also in North Macedonia and Serbia, as given in Figure 7. It also indicates that the chemical production sector of Kosovo is still very small compared to some of the neighbouring countries. In terms of the value of exports, North Macedonia is a leading country in the region, followed by Serbia and Bosnia and Hercegovina, with Albania, Kosovo and Montenegro having relatively lower export absolute levels. However, as presented in Figure 8, Kosovo is a leading export country in terms of average growth rate over the last three years (72%) largely outperforming all other countries in the region, with North

Macedonia as the second-best performer, recording an average growth rate of around 29%, and Albania as the worst performer, with a negative average growth rate of -9%. However, Kosovo's highest growth rates cannot yet produce significant results due to a comparable low absolute level (Figure 7).

Figure 7. Export development of chemical products in the region between 2019 and 2021,

■ 2019 ■ 2020 ■ 2021

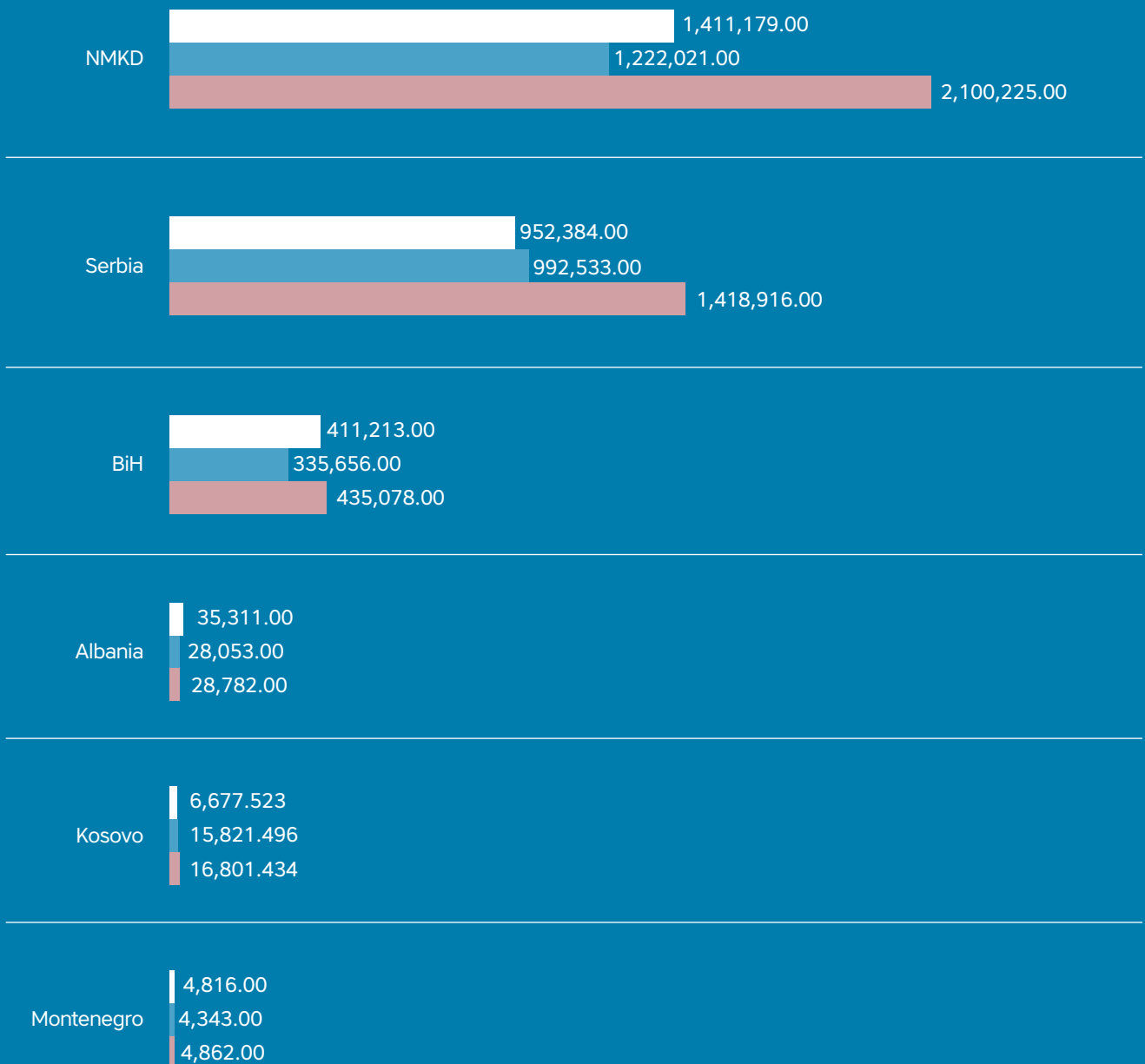
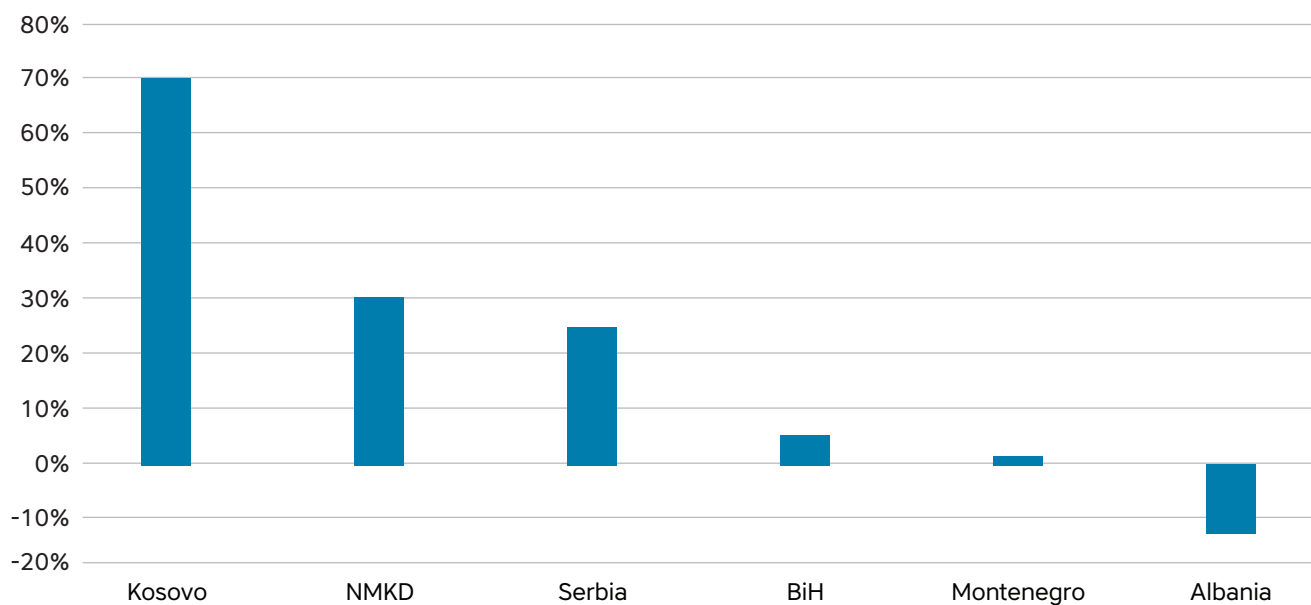


Figure 8. Average export growth of chemical products by country, between 2019 and 2021

Source: Author's calculation, International Trade Center

4. Stakeholder Map

The number of stakeholders in the chemical sector in Kosovo is relatively small, especially compared to other sectors such as food and beverage, ICT or metal manufacturing. Despite the limited number, the role of these stakeholders is essential to the value chain – its respective dynamics, trends and development. The following table presents the main stakeholders that are relevant for the chemical value chain, divided into three groups based on their roles and activity in the value chain: primary, secondary and stakeholders.

Stakeholders that are directly active in the chemical value chain are presented as primary stakeholders, while those that have a more indirect relationship are the secondary and tertiary stakeholders. Primary stakeholders consist of sector enterprises (micro, small, medium and large) and universities and R&D institutions. Secondary stakeholders are comprised of institutions (such as ministries and agencies) and sector business membership associations, which have a more indirect relationship to the sector, though are crucial for the business environment and the development of the sector. Finally, tertiary stakeholders are international donor agencies who have no decision-making power and do not benefit from the sector, but have an important objective and role to support the development of the value chain. Table 4 presents the main identified stakeholders for the chemical sector in Kosovo, their role, interest, important and influence, as well as their dynamic interrelationship.

Table 4: Key stakeholders in the chemical processing value chain

No.	Stakeholder (groups)	Interest	Importance	Influence	Examples
Primary Stakeholders					
1	MSMEs	MSMEs are the core entities and the drivers of change for the chemical sector. Despite the relatively limited size of the sector as well as the lack of supporting functions and policies for the sector, chemical sector MSMEs continue to grow and increase the diversity and quality of their offer. MSMEs are unable to attain their growth potential due to multiple challenges and a lack of support.	4	4	
2	Non-MSMEs	Almost all chemical sector companies are MSMEs, whereas the sector counts very few “larger” enterprises which can be categorized as dominant producers.	4	3	
3	Universities and R&D Institutions	Universities and R&D institutions are supposed to provide well-trained graduates as well as provide a knowledge basis for triggering innovation. Nevertheless, the current level of knowledge and expertise in fields such as technology and chemistry are unsatisfactory and constrained towards growth. Overall improvement of service delivery and skills provision is crucial in the improvement of product quality, innovation and diversity.	2	1	Public and Private Universities

No.	Stakeholder (groups)	Interest	Importance	Influence	Examples
Secondary Stakeholders					
4	Ministry for Industry, Entrepreneurship, and Trade (MIET)	The MIET is in charge to support the private sector by providing suitable framework conditions for growth and competitiveness. The chemical sector receives comparatively less or no support from the Ministry, especially compared to other sectors. With adequate support and policies, MIET can help the sector companies to better compete on the national and international level and to foster investments in this sector.	4	4	
5	Ministry of Environment, Spatial Planning and Infrastructure (MESPI)	The MESPI is the responsible institution for environmental matters and issuance of relevant permits for businesses operating in the chemical sector and other sectors whose activities may have long lasting effects on the environment (pollution, contamination, etc.).	3	4	
6	Other Ministries	Other ministries might indirectly support the value chain development of the chemical sector in Kosovo. For example, by improved education and training programmes and support of R&D infrastructure. To date, such support is rather scarce, but with potential for the sector.	3	23	Ministry of Education, Science and Technology
7	Cluster Initiatives or other Business Membership Organisations (BMO)	Large, national-level associations, such as the Kosovo Manufacturing Club (KMC) or the Kosovo Chamber of Commerce (KCC), are comprised of lead enterprises. The chemical sector is largely underrepresented in both chambers. Nonetheless, KMC presents a rather positive example of a successful advocacy record to the benefit of private sector companies, whereas KCC generally shows lower motivation.	2	2	KMC KCC

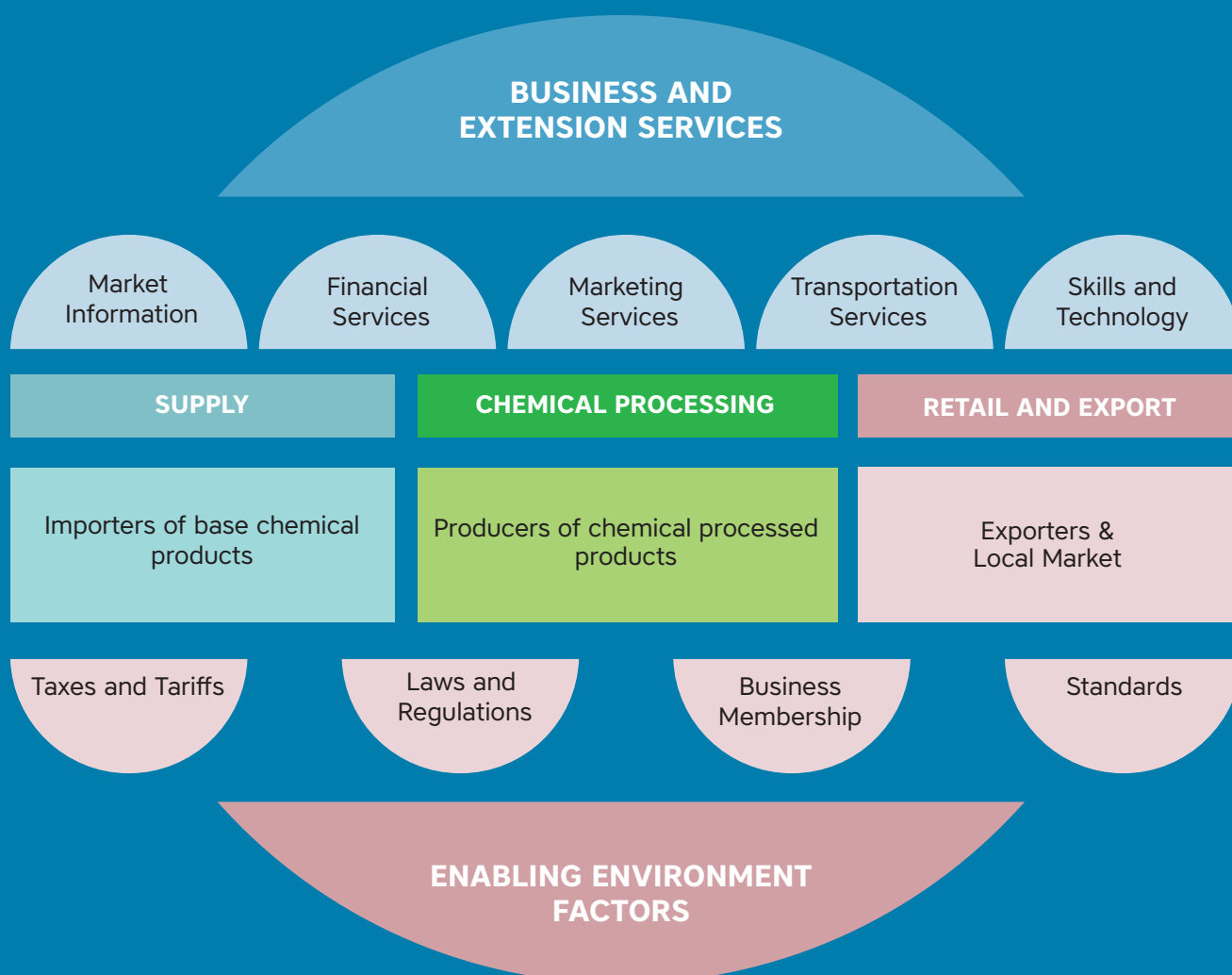
No.	Stakeholder (groups)	Interest	Importance	Influence	Examples
8	Agencies for investment support	KIESA - mandated to promote and support investments and potential investors interested in becoming engaged in the Republic of Kosovo. The role of KIESA is very limited to the chemical sector. However, KIESA is active in the promotion, particularly through the organization of trade fairs for other sectors, which could easily be replicated in the chemical sector. Similarly, for other sector enterprises, KIESA offers a wide set of services for investors, ranging from support in pre-investments to aftercare services.	2	2	KIESA
9	Sectors Associations	The chemical sector is one of the few private sectors that does not organize in a sector association. An initiative for networking and cooperation of sector enterprises could prove beneficial, particularly towards advocacy and lobbying for attracting more institutional support for the sector.	NA	NA	
Tertiary Stakeholders					
10	International Partners and EU Institution	There are many international donors and implementation organizations, respectively, active in Kosovo that provide support to various private and public sector entities in the chemical sector. They all aim to improve framework conditions for growth, sustainability and job creation. v	3	3	GIZ USAID

5 Value Chain Analysis

5.1 Sector Value Chain Map

The chemical processing value chain map is depicted in the figure below. This sector represents a rather simple value chain, where only very few value chain functions are performed in the country. Overall, the core value chain can be summarized through three levels, including supply of primary production – which is dominantly imported raw material, the chemical processing function – which is conducted in Kosovo, involving various technologies, and producing various products, as well as end market – which comprises of both local and export markets.

Figure 9. Mapping the food and beverage value chain

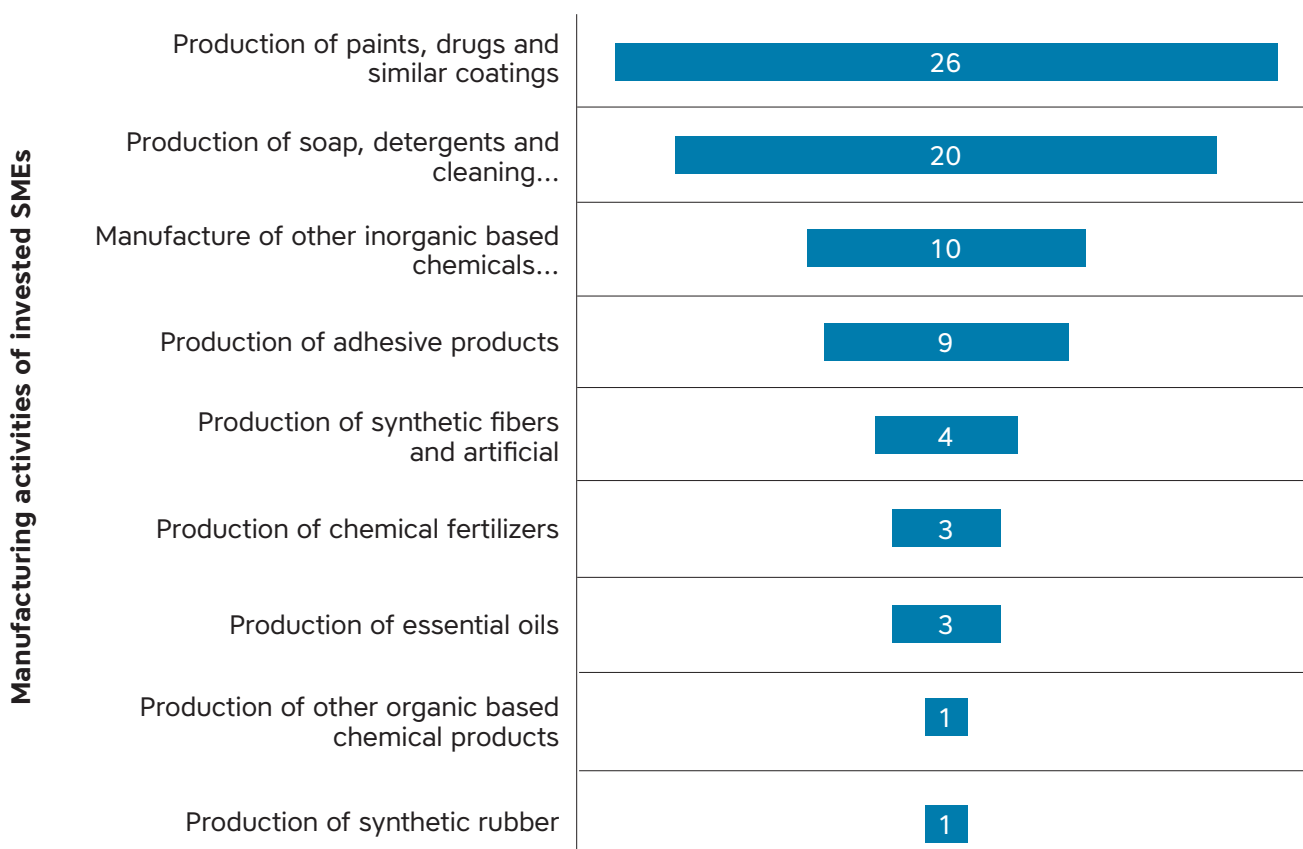


Source: Figure is designed according to Reçica and Meier zu Köcker¹⁷

The chemical sector related enterprises have access and use business and extension services such as market information, financial, marketing, transportation, skills and technology services. Due to the relatively small size of the sector, some of these business support services do not offer tailored services that meet the market demand and needs of the enterprises in the sector. However, business support services play a vital role and drive the growth of sector enterprises and of the overall sector. Such is the example of financial services, which have facilitated the growth of the private sector companies in general in Kosovo, particularly during the last decade or so, when the cost of finance decreased significantly and access to finance improved. Other business and extension services, particularly those centred around the chemical sector, such as services for provision of technical knowledge, R&D, skills and other related services have remained largely underdeveloped.

On the enabling environment level, the chemical sector is characterised by underrepresentation in terms of a business membership organization, whereas quality standards are widely applied. This sector is underrepresented in various national business membership organizations and is among the few sectors that does not network and organize in sub-sectoral organizations. At the national level, the sector is not considered a priority both in terms of support and policies, for which sector companies have largely suffered by having no access to targeted public finance and support policies. The diversity of the sector enterprises and their activity requires the implementation of specific product-related quality standards. Though some industry-level standards, such as ISO, are valid across all enterprises.

Figure 10: Distribution enterprises considered in the survey



Source: Survey data, authors' calculations

The findings in this section are based on primary research conducted with 47 MSMEs in the chemical sector. In coordination with the sponsors of this study, the research team has defined the list of potential sub-sectors for the chemical sector. As shown in Figure 10, the distribution of enterprises considered in this study is well in line with the character of the domestic chemical processing sector.

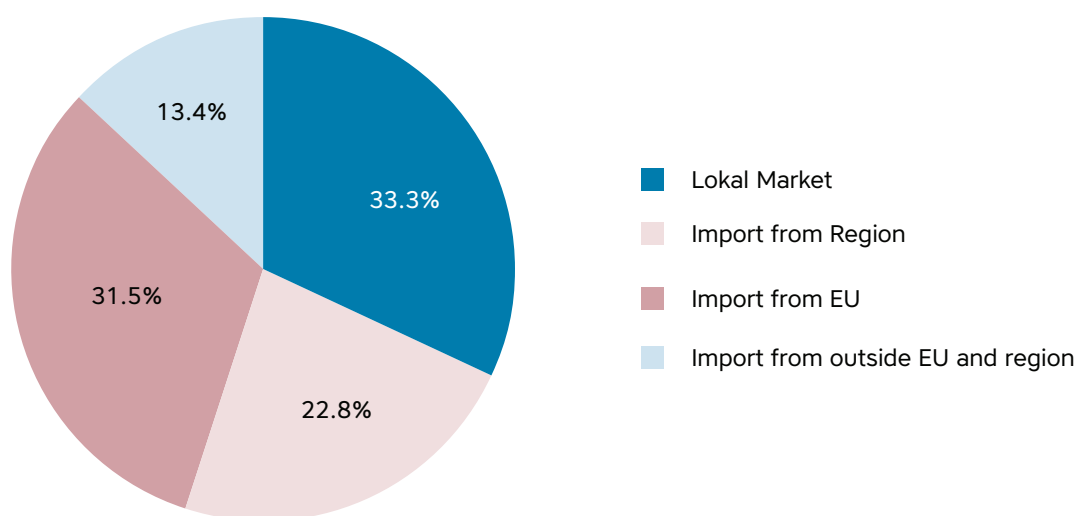
5.2 Value Chain Analysis: Supply Side

The supply of raw materials appears to be among the main sector constraints. Particularly considering recent global crises (Covid-19 and Ukraine war)¹⁸, sector enterprises complain of challenges related to securing raw materials in the first place, as well as supply consistency and costs.

The source of supply is imported. Not only the majority of enterprises declared that they import raw material from abroad, but even in cases were reported buying raw material from within the country – it is bought locally from suppliers who initially import from abroad. As presented in Figure 11, the latter case represents over 32% of interviewed enterprises and comprises the largest supply origin share. On a similar level, over 31% of enterprises import the raw material from the EU market, while in around 23% of cases, it is imported from the region. The lowest import origin share is from outside the EU and region, comprising just over 13%.

The prevailing reason for importing from the EU is the usually higher quality of the raw material. Sometimes bigger companies also have multiple sourcing strategies, meaning they source from several sources, including from the EU and outside the EU.

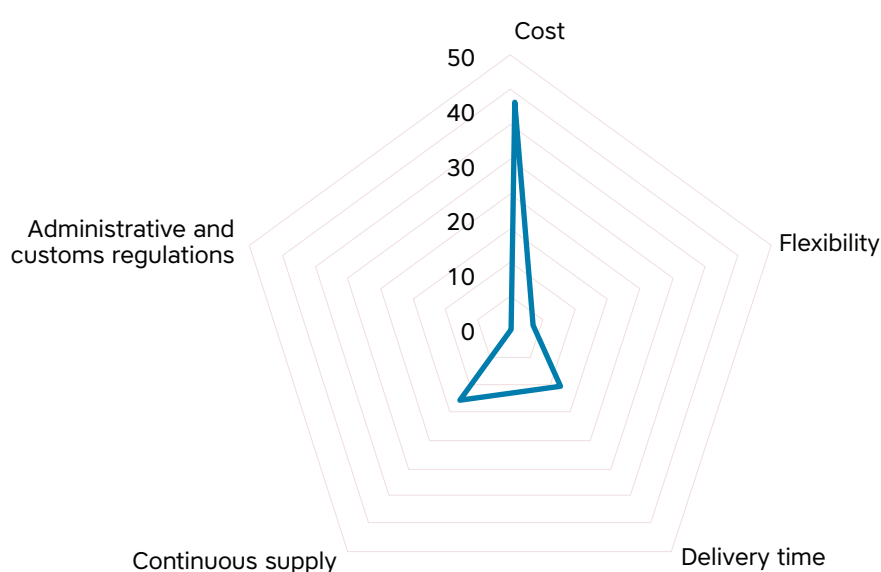
Figure 11: Share of raw material supply based on origin.



¹⁸ OECD, 2021, Multi-dimensional Review of the Western Balkans Assessing Opportunities and Constraints, OECD, <https://doi.org/10.1787/4d5cbc2a-en>

The most frequently outlined supply-related constraint is the supply cost and the sustainable supply. Over 91% of interviewed enterprises declare that the high cost of raw materials, especially recent increases in cost due to Covid-19 and the war on Ukraine¹⁹, is the biggest challenge. Furthermore, disruptions in global supply chains have also affected delivery schedules and consistency of supply. This is outlined by more than one-third of interviewed enterprises. The impact of recent global shocks is so great that any “regular” constraint that is faced by companies has become secondary. As such, understanding and analysing “regular” sector constraints is much more challenging in the wake of Covid-19 and the Ukraine war. A detailed presentation of the intensity of report challenges is presented in Figure 12.

Figure 12: The intensity of supply-related challenges.

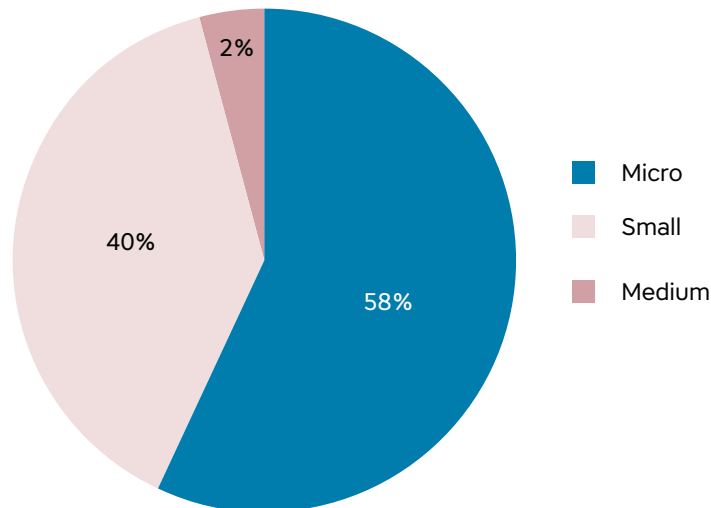


Source: Survey data, authors' calculation

¹⁹ OECD, 2021, Multi-dimensional Review of the Western Balkans Assessing Opportunities and Constraints, OECD, <https://doi.org/10.1787/4d5cbc2a-en>

5.3 Value Chain Analysis: Producer Side

Figure 13. Distribution of company size of surveyed MSMEs



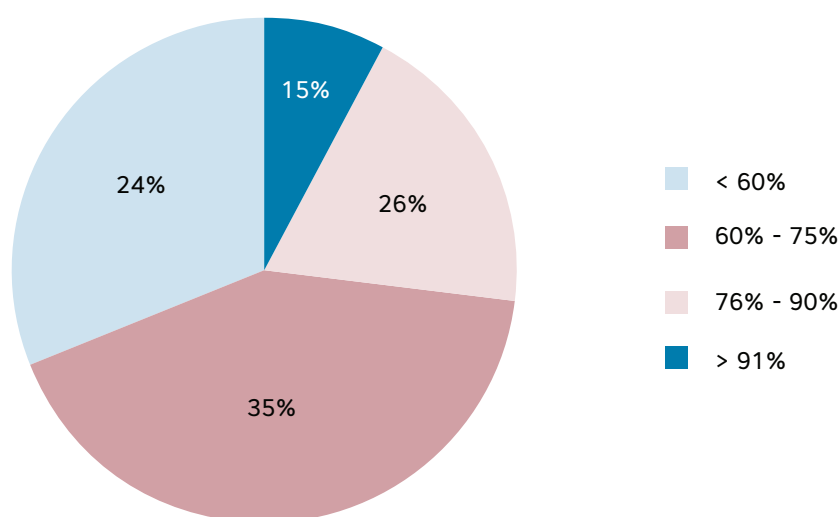
Source: Survey data, authors' own calculation

The chemical sector in Kosovo is relatively small and driven by micro and small businesses. The number of enterprises in this sector is estimated to be from around 300 (based on Kosovo Tax Administration data, s. Table 2) to around 500 (based on KBRA). The size of companies in the sector also appears to be small. Among the interviewed enterprises, the majority (over 58%) are micro enterprises (less than 10 employees). This is followed by small enterprises, which comprise 40% of interviewed enterprises (11-50 employees). Medium enterprises (51 – 250 employees) account for only 2% of the sampled enterprises. The lack of large enterprises is an interesting phenomenon for this sector. Based on informal observations, almost all chemical sector companies are MSMEs, whereas the sector counts very few “larger” enterprises which can be categorized as dominant producers. Nevertheless, there is no exact information if these enterprises fall under the category of large companies, though information observation indicates that they do not pass the threshold of employing over 250 employees. The average number of employees among all interviewed enterprises is 11. An important survey finding is also the increase in the number of employees in 2021 compared to 2020. Findings show that the number of employees has increased by 19% in 2021, which represents an average higher than that of the national and global trends of economic growth rebound after the outbreak of Covid-19 in 2020.

5.4 Business Activity and Operations

The capacity utilisation rate of the chemical sector enterprises is reported at 70%, on average, whereas only 15% of all respondents claim to have a production capacity utilisation of over 90% (Figure 14). Other manufacturing sectors, like the metal sector, reveal higher capacity utilisation rates (e. g. 82% for the metal manufacturing sector²⁰). Almost one-fourth of sector enterprises report an utilisation rate below 60%. Lack of market opportunities is the dominant justification (reported by almost half of the interviewed enterprises) for the low utilisation rate, whereas lack of market knowledge, price competitiveness and strong regional competition are also accountable factors. Around 30% of enterprises plan to expand their production capacities through investment in physical capital, while several enterprises claim that they will do so once the global crises and disturbances are stabilised.

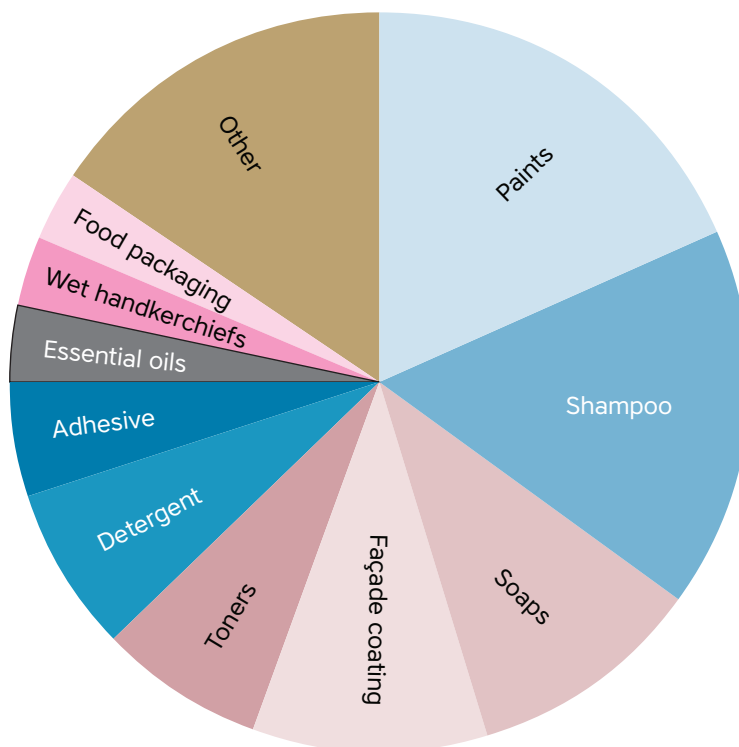
Figure 14. Distribution of productive production capacities



Source: Survey data, authors' calculations

The following chart represents an aggregation of the products that are manufactured by interviewed enterprises. The chart depicts groups of products based on the reported frequency. Paints and coatings are the most commonly manufactured products in Kosovo, followed by shampoos, soaps (bath and shower products) and detergents (cleaning products). As seen in the picture, manufactured products vary greatly in product nature but could nonetheless be grouped in several categories such as construction-related, bath and shower products and cleaning products.

²⁰ s. Metal Manufacturing Value Chain Mapping Study by MIET and GIZ

Figure 15. Distribution of Kosovan chemical products

Source: Survey data, authors' calculation

Cooperation with other value chain actors seems to have developed in the chemical industry, with 51% of interviewed actors confirming that they engaged subcontractors to complete assignments (s. Figure 16). Frequent cooperation on larger sales lots is reported by 21% of companies, whereas only around 13% of companies also are subcontracted to other companies in the sector. Findings suggest a multidimensional approach in business operations by a relatively high number of companies in the sector.

The research reveals several obstacles to an improved cooperation between the chemical producers. The interviewed SMEs report that among main obstacles, they consider that unfair competition, weak contract enforcement, inconsistent production quality as well as payment delays, are most significant factors that hamper cooperation and contribute to lack of trust between the actors.

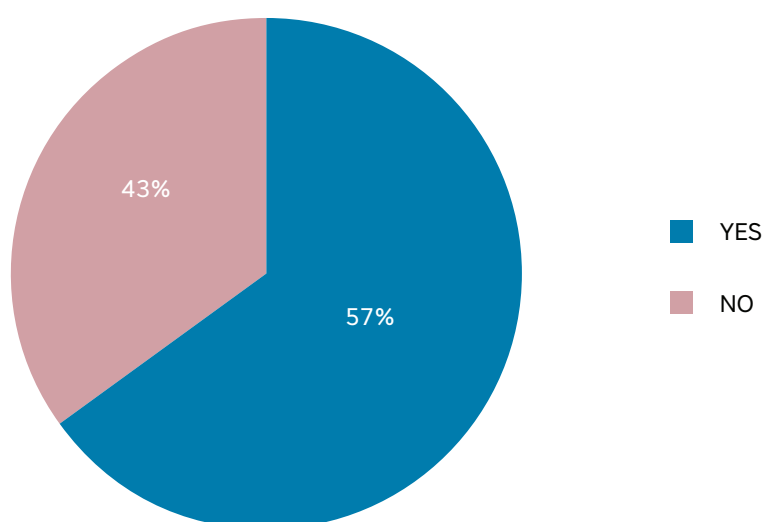
Research results show that knowledge expertise on product development is most necessary, so relevant trainings on this topic are demanded. They also suggested that capacity building for overall production management may contribute to an increased productivity. Findings further reveal that SMEs have limited internal human resource capacities that can support digitalisation of processes, enhance business relations with export byers and improve marketing and branding strategies, so they mainly rely on external support services. Differently from other sectors, such as the metal, ICT, and food and beverages, which mainly rely on technology improvements, the chemical industry actors consider research expertise in product develop-

ment as a key factor for an improvement in business performance.

5.5 Local and Export Markets

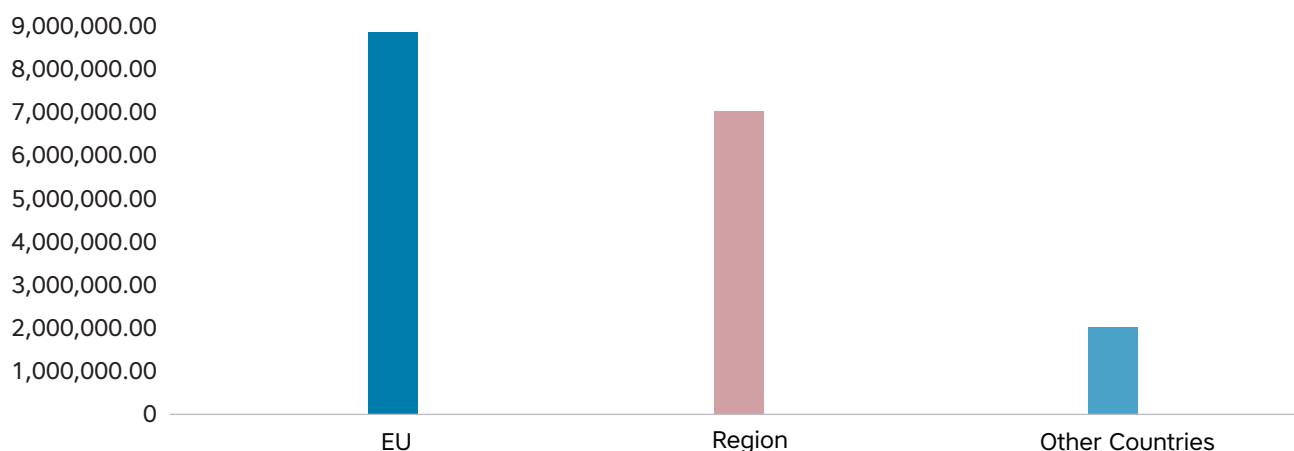
The chemical sector presents a significant share of exporting companies. Figure 17 shows that around 43% of the interviewed companies engage in export activity. This finding indicates that the chemical sector in Kosovo is relatively highly export-oriented. Among the companies that do not export, among the main reported reasons are lack of market opportunities, lack of institutional support and certification.

Figure 17. Share of exporters and non-exporters



Source: Survey data, authors' calculation

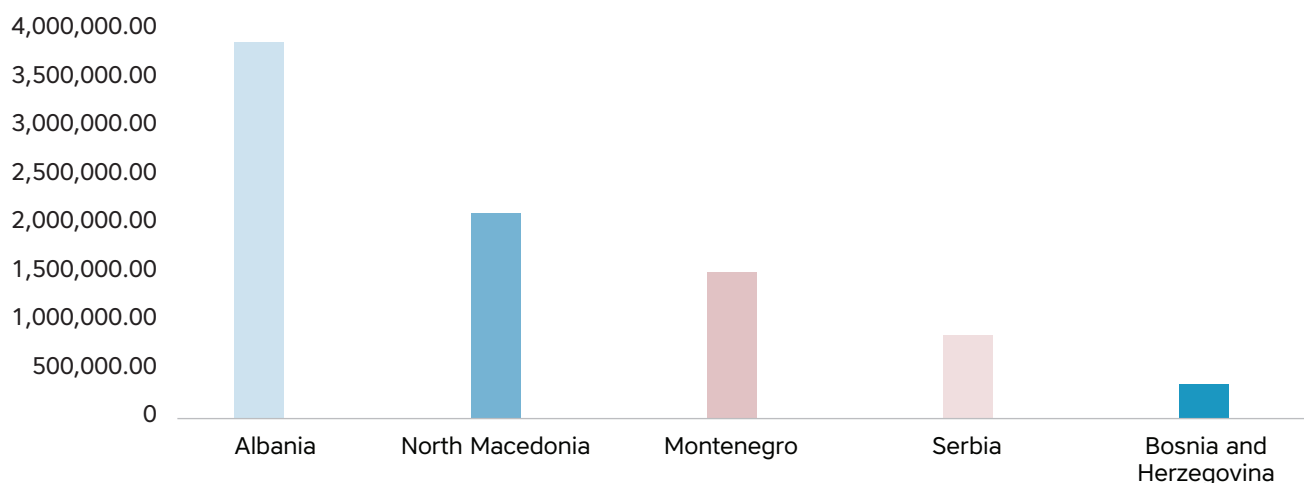
Kosovo chemical products are dominantly exported in the EU and regional market. As presented in figure 18, around half (51%) of sector exports are sold in the EU market, equivalent to € 9 million, while exports in the region consists of 43% of all Kosovo chemical product exports. The remaining 6% are sold to the rest of the world.

Figure 18: Kosovar chemical sector exports, by region, 2021

Source: Author's calculation, Kosovo Customs Data

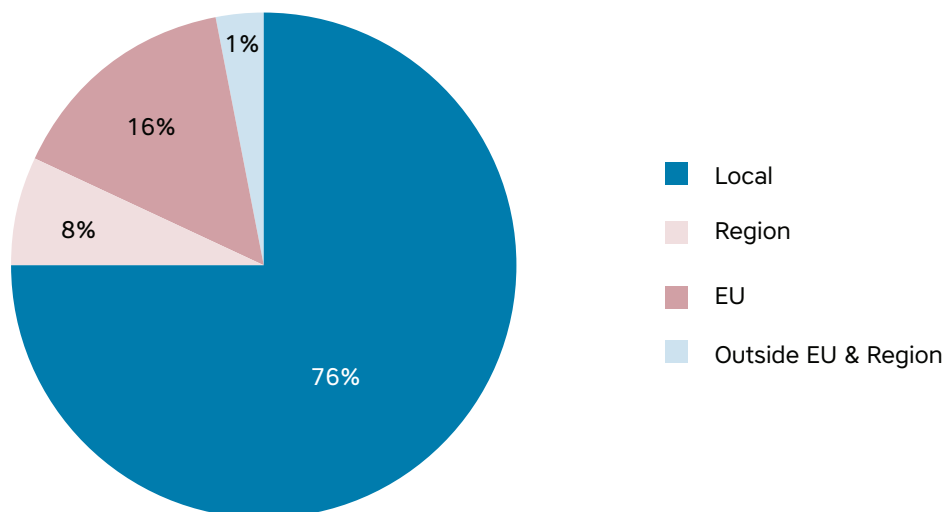
Germany appears to be the main EU exporting partner, receiving around 23% of all Kosovar chemical products exported in the EU in 2021.

Further analysis of exports to the regional countries, as presented in Figure 19, shows that almost half of all regional exports are sold in Albania. The remaining 50% is divided between North Macedonia, accounting for around one quarter of all Kosovo regional exports, Montenegro (15%), and the rest in Serbia and Bosnia and Herzegovina (BiH).

Figure 19: Kosovan chemical sector exports, by country, 2021

Source: Author's calculation, Kosovo Customs Data

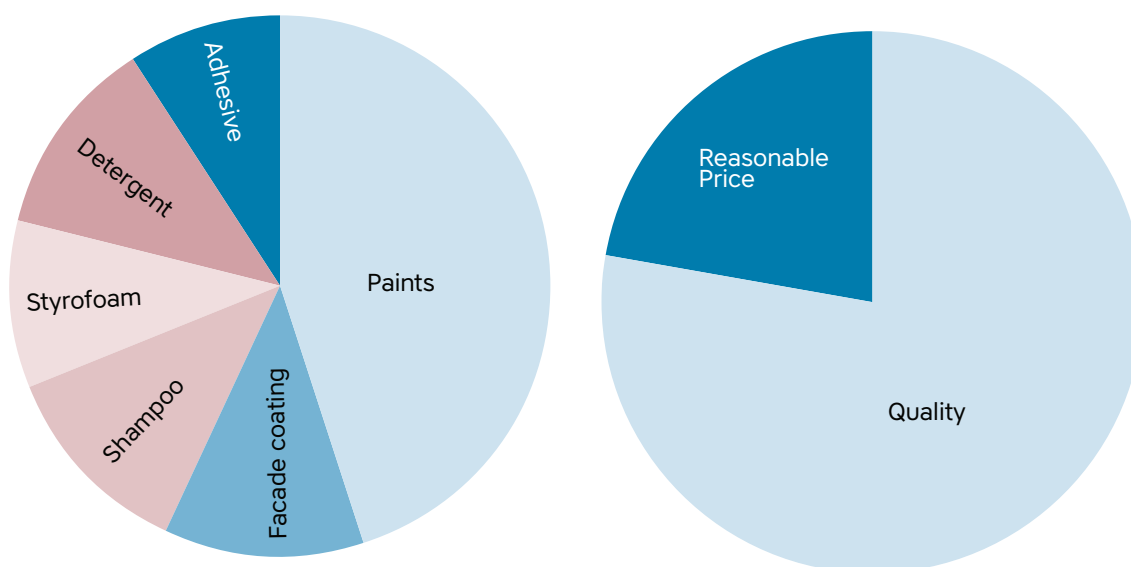
Around 43% of interviewed enterprises are involved in export. However, despite the relatively high share of exporters, companies export a relatively low share of their total turnover. More specifically (s. Fig. 20), 76% of exporters' product is sold locally, while 16% is exported to the EU market, 8% to the regional market and 1% elsewhere. The fact that these companies export a relatively high share of their products to the EU market represents an important finding. Such exports are assumed to be high-quality and valuable products.

Figure 20: Market share of exporters.

Source: Author's calculation, Kosovo Customs Data

When asked about specific countries of export, it is particularly interesting how Germany dominates as an export destination. Germany is followed by Albania, France, Switzerland, Austria, Italy, Greece, Bulgaria, North Macedonia, Montenegro and Croatia.

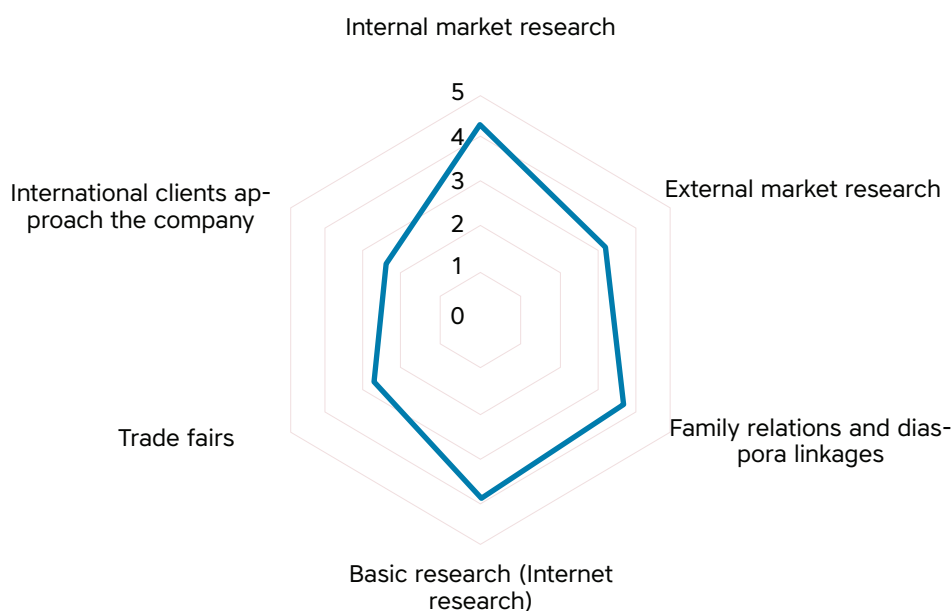
Among the exported products, paints make up around half of the reported cases, whereas together with coating, adhesive, and styrofoam (which are construction-related products) comprise around three-fourths of all exported products. The remaining one-third of the exported portfolio is made up of shampoos and detergents (Figure 21 a). Figure 21 b reveals that the main success factors behind the export of these products are quality (dominantly), followed by reasonable price, to a much lesser extent.

Figure 21 (a) Exported chemical products, and **(b)** Export success factors

Source: Survey data, authors' own calculations

Figure 22 reveal the methods that chemical processing companies in Kosovo apply for accessing new markets and identifying clients. The most frequently used method is market research, mainly conducted internally. The use of basic research through the internet for potential markets and clients has been assessed as the second most used method. Similarly, survey findings show that family relations and diaspora linkages are ranked high among the market and client identification methods. Whereas external market research, and, especially, trade fairs and direct approach by international clients are less utilized methods. The finding regarding the use of trade fairs as market identification means is meaningful, particularly because this sector receives less institutional support compared to other manufacturing sectors in Kosovo (e. g. the food and beverage sector), and such market access support mechanism could prove beneficial in the future if facilitated by the relevant public agencies such as KIESA.

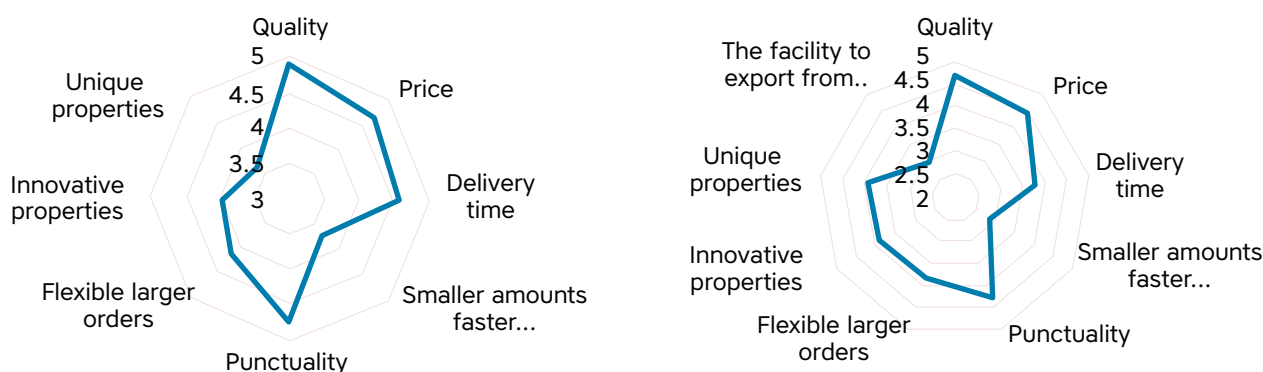
Figure 22. Market access and client identification means



Source: Survey data, authors' calculation

A Likert-scale-like rating was applied to assess the business competitiveness, where interviewed companies had to self assess several aspects related to their competitive advantages. Product quality results as the highest rated competitive advantage, with a rating of 4.93 out of 5 (s. Fig. 22a). This is declared by almost all interviewed companies, who agree that product quality is their strongest competitive advantage, both for the local and export market. The quality element received a slightly lower rating for the export market – 4.68 out of 5. Two other highly rated competitive advantage factors of Kosovo chemical enterprises, both for the local and export market, are their product price and punctuality. Delivery time has also been assessed as a competitive advantage for the local market, whereas to a lesser extent for the export market. Enterprises have rated the innovative and unique properties of their products less positively. For both local and export markets, more than 20% of enterprises have rated these two factors as disadvantages. Overall, the rating of the export market has been lower compared to the local market. This is particularly valid for factors such as small lots with quick delivery and easiness to export from Kosovo.

Figure 22: Business Competitiveness, (a) Competitive advantages for local market and (b) Competitive advantages for export market,



Source: Survey data, authors' calculation

In general, there is a positive outlook for export growth. Around 55% of interviewed enterprises stated that they will increase their export sales in the next three years, whereas the remaining 23% think that the level of exports will remain the same. None of the companies expects their exports of chemical-related products to decline in the next three years. Of those having a positive outlook, a forecast of an average increase of exports for 28% is provided.

5.6 Human Resources

The sector has recorded a growth trend in the post-pandemic period. In 2021 companies show an annual average increase in number of employees by around 19%. Looking at the gender structure, chemical industry jobs seem to be biased towards men, as women represent only around 25% of employees of interviewed companies. In line with the high level of expertise demanded by the chemical firms, survey results show that a relatively high share of chemical sector employees have a tertiary education degree (around 35%). About 59% have at least completed a secondary education degree, while around 9% have only completed the primary education level.

The vast majority of interviewed companies have indicated paying an average industry salary (81%), while only around 13% indicated paying salaries higher than the industry average. The level of salaries is generally similar to other industries, which are still relatively low. However, there is a growing pressure to increase salaries due to shortages of labour in the market and an increasing rate of inflation. The increasing labour costs may decrease the current cost advantage of the Kosovar exports. However, as discussed in section 3.2, prices of exported chemical products have a much lower price increase compared to import prices, allowing for a further degree of price elasticity of exported goods.

Around 43% of the interviewees reported that attracting properly skilled workforces remains a challenge, which is much higher compared to other sectors (e. g. in the food and beverage sector, only around 30% of companies reported similar problems). Emigration, low level of salaries in the industry and lack of qualified

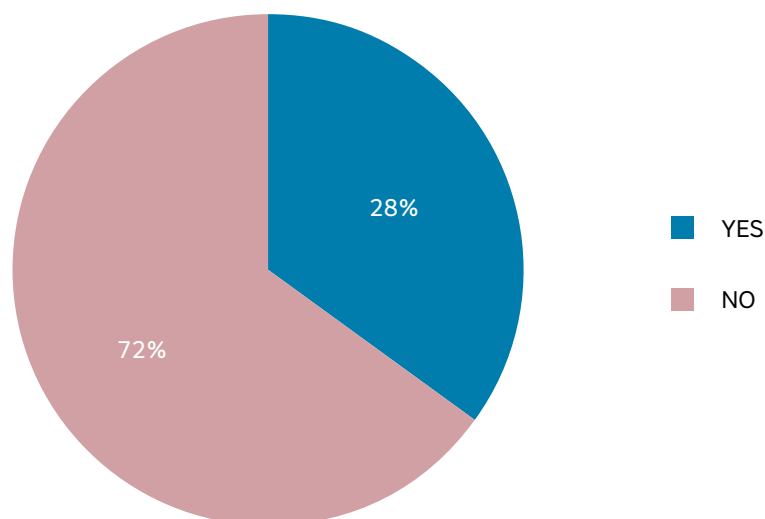
staff is the main factor causing difficulties in finding new employees. The main issues faced by companies are to find chemistry professionals, production workers, and chemistry technologists, which seem to be also attracted by attractive opportunities in the EU countries, particularly in Germany.

Small chemistry producers, for example, soap producers, essential oil producers, etc., reacted to the situation caused by the Covid-19 pandemic by applying changes in their work management practices and introducing online promotion and sales. Despite the relatively small size of the sector, such trends imply that further MSME digitalisation will increase the demand for more IT skills and competencies.

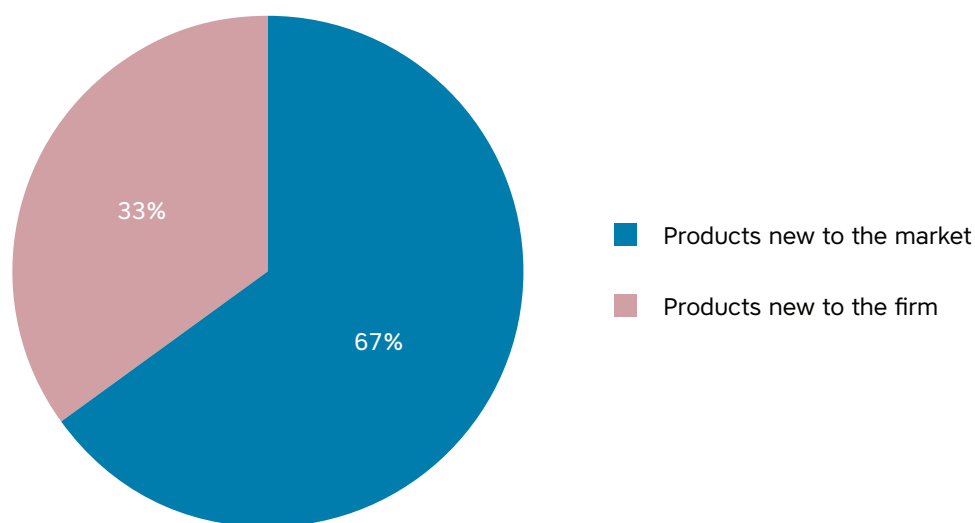
5.7 Innovation and Digitalisation

The intensity of innovation appears to be low in the chemistry sector, similar to the innovation in the economy in general, with around 28% of companies have undertaken significant investments to foster innovation and digitalisation (Figure 23). However, new or improved product development intensity seems much higher, with around 67% of companies having introduced new products (introduced products may be a result of research and development in the past as well). The high degree of novelty within companies that invest in innovation suggests an increased intensity of innovation at a higher degree of research and innovation, which may suggest that companies are focused on adding value and trying to compete with international competitors.

Figure 23. Share of enterprises that have significantly invested in innovation and digitalisation over the last three years



Source: Survey data, authors' calculation

Figure 24. Degree of innovation and novelty of new products

Source: Survey data, authors' calculation

Companies in the chemistry processing sector show that the main investment to foster innovation includes: machinery, electronic equipment and digital-related investments. These process innovations lead to capacity improvements and the development of new products, increasing the quality and diversity of the offer and in turn, improving customer satisfaction. In line with expectations, interviewees reported that new products have contributed to increased sales of companies.

The limited number of companies that have invested in innovation and digitalisation is due to financial limitations and increasing prices of machinery. Considering current global economic and political uncertainty in the market due to continuous limitations caused by measures against the Covid-19 pandemic, as well as recent global market uncertainty caused by the war in Ukraine, the intensity of investments in the sector may be strongly affected. Future policies shall provide investment incentives for chemical producers.

When looking at the research and development approach, around 85% of companies that invested in new product development have based their research process exclusively on their internal resources. Only around 15% practised an open innovation approach, being open to other actors, cooperating mainly with distributors, and with practically non-existing cooperation with universities or research institutes.

Despite a limited in-house knowledge, the majority of companies seem to hesitate to cooperate with external actors. New processes, products with a higher degree of novelty and more drastic changes require synergies and knowledge of all actors in the system. To date, cooperation with academia and research institute is inexistent in the chemical sector. As internal knowledge is limited, modalities of knowledge transfer from international experts to local experts and MSMEs will become crucial for sustainable changes in the sector.

The vast majority of companies in the chemical sector consider that their level of digitalisation is satisfactory for what market demands at the current period. This finding raises some concerns, as being happy with the situation indicates that chemical sector MSMEs do not intend to invest further in digitalisation. Policies that can influence the increase of investment and intensity of digitalisation of the chemical industry MSMEs would accelerate the transition of a traditional sector to a modern, digital and productive sector.

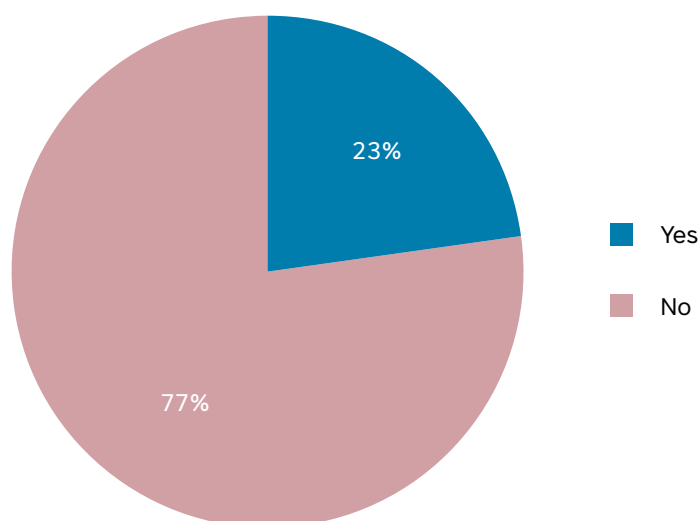
5.8 Networking Landscape

Interviews with chemical actors show that the chemical sector is largely unorganized. Majority of SMEs do not belong to any sector association. Of all interviewed companies, 23% are members of at least one sector association or a chamber of commerce. Kosovo Chamber of Commerce is the main association that also include or represent companies in the chemical industry.

Companies that are not members of any business association (76%) indicate that they do not see any benefit from being a member of such BMO.

Companies that are members of such BMOs see benefits like better access to market information, networking, access training and also possibilities to participate in international fairs.

Figure 25. Share of MSMEs that are member of business organizations



Source: Survey data, authors' calculation

Around 68% of the interviewees consider proximity to other sector actors as very important for their business development. Being located near other actors can provide several competitive advantages to sector companies, including knowledge sharing, cooperation for the production of larger lots, etc. Companies have reported the highest intensity of cooperation with partner companies and distributors and less intensive cooperation with suppliers. Advocating on issues of joint interest is very important for policy improvements, but the limited engagement of sector companies in formal associations poses one of the obstacles in this regard. For companies that are not members of any of the associations, utilisation of their in-house company resources, as well as the intensification of cooperation with other partners and companies, are among the main approaches to address various advocacy initiatives aiming for the improvement of legislative issues.

In general, the level of cooperation among companies in the sector is extremely limited. Findings reveal that informal cooperation and membership in associations can be used as a leverage point for more intensive cooperation in the future.

6. Supporting Policies and Institutional Setting

The legal and policy framework concerning chemical products and the overall chemical sector in Kosovo is regulated by line ministries such as the Ministry of Environment, Spatial Planning and Infrastructure (MES-PI), MIET, Ministry of Finance, Labour and Transfer (MFLT), and independent regulatory agencies, such as the Kosovo Standardization Agency (KSA), and Kosovo Accreditation Directorate (KAD).

The MIET is responsible for the development of industrial sector-related policies, promoting private sector growth, as well as promoting policies and interventions that improve the business environment. Existing policies and institutional settings target and mainly support investment promotion, competitiveness support, and export promotion. The Ministry supports different programs that facilitate services for the industry, such as skills, knowledge transfer and promotion both locally and internationally.

Under the MIET umbrella, there are several subordinate agencies in place. Their main tasks are to implement existing policies in place to support private sector development. Among the most relevant agencies are the following:

- KIESA is the responsible institution for promoting investments in Kosovo and exports. Among other things, KIESA is active in organising exhibitions of Kosovo companies in international fairs or implementing trade missions abroad. Some of the support measures offered by KIESA include financial grants for the upgrade of technology, technical support, certifications with quality standards, support in marketing and business counselling, etc.
- The Industrial Property Agency (IPA), is responsible for the registration and protection of industrial property rights.
- The KSA operates as an agency responsible for standardization and accreditation, aiming to implement a national conformity assessment system that is conducive to support Kosovo's private sector to meet national and international standards.
- The Kosovo Metrology Agency (KMA) is responsible for the development and offers national measuring means, including calibration services.
- The KBRA is in charge of the registration of new businesses.
- Kosovo Accreditation Directorate (KAD) is a national accreditation body recognized by law to assess the technical competence, in accordance with international standards, of the conformity assessment bodies in performing activities such as testing, calibration, certification, and inspection, both in the public and private sector.

The MESPI is the responsible institution for environmental matters and the issuance of relevant permits for businesses operating in the chemical sector and other sectors whose activities may have long-lasting effects on the environment (pollution, contamination, etc.). Kosovo is now a signatory of the Green Agen-

da for the Western Balkans (GAWB),²¹, an EU-led initiative for promoting 'green' economies in the region, which will have implications in the industrial sectors. Although there is no clear country-specific action plans when it comes to the commitments that derive from GAWB, all six Western Balkans countries have committed to review and revise, where necessary, all relevant legislation to support progressive decarbonisation of the energy sector and align with the EU Climate Law with a vision of achieving climate neutrality by 2050.²²

Independent of what policies and measures might come out of this agreement, it is already obvious that more and more European buyers are increasing their sustainability efforts. This also impacts the business of suppliers since sustainability must be assured along the entire supply chain. Sustainable production and meeting environmental and worker safety standards will become key success factors in particular for exports. It would be beneficiary if the MESPI and other line ministries being active in this field can improve framework conditions that facilitate the enterprises from the chemical sector to better meet these sustainability requirements in the near future.

MFLT and its executive agency, the TAK, are responsible legal institutions for taxation and fiscal policy in Kosovo. It is worth noting that the fiscal policy is based on good EU practices and is perceived as a business-friendly by the private sector in Kosovo. Kosovo Customs is responsible for the implementation of regulations on customs, specifically on the collection of customs duties, as well as an overview of trade and protection of trademarks and others. Since Kosovo operates under the CEFTA agreements and aspiring EU integration, the Kosovo Customs operates in accordance with EU standards.

The Kosovo education system offers a variety of programs in six public universities, over 80 public professional and vocational training centres (VTC) and vocational educational training (VET) schools, and dozens of private education providers, both in secondary and tertiary education. However, there are very few education programs that focus on chemical sector-related skills. Currently, it is only the Centre of Competence in Skenderaj that provides vocational education programs in construction-related profiles that also include the chemical sector (i.e. painting and coatings).²³ Firms in the chemical sector usually seek employees that have graduated from chemical engineering and chemical technology-related programs, while chemical technologist is the most needed profile in the sector. Similar to other industries, employees graduating in public and private higher education institutions, or at least those that have undergone short-term courses provided by either VTCs or VETs in Kosovo, are the main target of firms operating in the chemical sector. Regardless of the availability, albeit limited, of the education programs relevant to the sector needs, the interviews revealed a skill gap in the labour market, indicating a quality issue in the current education programs²⁴. The sector is also challenged with new dynamics in the market, requiring new skills and new ways of work, in particular related to the digitalisation of production processes.

21 Sofia Declaration on the Green Agenda for the Western Balkans <https://www.rcc.int/docs/546/sofia-declaration-on-the-green-agenda-for-the-western-balkans-rn>

22 European Climate Law <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R1119&from=EN>

23 Center of Competence in Skenderaj <https://qk-skenderaj.rks-gov.net/>

24 Riinvest Institute, 2021, <https://www.riinvestinstitute.org/uploads/files/2021/October/05/Employment-and-Labour-Market-Analysis-ENG1633434506.pdf>

6.1 Investment Promotion and Support

Mungesa e investimeve private qoftë nga investorët e huaj apo ata vendas, mbetet një ndër sfidat kryesore të zhvillimit në Kosovë. Përkundër faktit se të dhënat e fundit tregojnë një rritje të investimeve të huaja (d.m.th. në vitin 2021 flukset hyrëse të IHD-ve arritën në EUR 415 milionë, krahasuar me pak më shumë se EUR 340 milionë një vit më parë), ka ende shumë pengesa që duhen trajtuar në përpjekjet kombëtare për mbështetjen e zhvillimit të sektorit privat.²⁵ The Real estate sector, ICT, and financial services were among the sectors with the highest increase in FDI in 2021. It should be noted that FDI data are not disaggregated at the industry level to capture the level of foreign investments in chemicals. Based on collected information through interviews with firms in the chemical sector, investments in the chemical sector are rather from domestic sources, with few exceptions that include diaspora-based investments. The Programme of the Government 2021-2022 aims to review several areas as well as policies. These include the legal framework for strategic investments, promotion of economic zones, building institutional reforms and designing policies to promote investments according to the European Reform Agenda. In addition, the relevant legal framework (i.e. the Law on Foreign Direct Investment and the Law on Strategic Investments) in place is consistent with the best international practices. It should be noted that the Chemical Industry is listed among the sectors and industries of strategic importance in the Law on Strategic Investments.

Despite the progress on investment policies, several factors hamper the attraction of FDI. These factors include delays in regional and global integration, political instability, corruption, inconsistency of energy supply, the informal sector, the challenges in ensuring property rights protection and the fact that many laws are not properly enforced. A study shows that foreign investors have positive perceptions in relation to buyers, suppliers and customers, whereas, on the other hand, foreign investors have negative perceptions with regard to political instability, which influences their decision to invest in Kosovo.²⁶ Currently there are several institutions and independent bodies that aim to promote and also improve the overall business climate in Kosovo, including but not limited to KIESA, Council of European Investors (CEI), and National Council for Economy and Investment (NCEI). Furthermore, there are also several trade arrangements in place with the EU (Stabilization and Association Agreement), Western Balkans (Central European Free Trade Agreement) and also the trade agreement with Turkey. However, despite the existing institutional setting, Kosovo has a relatively low investment rate.²⁷ Other measures, such as investment guarantees within the Multilateral Investment Guarantee Agency (MIGA) have also been put in place to attract foreign investors.²⁸ Lack of both human and financial capacities within the main institutions that are in charge of promoting and attracting FDI, such as KIESA, are also considered among the main reasons of low foreign investment rate.²⁹ Nevertheless, the recent geopolitical developments after the Covid-19 pandemic and also with the war in Ukraine might create a good momentum for Kosovo to benefit from the nearshoring strategy of many European manufacturers across all industries.

25 Foreign Direct Investments in Kosovo, 2021, Central Bank of the Republic of Kosovo, <https://bqk-kos.org/statistikat/serite-kohore/>

26 OECD (2021), "Kosovo profile", in *Competitiveness in South East Europe 2021: A Policy Outlook*, OECD Publishing, Paris. DOI: <https://doi.org/10.1787/573f3543-en>

27 Ibid

28 Free Market Economy, 2019, *Foreign Direct Investment in Kosovo. The Investment Climate, Potential and Barriers Research Report* By Institute For Free Market Economy (IFME)

29 OECD (2021), "Kosovo profile", in *Competitiveness in South East Europe 2021: A Policy Outlook*, OECD Publishing, Paris. DOI: <https://doi.org/10.1787/573f3543-en>

6.2 Competitiveness and Innovation Support

The legal framework related to enterprise and industrial policy does not provide clear aims for improving the business environment and promoting industrial development. The MIET, as the responsible institution to provide advice with regard to industrial policy, has limited capacities to do so. To date, there is no effective government mechanism to support the introduction of innovation. In 2018 / 2019, a National Strategy for Innovation and Entrepreneurship was developed but never backed with dedicated support schemes or interventions. Firms in the chemical sector, similar to other sectors, are mainly supported through ad-hoc grants provided by the MIET, which have contributed to a small degree of innovation in the production processes, modernization of processing facilities and introduction of new products.

KIESA as an independent agency except investment promotion is in charge also with export promotion and the design and implementation of support schemes for manufacturing sector in general. Currently KIESA provides supportive services for infant industries, support participation of local producers in international exhibitions and fairs and other forms of promotion of domestic industry in international markets. Last but not least, KIESA supports enterprises through the voucher consulting scheme, enabling companies to have better access to knowledge, certification of quality standards, improved marketing and digitalisation, etc.

Institutional mechanisms that are indented to provide easier access to finance include Kosovo Credit Guarantee Fund (KCGF) and its different credit guarantee schemes which enable banks to lend money for relatively higher-risk projects, contributing indirectly to introducing new products and technologies. It should be noted that in 2020, the Government of Kosovo as part of its Covid-19 recovery strategy, established a comprehensive economic recovery plan of nearly €1,1 billion that was distributed in the form of loans, subsidies, transfers, and grants. By the end of 2021 more than 2.000 firms have benefited from around €106 million in loans and €77 million in guarantee..³⁰ Moreover, during the pandemic, the manufacturing sector was also supported by various donors (mainly the EU and USAID) which further contributed to increased productivity and competitiveness of the domestic industry. The latest programme of the Government of Kosovo (2021 – 2025) aims address several issues that will lead to an improved transparency and quality of services as well as increase the effectiveness of public administration and inter-institutional coordination in relation to inspections of business activities.³¹ Other mechanisms to support enterprises through institutional services for innovative MSMEs are the Innovation Centre Kosovo (ICK), Gjirafa Lab, Jakova Innovation Center, among others. These programmes and interventions have a wide scope of support and have a limited impact on enhancing innovation. Kosovo continues to have one of the lowest scores in the region with regards to innovation policy for MSMEs; although it has a high level of the strategic framework for innovation, it lacks concrete actions and targets.³² Unfortunately, dedicated support schemes for innovation in chemical sector, support and facilitation of cooperation between academia and the private sector, are not currently in place. Consequently, enterprises mainly rely on their in-house knowledge, which is largely limited. Currently, as indicated by the recent OECD SME Policy Index Report, public investments in research remain at only 0,1% of Kosovo's GDP.³³

30 OECD, 2022, SME Policy Index: Western Balkans and Turkey 2022; Assessing the Implementation of the Small Business Act for Europe, SME Policy Index, OECD Publishing, Paris. b47d15f0-en.pdf (oecd-ilibrary.org)

31 Government of Kosovo, 2022, Economic Reform Programme 2022-2024 Kosovo,

32 OECD, 2022, SME Policy Index: Western Balkans and Turkey 2022; Assessing the Implementation of the Small Business Act for Europe, SME Policy Index, OECD Publishing, Paris. b47d15f0-en.pdf (oecd-ilibrary.org)

33 Ibid

6.3 Conformity Assessment and Export Safety Requirements

Testing and certification are crucial services for Kosovo producers to ensure compliance with national or international standards or to meet safety requirements. Safety standards are particularly important for the export of chemical products. Kosovar producers exporting to EU are challenged by a very complicated conformity assessment system in the EU. EU countries implement harmonized standards, which are transposed into the relevant national legal framework. These requirements have to be met by any exporter who intends to deliver to the EU market.

The Kosovo Accreditation Directorate (DAK) within the MIET is the government body responsible for conformity assessment, including accreditation of certification bodies and testing laboratories. Despite the fact that DAK is a member, it is not a so-called “signatory” to the European Accreditation Multilateral Agreement (EA-MLA) and/or to the International Laboratory Accreditation Cooperation Mutual Recognition Arrangement (ILAC MRA). This means test results or certificates issued by a Kosovar entity are not internationally recognised. This results in the fact that if international clients require test results or certificates from Kosovar suppliers, they have to appoint foreign conformity assessment bodies.

Chemical products related to the EU standards are mainly subject to the safety rules and procedures for certain hazardous chemicals and pesticides subject to the EU Regulation 649/2012 and EU Council Decision 2006/730/EC.³⁴ However, different measures and requirements apply depending on the product type and the legal framework that the import of that particular product is subject to. Detailed information about the requirements when exporting to the EU market can be extracted through online platforms designed to better inform potential exporters from third countries, like Kosovo.³⁵ From the supply side perspective, the national system is challenged with lack of inspectorate capacities within the central and local level institutions, and a weak market surveillance system hampering sufficient consumer protection of Kosovar citizens. The strong division between the situation in Kosovo and the requirements for chemical products to be exported to the EU market is one of the key obstacles for local producers.

The lack of certification and conformity assessment bodies for chemical products, as well as the not internationally recognised conformity assessment system, is an additional layer of barriers that companies with export potential are facing. Such services for local producers are usually provided by certified bodies that operate in the region.

³⁴ EU Regulation 649/2012 <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32012R0649&from=EN>

³⁵ Relevant information for potential exporters of chemical goods can be found at Access2Markets platform via <https://trade.ec.europa.eu/access-to-markets/en/home> and TARIC database that can be accessed at https://ec.europa.eu/taxation_customs/dds2/taric/taric_consultation.jsp?Lang=en

7. Opportunities and Barriers

Firm-level surveys, stakeholder-level interviews, and other secondary data have identified a broad range of opportunities and barriers related to the future development of the chemical processing sector with a focus on paints and coatings, bath showers and as well as cleaning products in Kosovo. The following subsections elaborate on some of the main opportunities and barriers. Most of them are cross-sectoral and valid for all sub-sectors of the chemical sector.

7.1 Opportunities

- 1. The chemical processing sector is a small but growing sector with high export potential** - The fact that Kosovar chemical processing companies were able to significantly improve their amount of exported goods over the recent years proves the increasing competitiveness of this sector. Such exports indicate that domestic companies are able to penetrate foreign markets. Current supply chain disruptions and the trend for near shoring will likely keep the high demand for such products produced in Kosovo and neighbouring countries.
- 2. The construction and cosmetic sector will reveal high growth rates on mid term** - Kosovar chemical processing companies are suppliers for construction companies and cosmetic manufacturers. According to current market forecasts, both sectors are expected to grow further. Positive growth rates for these sectors will keep the demand for Kosovar supply at a high level.
- 3. The trend for sustainable production can provide new opportunities for Kosovar suppliers** - The current global trend for improved sustainability force suppliers and buyers to reconsider the source of raw materials used and the way how products are manufactured. The substitution of fossil-based raw materials by e. g. water-based for paints and coating will not just contribute to improved sustainability but also reduce the dependency on fossil raw materials from outside Kosovo. The same is for bath and shower products. On one side, clients further request natural ingredients. Still, on the other side, Kosovar cosmetic producers can use locally sourced raw materials material instead and reduce dependency on foreign raw material supply. Thus, this trend, which is often considered a challenge, can be turned into a competitive advantage for Kosovar chemical processing companies.
- 4. Contract manufacturing as new business opportunity for domestic producers** - Kosovar chemical producers are relatively small but flexible. As economies of scale are not yet developed at the individual firm level, there is the possibility of increased cooperation between the domestic producers, such as entering into joint production contracts or subcontracting part of contracted production. Private labelling is one of the approaches to increase the utilisation of current production capacities and profits. The increased trend of exports shows that there is potential for private labelling with international producers/buyers, which would further contribute to the development of technical knowledge for production and access to wider market networks.

7.2 Barriers

In the following passages, key barriers and constraints are listed which hinder the further growth of the sector or might negatively influence the competitiveness of firms in the chemical sector. Addressing these constraints with appropriate interventions and policies could drive the sector towards a remarkable growth trajectory.

1. **Weak product competitiveness** - Despite a satisfactory self-approval for product quality by sector enterprises, the quality of products in the chemical sector is at best uncertain. Many products, including product categories such as paints, coating, shampoos, detergents, etc., are presented and marketed as “following” international brands. Some of these products could even be regarded as copycat products. This implies and is presented as a finding from the survey, that price is one of the competitive aspects for domestic products in the chemical sector. However, competing on price is always a challenge and a specific barrier to tackling high -value-added market segments. Local cosmetic producers often meet sufficient quality, but due to their weak market position, they are not able to reach the market prices of competitors.
2. **The chemical processing sector is dominated by micro and small enterprises** - The vast majority of Kosovar businesses operating in this sector are micro and small firms with very limited production, technical and financial capacities. This makes it difficult to grow, e. g. by investing in higher capacities or new machinery, equipment or process technologies needed to properly respond to new market trends and move to higher -value-added products. Such micro and small firms always have issues gaining access to the necessary financial means, especially since appropriate financial instruments aiming to support the growth of small firms are missing in Kosovo. Furthermore, going international becomes challenging for such enterprises since related experiences, competencies and capacities are missing.
3. **Assured access to raw material** - Raw material difficulties, aggravated by the Covid-19 pandemic and the recent crisis in Ukraine, which evolved into economic warfare, are systematically undermining the chemical sector’s potential in Kosovo since almost all types of raw materials are being imported (despite locally sourced raw materials for cosmetic products). Recent inflationary pressures have just exacerbated the position of local producers in the chemical sector vis-à-vis import competition. In addition, the existing fiscal policy on domestic industry, namely the excise on raw materials, is putting an additional burden on the competitiveness of the chemical sector in Kosovo.
4. **The sector is comparable unorganised and has weak linkages to existing support entities** - One of the most pressing barriers that firms in the chemical processing sector in Kosovo highlighted was the lack of access to support bodies, i.e., sector associations, academia, certified laboratories, and other support services that would boost the sector’s innovation, exports, and growth. Most interviewees also expressed their interest in increased networking and experience exchange. In addition, the sector is largely disorganized since sector-specific BMOs or associations are missing. This fact prevents companies from taking joint action against existing barriers or speaking with one voice.
5. **Limited access to public support and finance** - The chemical sector in Kosovo is dominated by micro and small firms, which makes it very unattractive to foreign investors. Existing public support schemes are horizontal (with the exception of the agriculture sector) with very limited resources and not customized to sector-specific needs. Furthermore, most of the public financial support schemes are either limited to or favour existing exporters which potentially create “market distortions” at the expense of

non-exporters that focuses on domestic market, only. Given the fact that very few firms in the chemical sector are also exporters, the existing schemes are creating barriers to growth rather than actual support to businesses operating in the chemical sector in Kosovo.

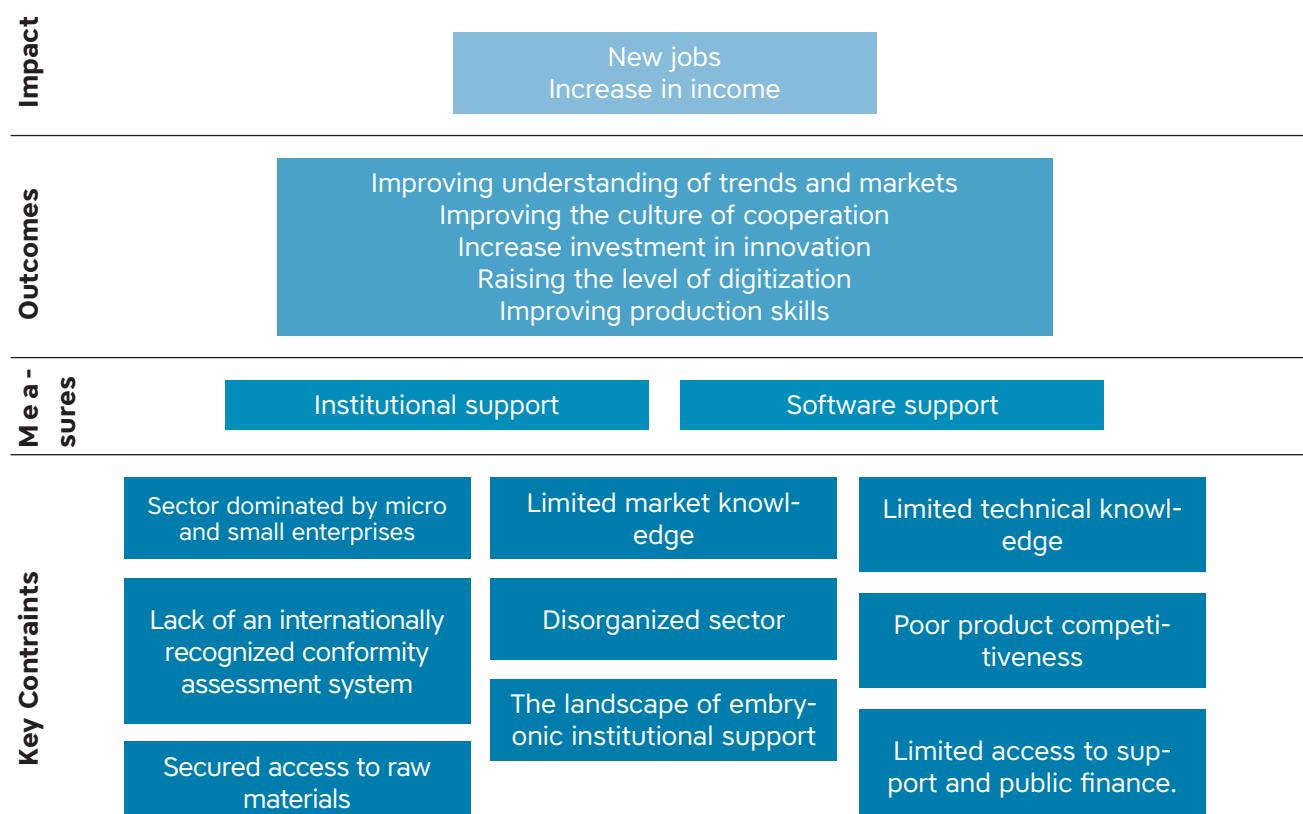
- 6. Lack of up-to-date technical knowledge** - One of the main constraints faced by the chemical producers in Kosovo is the limited knowledge of the improvement of process technologies or the development of new products. Shortage in the labour market for some key professions, such as chemical technologists, creates a critical barrier to growth for the sector companies. As the chemistry sector in Kosovo is very knowledge-intensive, a lack of technical skills affects the quality and competitiveness of final products, which in turn has a negative impact on the competitiveness of chemical producers. Harmonisation of the education system with the industry needs is very weak. Similarly, cooperation and synergies between educational institutions and industry actors are also weak.
- 7. Limited market knowledge** - Access to markets depends primarily on the information and knowledge producers have about the requirements in each specific market, whether in terms of quality standards, types of products demanded, or the overall demand flows. Chemical processing enterprises in Kosovo have limited knowledge about these market trends and their dynamics. In addition, there is limited information on the possibilities of accessing export markets through international fairs. There are no specific fairs supported by the public sector that target chemistry producers and almost no effort by the sector MSMEs to organize joint promotions.
- 8. The lack of certification bodies and laboratories hinders the export potential** - Products to be exported to the EU must meet a wide set of voluntary and mandatory standards and regulations. The lack of availability of local certification bodies and testing laboratories which are able to issue internationally recognised certificates and testing reports, remains a significant barrier for -export-oriented firms. Furthermore, the lack of services such as specialized laboratories for performing product testing and control is a major constraint to the sector. This is complemented by a lack of technical know-how available in the country that helps chemical processing companies to consider such standards already during the design of the products. Firms must purchase testing, certification, or consultancy services from abroad, which is a dedicated challenge. Most companies simply cannot afford such services. This leads to low prices they can obtain from buyers since the buyers usually care about mandatory testing and certification while importing the products. These additional services must be paid by Kosovar exporters at a high price.

8. Recommendations for Interventions

Despite the fact that the chemical processing sector developed positively over recent years, it is still in a fragile status. That's why the sector was overlooked for years. However, the findings revealed that this sector has a growing potential. Proper framework conditions can help the sector and related actors to grow and gain further strengths. Nevertheless, these framework conditions are not really conducive for the chemical processing sector in Kosovo. The main objectives of the proposed interventions aim to improve the competitiveness of the entire chemical processing sector by specifically addressing the identified barriers and constraints (s. Figure 26). The overall goal can be achieved through a series of interventions on the institutional and programmatic levels. These interventions shall be embedded in long-term strategic approach and the commitment of the Government of Kosovo to improve the framework conditions of the chemical processing sector in Kosovo. The set of interventions proposed is composed of institutional as well as programmatic support that tackles one or several barriers identified within this study (s. chapter 7). Focus is given to such interventions/recommendations, which are within the scope of the MIET.

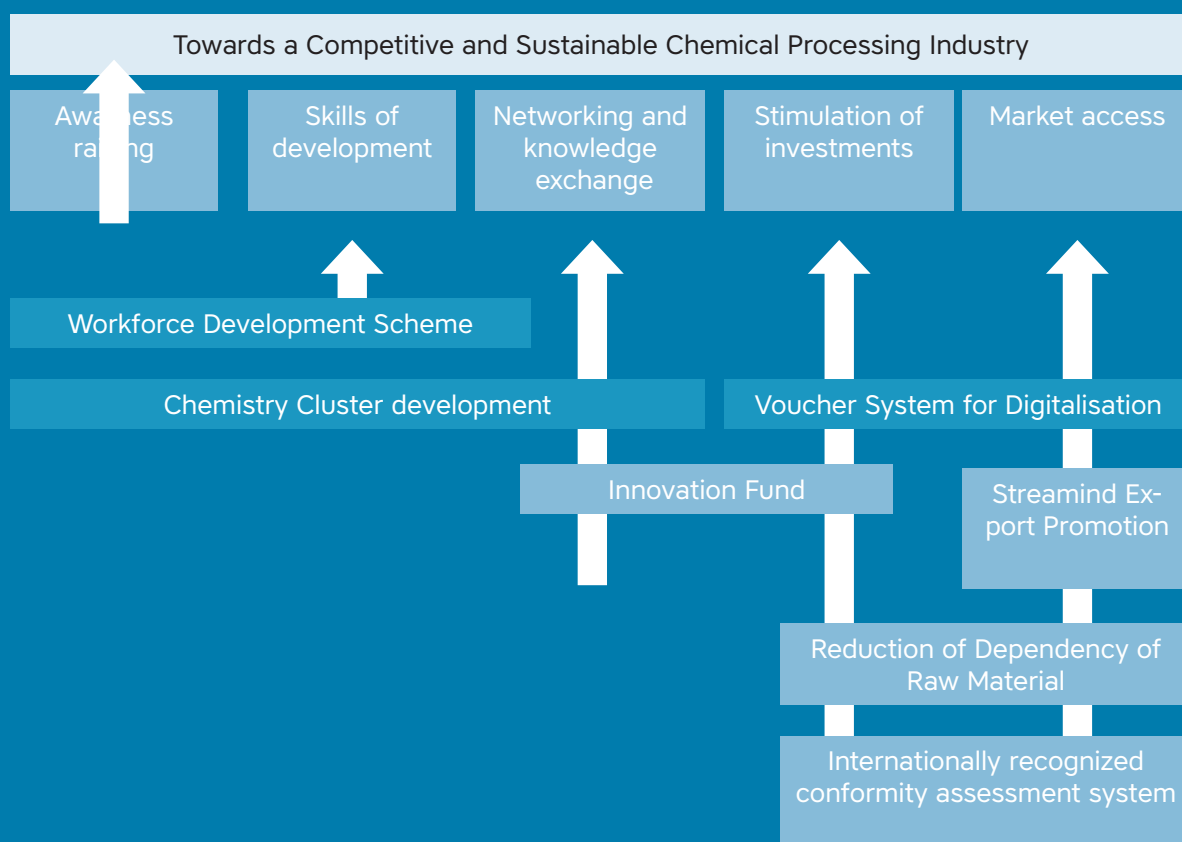
Most of the recommendations are not explicitly intended for the chemical processing sector but also for other manufacturing sectors in Kosovo, like the metal manufacturing sector, the food and beverage sector and others.

Figure 27: Theory of Change of the proposed interventions



Source: Anteja EGC

Figure 28. Seven proposed interventions and addressed areas of improvements



Source: Anteja ECG

Based on the findings gained, a set of interventions is proposed that address one of several areas of improvement as given in Figure 27.

Recommendation 1: Support of workforce development

Rationale: The growth pattern of the chemical processing sector has significant consequences for the demand for skills of workers and workforces. The national educational system is not yet prepared for the future demand of the chemical processing sector. There are not enough public VTCs or universities providing graduates that have the competence the sector is in needs of. Even in case that efforts are spent on upgrading the curricula and infrastructure of national vocational training education centres, this will take time, and it is unclear to what extent it will be possible for such institutions to provide the support which is really needed.

Thus, new ways have to be identified how to better and faster support skills development in the chemical processing sector. The main barriers to supporting employees in skills development are a lack of knowledge of training needs, a lack of training providers and a lack of financial means of the micro and small producers.

A promising intervention could be a skills development grant scheme.³⁶ Beneficiaries of the grant scheme are MSMEs and crafts from the chemical processing sector who can receive advice in formulating skills strategies and financial support for skills development through training vouchers.

- Companies can receive support in training needs assessment of their workers, e. g. part of a skills strategy, which can be understood as a precondition for future training activities.
- Companies can receive vouchers for training programs which are relevant to developing mandatory skills.
- Education and training providers, scientific organisations, associations, or business member organisations can receive support to develop and implement new training programmes and additional support for forming international partnerships with training providers from abroad.

The scope of this voucher scheme shall focus on chemical processing and related fields. Due to the increasing transformation of the chemical industry, the scheme shall encourage digital skills development as well. The vouchers cover expenditures for:

- Trainers' personnel costs for the hours/days during which the trainers participate in the training.
- Trainers' and trainees' operating costs directly relating to the training project, such as travel expenses, accommodation costs, materials and supplies directly related to the project, depreciation of tools and equipment, to the extent that they are used exclusively for the training project.
- Costs of advisory services linked to the training project, and
- Trainees' personnel costs and general indirect costs (administrative costs, rent, overheads) for the hours during which the trainees participate in the training.

If successfully implemented, this grant scheme can increase awareness about the increased need to invest in its own employees. It facilitates the design and implementation of tailor-made training programmes but also allows training providers to extend their knowledge.

Good Practice Example

The Royal Society of Chemistry (UK) implemented a skills development voucher programme to support SMEs facing the challenge in shortage of people with the necessary technical skills. Therefore, the Royal Society of Chemistry offered training vouchers, each worth up to €1.200, to reimburse the cost of a training course for a staff member at members. The voucher was eligible to be used for technical, business or 'soft skills' training: whichever most closely met the members' needs. Any course from a reputable supplier was eligible, but the Royal Society of Chemistry also supported its members to identify appropriate training courses.

The voucher scheme was introduced in January 2021 and remained open throughout the year to ensure that a sufficient number of applications were made. The application process was very easy to lower any potential barriers from SMEs to apply. After successful application, the beneficiary was allowed three months to book the course and to claim the money for your voucher. Members were allowed to apply for one training voucher per six month period³⁷.

³⁶ This grant scheme shall be open of all manufacturing sectors, not just food and beverage, like metal or wood manufacturing, textile or chemical industries

³⁷ The Royal Society of Chemistry, <https://www.rsc.org/sme/training-vouchers/#eligible>

Recommendation 2: Setting up a chemical processing cluster, “Chemistry Cluster Kosovo”

Rationale: The national landscape of business member organisations, sector associations and cluster initiatives is still fragile or not even existing. So far, there is neither a sector association nor a regional network or cluster initiative in place. In parallel, there seems to be an increasing interest of businesses in the chemical processing sector for networking, experience exchange and cooperation. There is no doubt that such entities do play an important role. When looking at neighbouring countries (e. g. BiH or Serbia), it becomes obvious that such countries have a much more mature cluster landscape in place.

The main objective of the proposed intervention, “Chemistry Cluster Kosovo”, is to improve the competitiveness of enterprises in the chemical processing sector by enabling them to network, cooperate, exchange experience, and even engage in more value-added activities. The objectives would be achieved through the support of such a cluster initiative, which operates like a business membership organisation that promotes such activities among related businesses. These activities will be enabled through professional cluster organisation. The intervention will support the cluster organisation to provide services for a range of activities, including networking, matchmaking, skills brokering, training provision, internationalisation, bundling production capacities or common innovation activities. Support provided by such a cluster organisation will boost the capacity of the beneficiary cluster members to cooperate, network and innovate, which in turn will enable them to become more competitive in their key sector.

The proposed intervention shall support the cluster organisation in:

- Animation of the cluster initiative to facilitate collaboration, information sharing and the provision or channeling of specialised and customised business support services,
- Awareness raising of cluster firms for relevant trends, changing market requirements and innovation potentials,
- Advice and coaching of cluster firms for the establishment of mutual partnerships and matchmaking,
- Assessment of training needs of the cluster firms as well as support making use of training vouchers (s. recommendation 1),
- Initiation of international business cooperation and inclusion in global value chains (aligned with national export promotion agencies, like KIESA),
- Initiation of technology transfer and commercialisation of innovation by taking over the role of technology broker and accelerator,
- Branding and communication activities,
- The organisation of forums, working groups, workshops, or other formats for the exchange of knowledge and experience,
- Development and implementation of activities and services that contribute to networking, experience exchange, trust building, knowledge exchange, skills development, business generation or mutual development of innovative products, technologies, or services.

Good Practice Example

Chemie Cluster Bavaria

In 2006, Chemie Cluster Bayern (Chemistry Cluster Bavaria) was founded within the Cluster Initiative Bavaria. The Bavarian State Government's initiative aimed to increase Bavaria's competitiveness in the field of chemical process technology. Over time, the cluster management set up a dense network of local and international firms that allowed companies and research institutions to cooperate, network and jointly create innovative solutions. The cluster approach has proven that networking can help to connect actors along the value chains from research and development to the final product.

The over 100 members of Chemistry Cluster Bavaria benefit from access to the cross-sectoral, regional, and international network. Thanks to the professional cluster management team, it can respond to specific demands of its members regarding development and cooperation. The annual thematic forums offer the ideal opportunity to interconnect with other members, exchange knowledge or discuss the latest topics.

Chemistry Business & Innovation Platform is responsible for the implementation of projects and collaborations. Using technology scouting, the cluster management identifies potential new technologies and products and acts as a neutral intermediary and catalyst between cooperation partners. The cluster management further supports the members in developing new business or product ideas.

In cooperation with the University of Bayreuth and the TUM Campus Straubing, the Chemistry Cluster Bavaria offers members support in the development of regional or national grant applications. Apart from project development and management during the application process, cluster management also offers assistance in project management throughout the project period.

Source: Chemistry Cluster Bavaria

Recommendation 3: Setting up a voucher system to improve the level of digitalisation within MSMEs

Rationale: The findings reveal that the level of digitalisation within MSMEs from the chemical processing sector is comparable low. There might be various reasons for this observation. Enterprises in Kosovo are not able to invest in digitalisation. Furthermore, there is often no sufficient knowledge within the enterprise to decide where and how to start. Finally, enterprises often suffer from a lack of access to qualified business service providers that can support them accordingly.

Designing and implementing a so call Voucher Programme for Digitalisation is recommended to respond properly to the -above-mentioned constraints. Such a voucher programme usually consists of economic incentives granted by local, regional, and national governments to enterprises with the aim of addressing pre-defined goals. In this context, the voucher programmes are mainly targeting MSMEs. Voucher programmes are well established in Europe and beyond and have proven to be an effective tool to support MSMEs in various areas. Whereas in the past, innovation vouchers were the prevailing voucher type, nowadays vouchers are also issued to support enterprises in digitalisation (e. g. Voucher for Digitalisation, Belgium³⁸) or transformation (e. g. Transformation Voucher Baden-Württemberg.³⁹

³⁸ <https://editx.eu/en/it-challenge/digital-transformation-challenge-belgium-2019>

³⁹ <https://wm.baden-wuerttemberg.de/de/innovation/innovationsgutscheine/> (in German language)

It is recommended to implement a voucher programme that stimulates digitalisation-related activities within enterprises. The vouchers can be used by the enterprises to receive support from consultants, training providers or R&D institutions. The requested support can cover

- Diagnostics and digitalisation auditing
- Digitalisation-related services
- Business advisory services, including digitalisation strategy).

Good Practice Example

The Government of Baden-Württemberg (Germany) issues vouchers for innovation and digitalisation for local businesses to stimulate investment in transformation and digitalisation. The vouchers support the implementation of various measures and cover costs up to €50,000.

In 2008, Baden-Württemberg became the first German state to introduce innovation vouchers for small and medium-sized enterprises. The program supports SMEs in the planning, development, implementation and further development of innovative products, services or production processes. In 2012, the programme was expanded to include the High-tech Start-up innovation voucher. It is aimed at high-tech start-ups up to a maximum of five years after foundation and supports innovative projects from the growing fields of the future. In 2017, the Hightech Digital and High-tech Mobility innovation vouchers were introduced to support established companies in the development and realization of sophisticated digital products and services.

Although the different voucher schemes have similar purposes, they allow offering more -demand-oriented support. The application process for the different vouchers is very similar. The support ranges from €10,000 up to €50,000 per voucher. One of the key advantages of the voucher scheme is the low administrative barriers and short assessment period.⁴⁰

Recommendation 4: Streamline the Export Promotion Support Landscape

Rationale: The findings have shown that many enterprises successfully entered new markets and became suppliers for partners from abroad. Export remains one of the key drivers of sustainable growth. Although many enterprises already export, there is still significant room for increase. The ultimate goal shall be to set up framework conditions conducive for enterprises to go international, which goes beyond individual donor-driven support programmes.

So far, the government has some programmes in place and appointed entities, like KIESA, to promote the internationalisation efforts of the private sector. However, these actions appear fragmented, not always aligned, and often traditional and, by far, not sufficient to set up conducive framework conditions for export promotion. Any systemic strategy is missing.

So far, there are no financial instruments in place that support enterprises interested in going international. Whereas other countries offer favourable loans that can help enterprises to export and growth their business abroad or Insurance of export transactions and investments abroad against non-marketable risks available, such instruments are missing in Kosovo. Furthermore, support is needed that offers all the facets of internationalisation, from identifying promising markets over B2B matching/exchange with international buyers to financial support for pre-financing internationalisation efforts, at least firms with high export po-

⁴⁰ <https://wm.baden-wuerttemberg.de/de/innovation/innovationsgutscheine/> (in German language)

tential. Such monetary support is important since most Kosovo businesses are very small with low financial capacities.

Existing institutions, like KIESA, shall be strengthened to provide a stronger and more active role in this regard. Regular participation and exhibition in international fairs in cooperation with KIESA, training of firms on how to internationalise as well as strengthening the diaspora networks are activities that would all help the sector to go international.

Good Practice Example

Internationalisation is an integrated part of the National Smart Specialisation Strategy. With an export share of 80% in 2020, internationalisation is the prevailing growth option for domestic companies. Consequently, the Government of Slovenia offers a supportive environment for emerging businesses looking to thrive internationally.

As part of its internationalisation efforts, Slovenia set-up a consequent Branding Strategy to better communicate its Unique Selling Point ("The Slovenian economy is green, creative and smart, which is evidenced by its focus on the green economy and sustainable development to become an advanced, low-carbon society that actively responds to global challenges and co-create new trends"). Slovenian government and public institutional bodies provide many free-of-charge services to existing and potential Slovenian partners, investors, suppliers, and exporters, helping them to enhance their cross-border operations, increasing the geographical diversification of Slovenian exports and creating better conditions for Slovenian companies on foreign markets. SPOT Global, run by SPIRIT Slovenia, works as a one-stop-shop for all the necessary information.⁴¹ Entities involved in internationalisation support measures are adequately equipped and operate in a professional manner. SPIRIT is also charged with the implementation of existing financial support schemes for export promotion and internationalisation.

Support schemes relate to:

- promoting the competitiveness and resilience of Slovenian exports,
- attracting, supporting, and retaining foreign investors in Slovenia,
- supporting Slovenian companies investing abroad,
- improving the international visibility of the Slovenian economy,
- improving the functioning of the internationalisation support ecosystem itself.

In addition to traditional measures such as co-financing market research and activities related to trade fairs and business events to encourage companies to enter foreign markets, support is also targeted at new forms of encouraging the internationalisation of companies, i.e., the digitalisation of companies, e-content as part of business operations, new business models, partnerships with the aim of jointly entering a selected foreign market and similar initiatives.

In addition, support is also focused on suppliers, which includes tailor-made information about Slovenian suppliers, a database of Slovenian exporters Sloexport, distribution of your inquiry among Slovenian exporters, organisation of fact-finding missions, links with industry and local authorities, and advice on practical matters. More detailed information for potential Slovenian suppliers, the business environment, industries, and other business-specific information can be found on the portal Slovenia Partner.

Source: <https://www.sloexport.si/en/About-us>

⁴¹ <https://www.sloveniabusines.eu/>

Recommendation 5: Setting-up and Implementation of an Innovation Fund

Rationale: The findings have shown that most metal manufacturers neither invested in innovation nor digital transformation processes. A low ability to innovate, diversify or to adapt to upcoming clients is the logical consequence. Many of the respondents are fully aware of such investments, but they do not have proper access to finance and knowledge. The intervention “Innovation Fund” responds to this situation by improving the competitiveness of firms from different key sectors, incl. chemical process technologies, promoting diversification, and enabling beneficiary firms to engage in more value-added activities. The scheme will support collaborative innovation and digital transformation projects that bring together different companies or companies and research organisations for the development of new technologies and new or improved products and services.

To achieve this goal, the proposed approach will lead to:

- Increased innovation capacity of enterprises through matching grants. Support provided in the form of such grants for the development of new products, processes and services will enable the following 1) improved funding availability for innovation activities, 2) increased knowledge and technology transfer activities (by supporting contractual research, acquisition, and licensing of IPR and other intangible assets), 3) increased access to innovation advisory and support services, 4) increased personnel available for innovation activities, and 5) improved availability of quality research facilities and equipment.
- Improved linkages with innovation actors. Support provided to consortia will encourage and strengthen innovation linkages and partnerships between innovation actors within the chemical processing sector.

Over the last years, the GIZ CETEP, supported by MIET provided financial support to SMEs through an “Innovation Fund” grant scheme. In 2018 and 2019 many projects were awarded. In case such an Innovation Fund shall be implemented, it can be built in the experiences previously made.

The objective of the Innovation Fund is to respond to the current situation, by improving the competitiveness of firms within the manufacturing sector, promoting diversification and enabling beneficiary firms to engage in innovation (and R&D). The scheme will support collaborative innovation projects that bring together different companies or companies and research organisations for the development of new technologies and new or improved products and services.

Good Practice Example

Serbia was one of the first West-Balkan countries to adopt the so-called innovation imperative – the idea that successful participation in the world economy based on knowledge relies on the ability to innovate and adapt technological and research capacities based on a collaborative approach. The Innovation Fund has been in place for more than 10 years and is primarily intended to increase the capacity of SMEs and start-ups and available resources for their growth. The fund is thus part of a broader state innovation strategy.

The fund's mission is to support the development of innovation through appropriate financial, technical, and advisory support instruments in order to empower innovative enterprises and strengthen the link between research and development on the one hand and the business sector on the other, respecting the highest ethical, financial and business standards and practices.

The fund aims to improve the links between science, technology and the economy and contribute to encouraging the development of innovative entrepreneurship by:

- supporting innovative entrepreneurship, especially in the early stages of development.
- connecting scientific research organisations and private companies for the development and commercialisation of innovations.
- enabling new products, technologies and services to enter the international market.
- establishing long-term institutional support of the state for innovative entrepreneurship in cooperation with international financial institutions, organisations, donors, and the private sector.

So far, more than €65 million has been allocated for the fund's programs. At the same time, one of the priorities of the Government of the Republic of Serbia is to improve the competitiveness of science, research, and innovation in the function of economic development, which is reflected in providing greater funds for financing innovations through the fund, especially since 2018.

Since its beginning, the Innovation Fund has funded 340 innovative projects.⁴²

Source: Innovation Fund Serbia

Recommendation 6: Reduction of dependency of raw-material from abroad

Rationale: Many Kosovar chemical processing companies strongly rely on external raw material suppliers. Figure 11 reveals that only one-third of the raw material used by domestic enterprises is sourced locally. Mainly companies from the cosmetic sector source locally or from countries close by. Increased use of domestic primary raw materials can have positive effects on the security of supply for this sector. As far as natural cosmetic firms are concerned, they can be motivated to cultivate more raw material locally, which is likely possible. There is even an increasing demand from EU countries for Medical Aromatic Plants as raw material for cosmetic products. Investments in this area can turn natural cosmetic firms from Kosovo into competitive natural raw material providers. For example, Wala Heilmittel GmbH⁴³ started its own production of Arnica, Sage and Calendula in Kosovo to assure long-term supply.

⁴² For more information: <http://www.inovacionifond.rs/en/fond/about-fund>

⁴³ <https://www.wala.world/en/>

As far as companies producing paints, coatings and adhesives are concerned they remain dependent of fossil raw material from abroad. However, such companies can be supported to consume fewer raw material by improved material and resource efficiency. This can be reached by an investment stimulation programme for new machines and technologies that less input (s. recommendation 7 of the food & beverage value chain mapping report) or by coaching / advice on raw material efficiency (s. recommendation 4 of the metal manufacturing value chain mapping report).

Good Practice Example

With the adoption of the German Resource Efficiency Programme (ProgRes), Germany was among the first countries to determine targets, guiding principles and approaches to the reduction of dependency of external raw material supply. The overarching goal of the German Resource Efficiency Programme is to make the extraction and use of natural resources more sustainable and reduce the dependency from third countries.

The programme offers a wide spectrum of support measures as indicated below.

Raw Materials Supply	raw materials strategy	renewable raw materials	sustainability and transparency
Production	efficiency consulting	efficient production	product design
Consumption	awareness raising	retailers and consumers	certification systems
Building	infrastructure	construction, development, replenishment	labelling construction products
ICT	efficient products	efficient software	public procurement
Cross-cutting instruments	Research and innovation	education	legal framework

ProgRes offers support for increasing raw material efficiency along the entire value chain – from raw material extraction and product design to production, use and circular economy. One aspect of the programme is to address current challenges in order to further improve the programme's effectiveness.

Among others, the programme supports material- and energy-efficient production and raw material recovery processes. By increasing material efficiency and closing material cycles should not only increase security of supply, but also to make a targeted contribute to environmental relief by saving primary raw materials.⁴⁴

⁴⁴ Source: Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection, 2022

Recommendation 7: Setting-up an internationally harmonised conformity assessment system

Rationale: Many Kosovar businesses service international construction companies by supplying them with paints and coating. These products belong to construction materials for which certification is often mandatory (e. g. according to EU Regulation 649/2012 and EU Council Decision 2006/730/EC). The national conformity assessment system of the Republic of Kosovo is internationally not recognised and, thus, cannot provide such certificates. This results in a dedicated competitive disadvantage. Similar trade barriers exist for Kosovar bath and shampoo or cleaning product providers.

Even though in the past, there were several international donors' activities to improve the national conformity assessment system, the Kosovo General Accreditation Directorate (DAK) still has the status of an associate member, but not an EA full member. Key competitor regions, like Serbia, Romania and North Macedonia, have an internationally recognised conformity system in place. More efforts have to be spent from the DAK side to meet the international requirements given by EA. It is recommended to set up a reliable roadmap, incl. an action plan, how the DAK and the Government of Kosovo will meet the requirements to become a full member of EA and support actions are needed. A mutual peer review with one of the EA full members can help to identify weaknesses and room for improvement.

9. The way forward

The study has shown that there are some sub-sectors within the chemical industry in Kosovo that developed well over the recent years. The high export orientation also demonstrates that companies in these sub-sectors can compete on the international level. The current trend towards higher sustainability can further fuel the demand for Kosovar products. Shifting from solvent-based to water-based paints and coatings for the construction sector and natural ingredients for Kosovar bath and shower/cosmetic and cleaning products are alternatives which will be in high demand in the future.

Despite the thoroughly promising developments for the identified sub-sectors of the chemical processing sector, there are also several challenges that need to be mastered so that the sector can really benefit from the future potential. Neighbouring countries are still much stronger in the sub-sectors identified and have also developed comparatively well in recent years. This competition must be successfully mastered to further improve the competitive position of Kosovar firms.

The recommendations proposed indicate concrete solutions that can help the sector maintain and further expand its competitiveness. To be successful, however, substantial public and private investment are required. The proposed measures are aimed precisely at giving the private sector concrete pointers so that it can invest more easily in future technologies and knowledge. In this way, it might be possible to support the chemical processing sector in a sustainable way.

The recommended measures depend not only on appropriate design but also on professional implementation. However, there is little experience with the implementation of such measures and support programs in this country. It is important to avoid the mistakes made in the past in many Western Balkan countries. Interventions must be implemented in a needs-oriented, rapid, and comparatively non-bureaucratic manner. Companies need quick decisions and not months of waiting.

The study lays the foundation for public-private dialogue on the results and proposed measures, which should ultimately lead to targeted use of limited public funds where they can have the significant impact on the chemical processing sector.

