



REPUBLIC OF KOSOVO

MINISTRY OF INDUSTRY,
ENTREPRENEURSHIP AND TRADE



KOSOVO METAL PROCESSING VALUE CHAIN STUDY

REPORT

OCTOBER 2023



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Implemented by
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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

BMO	Business Member-ship Organisations
CEI	Council of European Investors
CEFTA	Central European Free Trade Agreement
CNC	Computer Numerical Control
ECIKS	Economic Initiative for Kosovo
EA	European Accreditation
ERP	Enterprise Resource Planning
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
HS	Harmonized Commodity Description and Coding Systems
ECK	Economic Chamber of Kosovo
GAWB	Green Agenda for the Western Balkans
ICMM	Independent Commission for Mines and Minerals
IPA	Industrial Property Agency
KBBA	Kosovo Business Registry Agency
KIESA	Kosovo Investment and Enterprise Support Agency
KMA	Kosovo Metrology Agency (KMA)
KSA	Kosovo Standardization Agency
MaaS	Manufacturing as a Service
MESPI	Ministry of Environment, Spatial Planning, and Infrastructure
MFLT	Ministry of Finance, Labor and Transfer
MIGA	Multilateral Investment Guarantee Agency
MIRECK	Metal Industry and Renewable Energy Cluster of Kosovo
MIET	Ministry of Industry, Entrepreneurship, and Trade
MTI	Ministry for Trade and Industry of the Republic of Kosovo
NACE	Nomenclature statistique des Activités économiques dans la Communauté Européenne
NCED	National Council for Economic Development
OEM	Originally Equipment Manufacturers
SAA	Stabilisation and Association Agreements
SME	Small and Medium Enterprises
TAK	Tax Administration of Kosovo
VTC	Vocational Training Centers (VTC)

Executive Summary

The present report takes a deeper look into the Metal Manufacturing sector of the Republic of Kosovo. It is a sector, which is, on one side, significantly under industrial transformation. On the other side the sector benefitted from currently supply challenges as a results of Covid-19 or the Ukraine crises. Despite that fact that the quality of statistical data are limited, there is no doubt that the sector developed well over the recent past. Near-shoring as well as an increased focus on manufacturing are global trends the local manufacturing industry is benefitting of.

The main growth potential of the Metal Manufacturing sectors is the export. The demand for Kosovan products, mainly profiles and other semi-finished parts, from European buyers is high. Consequently, the number of active companies grew up over the recent past (more than 1.170 companies) as well as the number of employees (almost 4.000). Based on interviews with 48 selected companies, the current production utilization is over 80%, and 42% of the metal manufacturing companies are involved in export activities. A good quality-price ratio is considered as key competitive added value by clients from abroad.

However, when comparing with regional competitors, Kosovo metal manufacturing industry grew similar like the neighbouring countries. Value-added per capita growth rate of Kosovo was 3% over the last year and the productivity of the entire manufacturing sector was similar as of the main regional competitors.

The shortage of raw material as well as increasing cost for raw material are short-term trends that are raising major concerns regarding the Kosovan future metal manufacturing industry. The study identified further barriers that might hamper the domestic metal manufacturing sector to develop as promising as in the past:

- The metal manufacturing sector is dominated by micro and small enterprises
- Most products and parts manufactured are of limited added value.
- The sector is highly depending on international trends and external demand
- There is a low readiness of the companies to invest in innovation and digitalisation
- There is a significant shortage of skilled workers available
- The knowledge about international markets is limited
- The institutional support landscape is embryonic
- Tailor-made support schemes are missing
- The national conformity assessment system is internationally not recognised

Consequently, the Value Chain Mapping Report deducted the following recommendations, which are further specified in chapter 7.

Recommendation 1: Support in workforce development

Recommendation 2: Strengthening of sector and business member organisations

Recommendation 3: Setting-up a voucher system to stimulate firm-level innovation and digitalisation

Recommendation 4: Setting-up a material efficiency expert pool to reduce production costs

Recommendation 5: Streamline the Export Promotion Support Landscape

Recommendation 6: Setting-up and Implementation of an Innovation Fund for the private sector

Recommendation 7: Stimulating public private dialogue through a National Manufacturing Forum

Recommendation 8: Setting-up an internationally harmonised conformity assessment system

In case the recommendations are consequently turned into practice, the domestic metal manufacturing sector will significantly increase its long-term competitiveness and well prepared for the upcoming challenges connected with the industrial transformation processes as well as the supply chain disturbances, which will likely last for the next years.

Introduction

In the recent years, the metal manufacturing industry worldwide has undergone a significant transformation process, driven by trends like sustainable production or digitalisation. Nowadays, Computer Numerical Control (CNC) machines are becoming an integral part of the metal fabrication industry. Among others, 3D printing is quickly emerging as one of the most versatile tools in nearly every industry. In metal fabrication, additive manufacturing provides a new level of customisation to an already versatile industry, making the metal fabrication industry friendly to robotics and digitisation overall. Increased digitalisation of metal manufacturing increases the need for increased cybersecurity to ensure networks remain secure.

The global and European metal manufacturing industry is exposed to such new trends but also to new challenges. The impact of the Covid-19 pandemic or ongoing geopolitical tensions, like the Ukraine war and related sanctions, have had significant impacts on the global supply chains, including the metal manufacturing sector. Recent supply shocks due to shortages and increased oil prices has also affected the metal industry. These circumstances have increased the importance of the proximity of the supply chain actors as a mitigation measure to address increased transportation prices and reliance on traditional large supply markets. Global supply chain distortion puts a pressure on growing metal related processors in the EU market to diversify their supply chain and increasingly look for new partners in the Western Balkan countries. These developments significantly impact the Kosovan metal manufacturing market and provide new growth opportunities for local enterprises engaged in this sector. During the field work there was already first-hand evidence for increased external demand for metal manufacturing products from Kosovo.

First indications for such a trend are shown through a continuous growth of exports, in particular in the last few years.

The Kosovan metal manufacturing industry is significantly exposed to the above-mentioned transformation processes as well as to the new challenges, and it is an important sector for the country. According to the Tax Administration of Kosovo (TAK), more than 1,150 enterprises supporting almost 4,000 jobs exist, with a good growth path in recent years. The current Ukraine crisis as well as the clear trend to shorten existing value chains provides good growth prospective for this sector. Nevertheless, the metal manufacturing sector in Kosovo is still fragile since it mainly supplies to buyers outside of the country and, thus, significantly depends on external demands, which can rapidly change due to global political impacts. Furthermore, most enterprises are very small with limited financial capabilities and an often weak market position¹.

The present Value Chain Mapping Report is an important part of interventions from the Ministry for Trade and Industry of the Republic of Kosovo (MIET) and GIZ in order to support the competitiveness of selected industrial sectors. Metal is of major concern, and not only because of the importance of the local metal manufacturing industries but also of the upcoming global trends. The integration of Kosovo's metal producers in the EU or global supply chain will offer a great opportunity for growth, innovation, and increased competitiveness. The Kosovan manufacturing industry must be aware of it if it intends to stay competitive and remain an important partner in global value chains.

¹ see chapter 4.3, but also other studies, like Ministry for Trade and Industry "Sector Profile of Metal Processing Industry", 2014

The findings and conclusions of this report identify missing links, main gaps, and constraints along the selected value chain. The report also provides observations and considerations to be taken into account regarding the upcoming policy interventions.

1 Methodology

The value chain mapping report explores the critical success factors of the respective value chains to gain insight into the related gaps and to understand the primary drivers of value chain development. To provide an in-depth value chain analysis of the metal processing industry, the research team has applied a structured methodology. The analysis is conducted in the stages elaborated below.

Firstly, the research team has analysed secondary data, by examining published reports/studies relevant to the sectors and the context, and also studies and reports covering global economies. This step has allowed the team to portray a respective map of each sector. The value chain map provides a graphical structure depicting how a product in an industry moves from raw material through production of goods/services, processing of goods/services, and other steps until the product/service eventually reaches the final consumer. The map highlights the range of activities that occur within the value chain.

Secondly, the research team has analysed the trade data of the respective sectors, to better understand market dynamics, domestic demand and growth trends and competitiveness of domestic SMEs in the export markets. Data from the Kosovo Agency of Statistics and Kosovo Customs data represent the main sources.

Thirdly, the research team has developed a sample of metal processing firms for the survey's in-depth interviews, and 48 companies have been sampled in this way. The sample has been selected based on the structure of the sector SMEs, as per the official public data of the Business Registration Agency of Kosovo, in close coordination with the representatives of the Ministry of Industry, Entrepreneurship and Trade and GIZ. The sample provided the required threshold for conducting the required empirical analysis, as it provided a minimum number of observations for the sample distribution to tend to approximate normal distribution.

Fourthly, the research team has implemented firm-level interviews. Compilation of a structured dataset, such as data cleaning, double-checking in case of errors, and value chain analysis based on the analysis of data has been conducted afterwards.

Finally, to triangulate information, the research team has conducted interviews with stakeholders representing relevant institutions, including sector associations, relevant national institutions, and other relevant actors, involving three interviews with stakeholders per sector. As value chain studies are based on qualitative and quantitative data analysis, the methodology is robust for providing valid market trends and value chain analysis.

2 Global Trends in Metal Manufacturing

Metal manufacturing is under significant transformation. Although rarely publicly discussed, there are ongoing trends with a significant impact on how the manufacturing process happens. Key drivers behind this are changing customer requirements, an increased need for sustainable production and new potentials provided by digital transformation.

Like many industries, **digitalisation** is a trend that is significantly transforming metal manufacturing all over the world. Many other trends described below are mainly enabled by digitalisation. Digitalisation of the manufacturing process allows higher degrees of automation, the introduction of Artificial Intelligence based technologies (e. g. predictive maintenance or machine learning) or the increased use of industrial robots. Adopting digitised technology will also increase the need for greater cybersecurity. Embedding more digitalisation functionalities in the metal manufacturing process will lead to higher productivity, flexibility and quality. Industry 4.0 and Internet of Things are sub-trends, which shall not be overlooked. As the findings of the study confirm, many SMEs have already benefited from an increased level of digital manufacturing. Using **Enterprise Resource Planning (ERP)** systems is often a promising first step to increase the level of digitalisation within an enterprise, since it helps streamlining processes and improving information flow throughout the company. Finally, digitalisation allows the application of new business models, which might become applicable for Kosovan businesses as well. Manufacturing as a Service (MaaS) or Equipment as a Service (EaaS) are only two examples for new business services enabled by digitalisation.

Increased automation is still a key driver for change in the metal manufacturing sectors. It contains **hard automation**, which can be understood as **the** automation of physical machines, like welding or material-handling machines. **Soft automation** — data collection and online tracking — is still less common in many manufacturing environments². Sensors and other data collection devices are becoming increasingly inexpensive and there is an increasing interest in data collection. New approaches, like predictive maintenance or the use of industrial robots cannot be applied without such soft automation approaches. However, increased automation has other advantages, like cost reductions or higher manufacturing flexibility.

Using **industrial robots** in metal manufacturing can be understood as the logical consequence of both trends mentioned so far. Industrial robots are highly relevant for activities that might be too dangerous for human workers or that might be easy to substitute. Today, robotics technology has evolved to the point where these devices can work safely alongside human beings to complete tasks. The increased use of industrial robots may also help offset the industry's labour shortage. At the same time, it makes existing jobs in this sector more ambitious and attractive, given the case that young workers prefer apply ICT and mechatronics rather than just monitoring and maintaining cutting machines. Whereas industrial robots are already well frequented in advanced metal manufacturing enterprises, robots may be in their infancy in the metal fabrication industry. However, they are quickly filling a necessary niche. Industrial robots are not only intended for big or high-tech firms, but this trend is also relevant for many SMEs in Kosovo.

² EuroScientist, 6 Promising Trends and Technologies improving metal manufacturing, 2021, <https://www.euroscientist.com/trends-metal-fabrication/>

Computer numerical control (CNC) machines are state of the art and are becoming an integral part of the metal fabrication industry. CNC machines are also the base for any kind of automation process. However, the performance of these machines has been significantly improved over recent years to allow more automation and complex manufacturing processes. This trend led to the introduction of 6-axis CNC machines from 2019 on, which will become state of the art within the next five years. However, 4- and 5-axis CNC machines will continue to be the backbone of modern manufacturing enterprises.

Additive manufacturing, like 3D printing, has found its way into industrial applications. However, this has not been as a substitution for traditional manufacturing processes, like drilling or milling, but increasingly for the manufacturing of spare parts or for complex parts with low production volumes. Recent advances in this field focussed on the ability to additively manufacture new materials as well as to increase the productivity of such manufacturing processes. Additive manufacturing will continue to be a very versatile tool in nearly every industry. Future applications can be further fuelled by another important trend, which is sustainable manufacturing. Additive manufacturing generates much less waste than traditional manufacturing processes. It also contributes to the use of less lubricants and other chemicals often used in traditional manufacturing processes.

Increased digitalisation of metal manufacturing increases the need for increased **cybersecurity** to ensure networks remain secure. A recent international survey found that between 2017 and 2018, 88% of manufacturing executives reported at least one cyber incident during the previous 12 months³. That could include an attack, data theft or other cyber threat. Recently, IBM called manufacturing one of the most frequently hacked industries in the world. This is backed by several studies that reveal that European SMEs in the manufacturing sector are not properly prepared for cyber-attacks⁴.

The ability to share data from all different areas of a company in real-time has given plenty of opportunities to optimise productivity and create efficiencies across the entire manufacturing process. Using data-driven intelligence to drive business insights and translate them into actionable items via an ERP is just one way how SMEs can turn digitalisation challenges into a competitive advantage.

What does it mean for the Kosovan metal manufacturing sector? It is obvious that some of the trends will have a short-term impact on this sector, like increased automatisisation, digitalisation of the production processes or further increases in the use of highly productive CNC machines. Other trends, like the increased use of industrial robots will be more relevant for bigger enterprises entering a mass production market, where such robots can provide a significant efficiency increase.

2.1 Kosovo Industry Snapshot

The lack of disaggregated data as well as the level of informality in Kosovo's economy makes it difficult to accurately estimate the size and the overall sector performance of the metal sector. Besides the primary data collected through the survey, this study utilises existing publicly available (albeit scarce) data on the metal sector to assess sector trends and provide an approximation of the overall situation of the sector. The Ministry of Industry, Entrepreneurship, and Trade (MIET), and the Tax Administration of Kosovo (TAK), are the main sources that this study explores.

³ Kroll Annual Global Fraud & Risk Report, 2018

⁴ Artic Wolf Networks Report, 2017

Based on the output data provided by TAK, there is clear evidence of an ever-increasing trend as far as the metal sector is concerned. The total number of businesses has grown to 1,176 and the sector turnover in the formal market has more than doubled in the last five years (Table 1). In 2021 the metal manufacturing sector in Kosovo can be calculated at being worth €235 million, based on information received from the Tax Administration of Kosovo (s. Table 1). However, the number of active firms in the metal sector remained stable over the last few years. In addition, the data also show that the level of employment broadly followed the output trend. This suggests an improvement of the sector at an intensive rather than extensive margin. This information is crucial for the private sector, potential investors, policymakers, and other stakeholders in Kosovo that support private sector development.

Table 1. Size of the Metal Sector in Kosovo (2017-2021)

Indicator	2021	2020	2019	2018	2017
Number of active firms	1.176	1.196	1.178	1.096	1.023
Number of employees	3.954	3.400	2.891	2.620	2.264
Total turnover (EUR)	236.546.415	157.581.453	146.253.884	130.693.526	98.616.692

Source: Tax Administration of Kosovo

Profile of Sector Companies

Available official data from tax authorities presented in Table 1 show the upward trend of active firms in the metal sector. Last year there were 1.176 active firms in different industries within the sector; however, the number of active firms has slightly decreased last year. Around 20 firms have either closed or temporarily exited the market. It should be noted that following a pandemic year in 2020 a small number of firms across all sectors have temporarily suspended their activities while a very small number of them are permanently closed

Table 2. The industrial structure of firms in the Metal sector

Division (Sector)	Group (Industry)	Class (Industrial sub-sector)
Manufacture of basic metals	Manufacture of basic iron and steel and ferro-alloys	Manufacture of basic iron and steel and ferro-alloys
	Manufacture of tubes, pipes, hollow profiles and related fittings, of steel	Manufacture of tubes, pipes, hollow profiles and related fittings, of steel
	Manufacture of other products of first processing of steel	Cold drawing of bars
		Cold rolling of a narrow strip
		Cold drawing of wire
	Casting of metals	Casting of iron
		Casting of steel
		Casting of light metals
		Casting of other non-ferrous metals
Manufacture of fabricated metal products, except machinery and equipment	Manufacture of structural metal products	Manufacture of metal structures and parts of structures
		Manufacture of doors and windows of metal
	Manufacture of tanks, reservoirs and containers of metal	Manufacture of central heating radiators and boilers
		Manufacture of other tanks, reservoirs and containers of metal
	Forging, pressing, stamping and roll-forming of metal; powder metallurgy	Forging, pressing, stamping and roll-forming of metal; powder metallurgy
	Treatment and coating of metals; machining	Treatment and coating of metals
	Manufacture of other fabricated metal products	Manufacture of steel drums and similar containers
		Manufacture of light metal packaging
		Manufacture of wire products, chains and springs
		Manufacture of fasteners and screw machine products
		Manufacture of other fabricated metal products n.e.c.

Source: Kosovo Business Registry Agency (KBRA, 2022)

The metal sector in Kosovo is organised into nine main sub-sectors (industries) that stem from two main divisions in the NACE nomenclature ('Nomenclature statistique des Activités économiques dans la Communauté Européenne'), namely manufacture of basic metals, and manufacture of fabricated metal products, except machinery and equipment (Table 2). The first category, the manufacture of basic iron and steel and ferro-alloys, mainly includes firms in the production of metal constructions primarily used in the construction sector. Currently, there are 102 registered firms (active and inactive) in this sub-sector. In the second category, the manufacture of tubes, pipes, hollow profiles and related fittings of steel, there are 22 registered firms mainly engaged in the production and processing of different tubes and pipes. There are around 50 registered firms in manufacturing products of the first processing of steel. Businesses in this industrial sector are mainly focused on the domestic market in the construction sector. The last classification in the first division consists of firms whose primary activity is casting steel and metals. According to the KBRA data, currently, there are around 70 registered firms in this group.

The second division of firms in the metal sector in Kosovo is bigger, better organised, and more exposed to the export markets. Unfortunately, the available data from the BRKA do not distinguish between active and inactive firms, whereas the overall numbers are much higher than those from the TAK (s. Table 1). In the BRKA database, there are around 2.200 registered firms in this division. Assuming that the data from TAK is more accurately reflects the sector, one can safely assume that the majority of these firms are either inactive or operate in informal markets. Manufacture of structural metal products is the largest sub-sector with 1.194 registered firms followed by treatment and coating of metals with around 459 registered firms. Manufacture of tanks, reservoirs, and containers is the smallest, albeit promising, sub-sector in terms of the number of firms in this division which has significantly contributed to sector exports in the recent years.

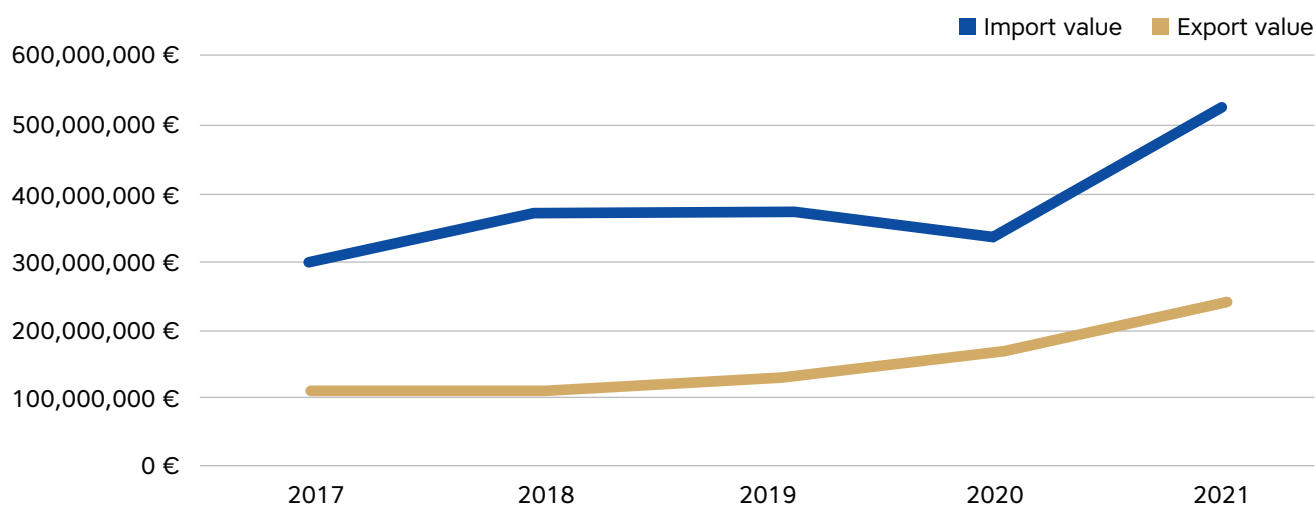
In terms of regional concentration of metal processing companies, Pristina region has the largest number, including the largest company in terms of production value and turnover (Ferronikeli, located in Glllogoc). Contribution and production in companies and industries.

2.2 Kosovo Metal Industry Market

Kosovo's exports of metal products have recorded a constant growth over the last five years. A sharper growth is observed in the last year, mainly driven by increased prices, resulting in high nominal growth of around 42%, but a relatively lower increase in real exports or net weight of all exported metals by around 21%.

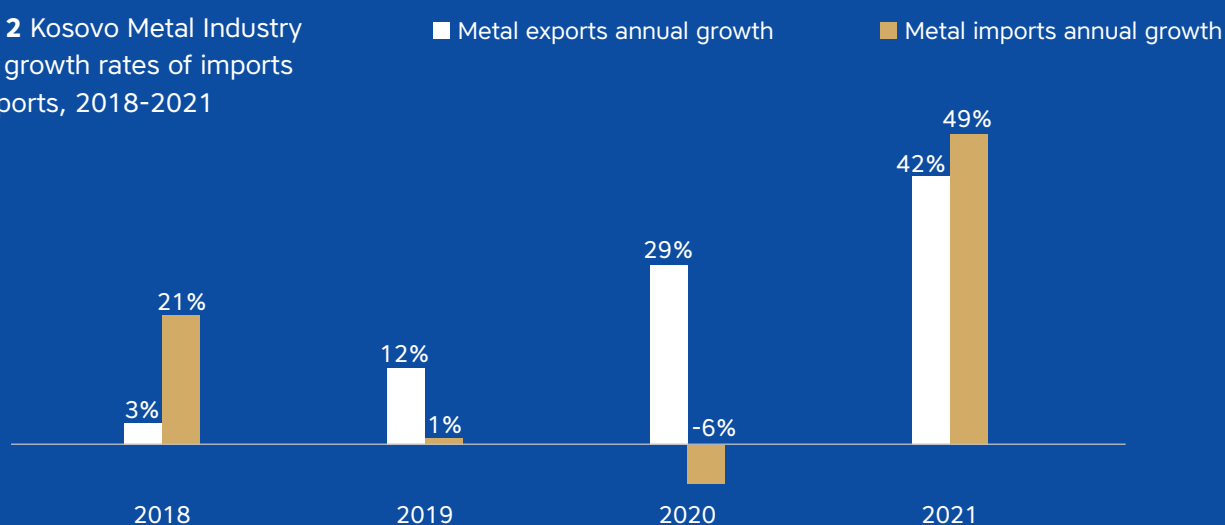
As presented in Figure 1, from around €114 million in 2017, overall metal related exports have more than doubled in five years, reaching around €243 million in 2021. Imports of metal products have also shown a similar growth trend, from around €306 million in 2017 to around €522 million in 2021 (s. Figure 1).

It has to be noted that statistical data available in Kosovo are partly inconsistent. The export data, as given in Figure 1, are higher than the turnover of the metal sector (s. Table 1). The related data are coming from two different sources.

Figure 1. Kosovo Metal Industry annual value of imports and exports, 2017-2021

Source: Author's calculation, Kosovo Customs Data

Looking at the growth trend (see Figure 2), metal exports show a promising outlook, with a yearly increase in export growth rate, with an average of 28% over the last three years. The opposite trend is observed in the growth rates of imports between 2018 and 2020, resulting in negative growth in 2020. Nevertheless, a sharp growth is recorded in 2021 with a 49% increase compared to a year before. These changes are mainly affected by the crisis caused by the Covid-19 pandemic, which has affected the global supply chain. It is important to note that real export growth in 2021 in terms of net weight of metals is around 21% while real import growth is only around 5%, indicating a relatively higher import price compared to Kosovan metal export prices.

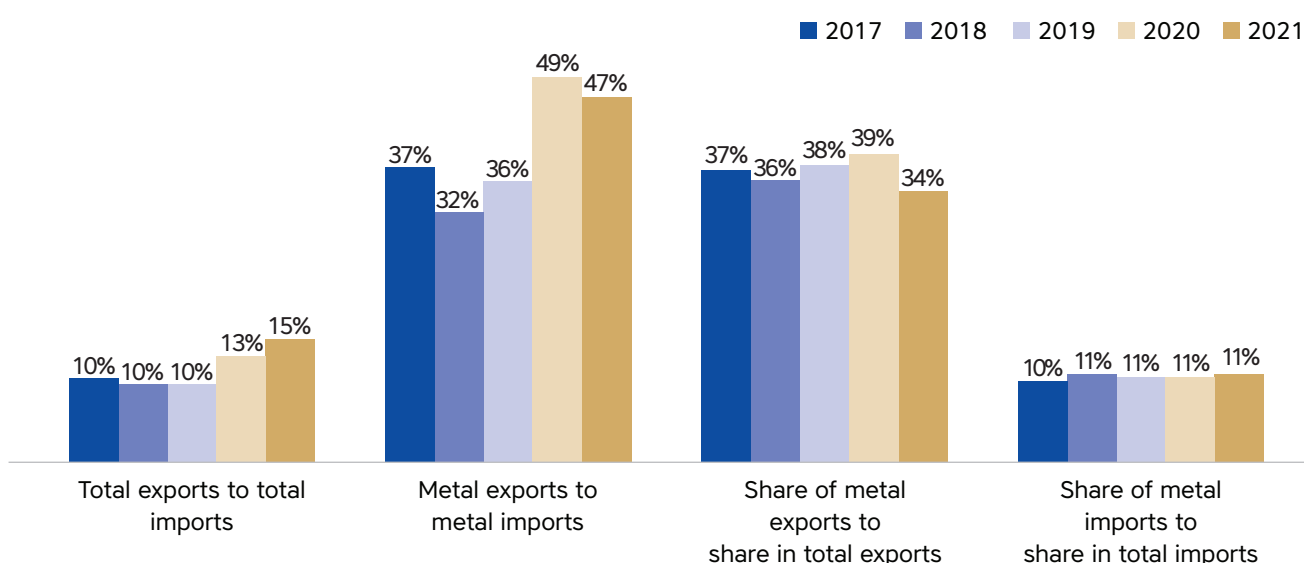
Figure 2 Kosovo Metal Industry annual growth rates of imports and exports, 2018-2021

Source: Author's calculation, Kosovo Customs Data

The ratio of metal exports to metal imports has increased significantly, from around 37% in 2017 to around 47% in 2021 (Figure 3). The metal sector exports are catching up much faster with imports, showing a significantly better trade performance compared to the overall country trade trend, as total Kosovo exports to imports rose from around 10% in 2017 to only about 15% in 2021.

Metal exports account for a significant share of overall exports, rising from around 36% in 2017 to 39% in 2020, but with a decrease in 2021 (34%). On the other hand, the share of metal imports in total imports is stable throughout the years, accounting for around 11% of overall Kosovan imports.

Figure 3 Kosovo Metal Industry, market trends, 2017-2021



Source: Author's calculation, Kosovo Customs Data

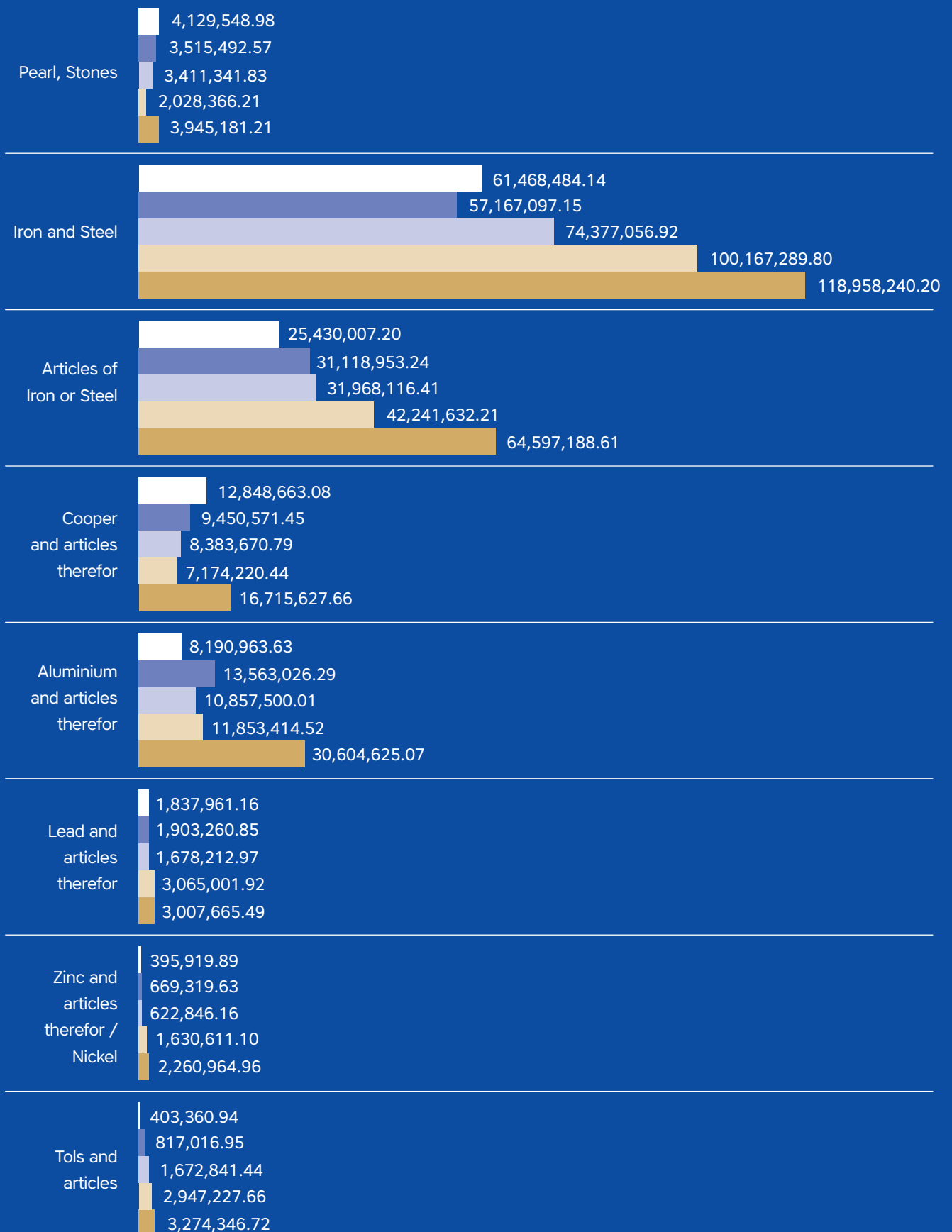
For a more detailed analysis of the metal industry trade, the main metal types are examined. The product groups are defined and analysed following the product codes used by the Kosovo Customs, which are harmonised with the United Nations International Trade Statistics, the Harmonized Commodity Description and Coding Systems (HS). As per the HS coding system of Kosovo Customs, the following groups were analysed;

- Pearls, precious or semi-precious stones/metals/imitation jewellery
- Iron and steel (base metals and scrap mainly)
- Articles of iron or steel (products made of iron and steel)
- Copper and articles thereof
- Aluminium and articles thereof
- Lead and articles thereof
- Zinc/Nickel and articles thereof
- Miscellaneous articles of base metal, Tools, Tin, Cermet

Figure 4 below shows export trends by type of metals, between 2017-2021. Continuous growth is clearly indicated by two product categories, namely raw Iron and steel and Articles of iron and steel.

Figure 4. Metal sector exports,
by metal type, 2017-2021

■ 2017 ■ 2018 ■ 2019 ■ 2020 ■ 2021



Source: Author's calculations, Kosovo Customs Dataset

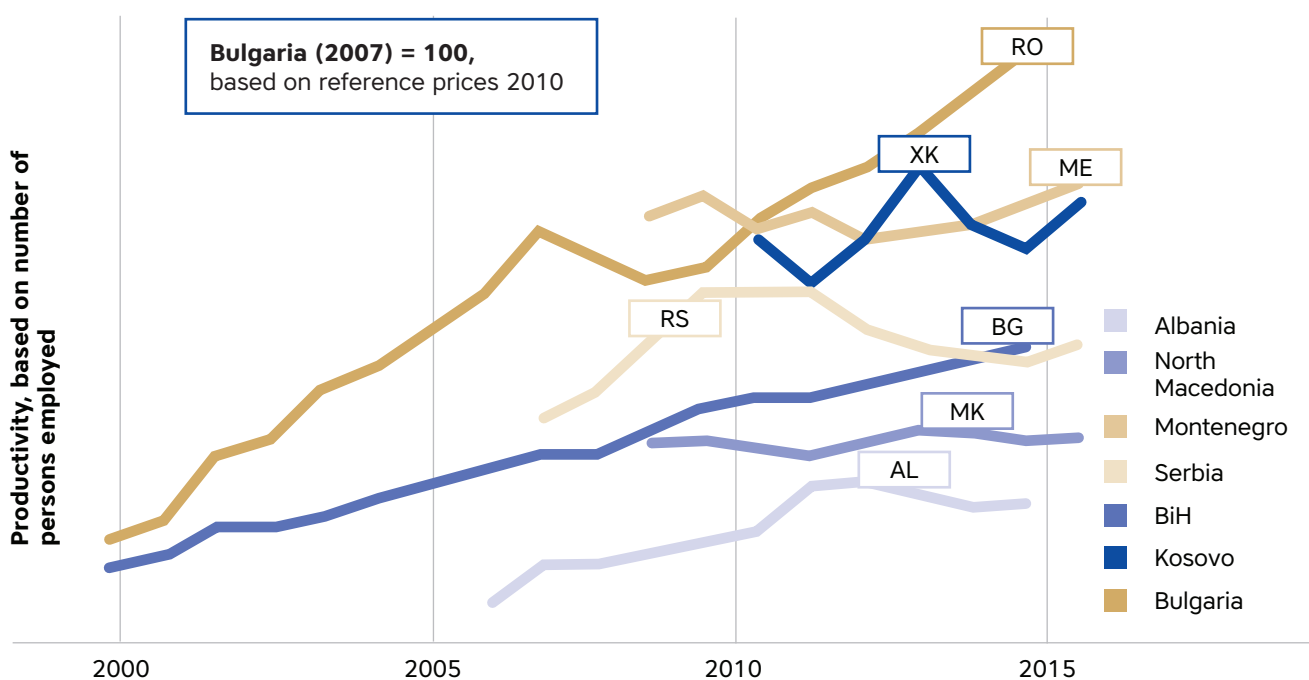
Among all categories, iron and steel raw metal products⁵ have recorded a positive net exports growth trend, from around €60 million in 2017 reaching to around €118 million in 2021. A similar growth trend is observed in articles on iron and steel, growing from around €25 million in 2017 to around €64 million in 2021. The third most exported type of metal is aluminium and its related articles, reaching around €30 million in 2021 from a lower base of around €8 million in 2017. Copper and related articles also reached around €16 million in exports in 2021 from around €12 million in 2017. Other categories, including lead, zinc, nickel, pearls and stones as well as tools and related articles, account for around 5% of all metal exports (around €12 million). Despite a relatively smaller share in overall exports, lead, zinc, tools and related articles recorded an increasing growth trend in the last three years.

A similar trend is observed in imports, with iron and steel base metal and articles of iron and steel accounting for the main share of metal imports. Lead and its related articles are the only metal category, showing a positive trade balance, with around €3 million in exports compared to around €578.000 in imports in 2021.

2.2.1 Productivity and Competitiveness Analysis with Selected Peers

When comparing Kosovo's competitiveness with regional peers, productivity levels and industry growth can be seen as the most important indicators. These are relevant indicators of a country's competitive position. The interviews with private sector representative and stakeholders have shown key competitors in the metal manufacturing sectors are based in countries neighbouring Kosovo, notably Albania, BiH, Bulgaria, Montenegro, North Macedonia, and Serbia.

Figure 5. Productivity levels, total economy



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

⁵ This category that contains iron and steel is mainly raw metal, scrap and base metal products

According to the Western Balkan Productivity Database, (wiiw) the value-added per capita growth rate of Kosovo was 3% between 2009-2017, which is comparable with other West-Balkan countries. Only Serbia and North Macedonia showed lower values. Figure 5 reveals how national productivity has developed in selected countries over time. Most of the neighbouring countries have made good progress, including Kosovo. Romania's productivity indicators are considerably higher than those of the other countries. Albania's productivity is lower than that of the other peers and has stagnated over recent years⁶.

Unit labour costs data are not available for Kosovo, and a comparison with other West-Balkan countries is not possible. The unemployment rate was 25.7% the highest among the West-Balkan countries.⁷

The manufacturing sector of Kosovo has an average sectoral value-added share of 13.1%, which is low compared to other West-Balkan countries. Values for Serbia and Romania are much higher (over 20%). In BiH, Kosovo and Montenegro the wholesale and retail trade sector has the biggest share of value added, with around 15%⁸. The Western Balkan Productivity Database reveals high rates of productivity growth in real estate and in the agriculture sector for Kosovo, but only average growth rates for the manufacturing sector. However, the average productivity growth in the manufacturing sector is around 8% (2012 – 2018), which is significantly higher than that for Albania, Serbia and North Macedonia.

With respect to industry-level performance, only a few countries (notably BiH and North Macedonia) showed a significant shift towards manufacturing in recent years. In some cases, there has been a shift towards wholesale and retail trade (Montenegro and Kosovo), construction (Montenegro and North Macedonia) and, to a lesser extent, knowledge-intensive business services. An increasing share for ICT services is observable in Kosovo and Serbia⁹.

In terms of a relative competitiveness of the Kosovo metal exports, the export performance of metal sub-sectors is assessed relative to the growth trend in importing similar products in the EU market. Figure 6 displays that the Kosovan metal sector remains very competitive compared to the EU market over the recent past. The Figure illustrates the average rate of growth of metal imports in the European Union market between 2017 to 2021 (vertical horizontal axis) versus the overall average rate of growth of Kosovo manufacturing metal exports between 2017 to 2021 (horizontal vertical axis), for the main metal types. Each type is depicted by a bubble. For each metal type, the corresponding value in the vertical horizontal axis represents the average rate of growth of EU imports between 2017-2021, while the corresponding value in the horizontal vertical axis represents the average rate of growth of Kosovo exports between 2017-2021. Imports in the European Union market offer a market potential for Kosovo companies. The average growth of imports is highest in lead, aluminium and copper articles, followed by iron and steel and metal tools. A slightly lower rate of growth is in the imports of the precious stones and metals.

As the diagram illustrates, in all metal types, Kosovan metal exports have a high average growth rate, with highest rates of exports of tools and metal articles (around 74%), followed by zinc and nickel and related articles, exports of lead and aluminium. A high growth rate in exports of tools and metal articles may suggest an increased tendency of Kosovan metal companies to export value-added products. Considering that the EU market offers a huge potential market, it represents one of the main target markets for a future growth

6 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

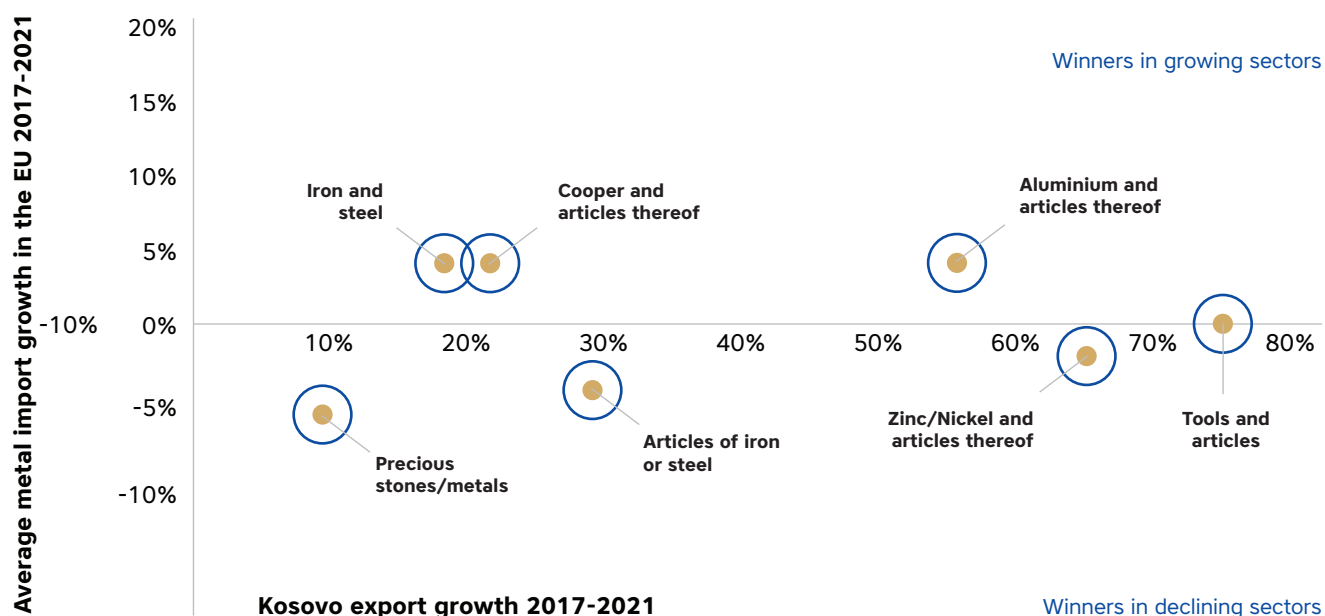
7 OECD, 2021, Competitiveness in South East Europe, 2021, A Policy Outlook, <https://www.oecd-ilibrary.org/sites/66c185f2-en/index.html?itemId=/content/component/66c185f2-en>

8 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

9 wiiw Western Balkan Productivity Database, <https://data.wiiw.ac.at/annual-database.html>

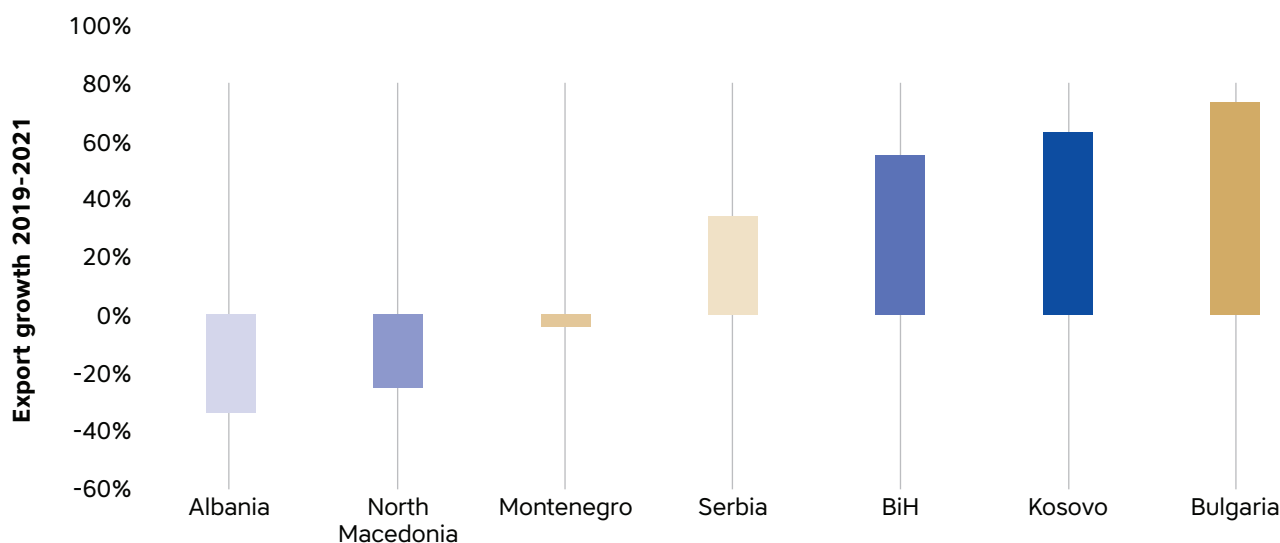
of the Kosovo manufacturing metal industry. Growth rates of export metal types follow the same growing trend as imports of metals in the EU market, in particular for lead, aluminium, copper and to some degree for tools and related metal articles.

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



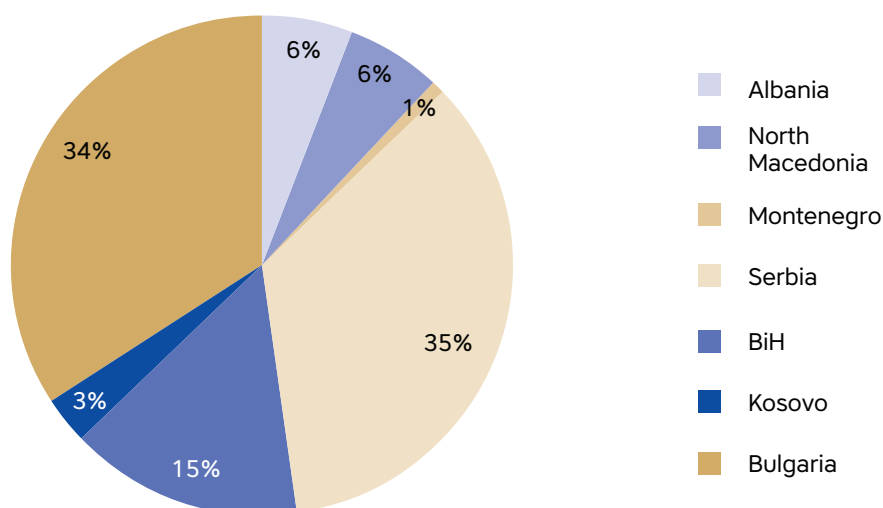
Source: Author's calculation, International Trade Center, Kosovo Customs Dataset, period: 2017 - 2021

When considering a short period (2019-2021) the export pattern provided even higher values, not just for Kosovo, but also for many other neighbouring countries, as given in Figure 7. Most of them have a much larger metal manufacturing industry. For example, the metal exports of Serbia and Bulgaria in 2021 was each more than €2 billion for both sub-sectors iron and steel as well as for articles of iron and steel, compared to around €250 million for Kosovo. When taking a closer look at the selected sub-sector (Iron and Steel) Bulgaria and BiH reveal similar or even higher growth rates over the recent past compared to Kosovo, whereas Serbia shows a slightly lower performance. On the other side, North Macedonia and Montenegro seem to have lost competitiveness in both of the key sub-sectors considered.

Figure 7. Export development of iron and steel between 2019 and 2021

Source: Author's calculation, International Trade Center

Despite the quite impressive growth rates of the Kosovan metal manufacturing industry over recent years, it has to be taken into account that the share of Kosovo's metal export volume is very small compared to that of most of the seven neighbouring countries (3% total export volume of around €3.5 billion in 2021, s. Figure 8). In the key export market, Albania's regional key competitors mainly come from Serbia and North Macedonia (besides Turkey, Greece and Italy). As far as North Macedonia as second most important export market for Kosovan metal products is concerned, regional competitors are mainly from Serbia, Albania and Bulgaria (besides Ukraine, Romania and Greece)¹⁰.

Figure 8. Share of export volume of metal and iron products by selected countries for 2021

Source: Author's calculation, International Trade Center

¹⁰ Based on ITC trade data 2021

3. Stakeholder Map

Various stakeholders play an important role in the context of metal manufacturing value chain development. Such stakeholders can be divided into three groups according to their respective roles.

Primary stakeholders are directly and actively involved in the metal manufacturing value chain. Secondary stakeholders have an indirect relationship since most of them are responsible for the business environment in which the fruit value chains are embedded. This does not mean they are less important for the development of the metal manufacturing value chain. Tertiary stakeholders are external actors who neither make decisions nor benefit directly from the value chain operations.

On one hand, different stakeholders play a different enabling role in the metal manufacturing eco-system in Kosovo. On the other hand, they may sometimes have different interests, though the dynamic between them is interesting to understand. Stakeholders, like Ministries or associations have an indirect relationship to the main production entities since most of them are responsible for the business environment in which the metal manufacturing value chains are embedded. This does not mean they are less important for this value chain to develop.

They can have a strong say in refugee-hosting areas and influence the decisions of other stakeholder groups. Table 3 displays the identified key stakeholders and their main roles.

Table 3. Key stakeholders in the metal manufacturing value chain

No.	Stakeholder (groups)	Interest	Importance ¹¹	Influence ¹²	Examples
Primary Stakeholders					
1	SMEs	SMEs from the metal manufacturing sector cover the entire value chain. They interact with their suppliers and buyers. Any improvement of the metal manufacturing value chain the SMEs are embedded in will improve their competitiveness and lead to new job creation.	4	2	
2	Non-SMEs	Large firms from the metal manufacturing sector cover the entire domestic value chain. They are dominant actors with strong market positions and often embedded in related global supply chains. Large firms are able to enter new domestic or international market segments. They play a pivot role in the Kosovan metal manufacturing industry.	4	4	
3	Universities and R&D Institutions	Universities and R&D institutions are supposed to provide well trained graduates as well as to provide innovative solutions and new manufacturing technologies to be introduced by local industry. Close cooperation with the private sector is a key to improve innovation capability of the metal manufacturing sector.	3	2	University of Pristina

¹¹ Importance to project success; to what extent does the project (development of cluster policy framework) place a priority on meeting their needs and interests 4 = very high importance, 3 = high importance, 2 = low importance, 1 = very low or not important at all

¹² Influence to what extent the key stakeholders contribute to a project success or failure; 4 = very strong influence, can make project success or failure; 3 = strong influence, can substantially support or hamper project, 2 = medium influence: can facilitate or hamper the project success a bit; 1 = low or none influence

No.	Stakeholder (groups)	Interest	Importance ¹¹	Influence ¹²	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. Scaling up strategies and related interventions provided by the MIET can help the metal manufacturing industry to better compete on the national and international level and to foster investments in this sector	4	4	
5	Other Ministries	Other ministries might indirectly support the value chain development of the metal manufacturing sector in Kosovo. For example, by improved education and training programmes, support of R&D infrastructure or (tax) incentive programme.	3-4	3	Ministry of Finance, Labor, Transfers Ministry of Education, Science and Technology, Ministry of Economy
6	Cluster Initiatives or other Business Membership Organisations (BMO)	This stakeholder group is supposed to strengthen the innovation capacity and competitiveness of the domestic metal manufacturing industry. Networking, experiences exchange, knowledge transfer, initiation of cooperation, community building or matchmaking are some of the activities offered by this stakeholder group.	3	1	MIRECK ITP
7	Economic Chamber of Kosovo (ECK)	The ECK serves the Kosovo economy and acts as an important partner for many national institutions. It offers social dialogues, promotes economic development and good macroeconomic policies.	4	3	

No.	Stakeholder (groups)	Interest	Importance ¹¹	Influence ¹²	Examples
8	Agencies for investment support	There are several entities, like KIESA or ECIKS that are mandated to promote and support investments and investors being interested in becoming engaged in the Republic of Kosovo. All these entities offer a wide set of services for investors, ranging from support in pre-investments to after care services.	2	2	KIESA ECIKS
9	Sectors Associations	Associations play an important role since they represent the “voice” of the industry. Lobbying, advocacy, representation of the sector or provision of information are typical activities.	4	3	Association for Metal Producers Kosovo Manufacturing Club
Tertiary Stakeholders					
10	International Partners and EU Institutions	There are many international partners active in Kosovo to provide support to various private and public sector entities. They all aim to improve framework conditions for growth, sustainability and job creation.	3	3	GIZ USAID

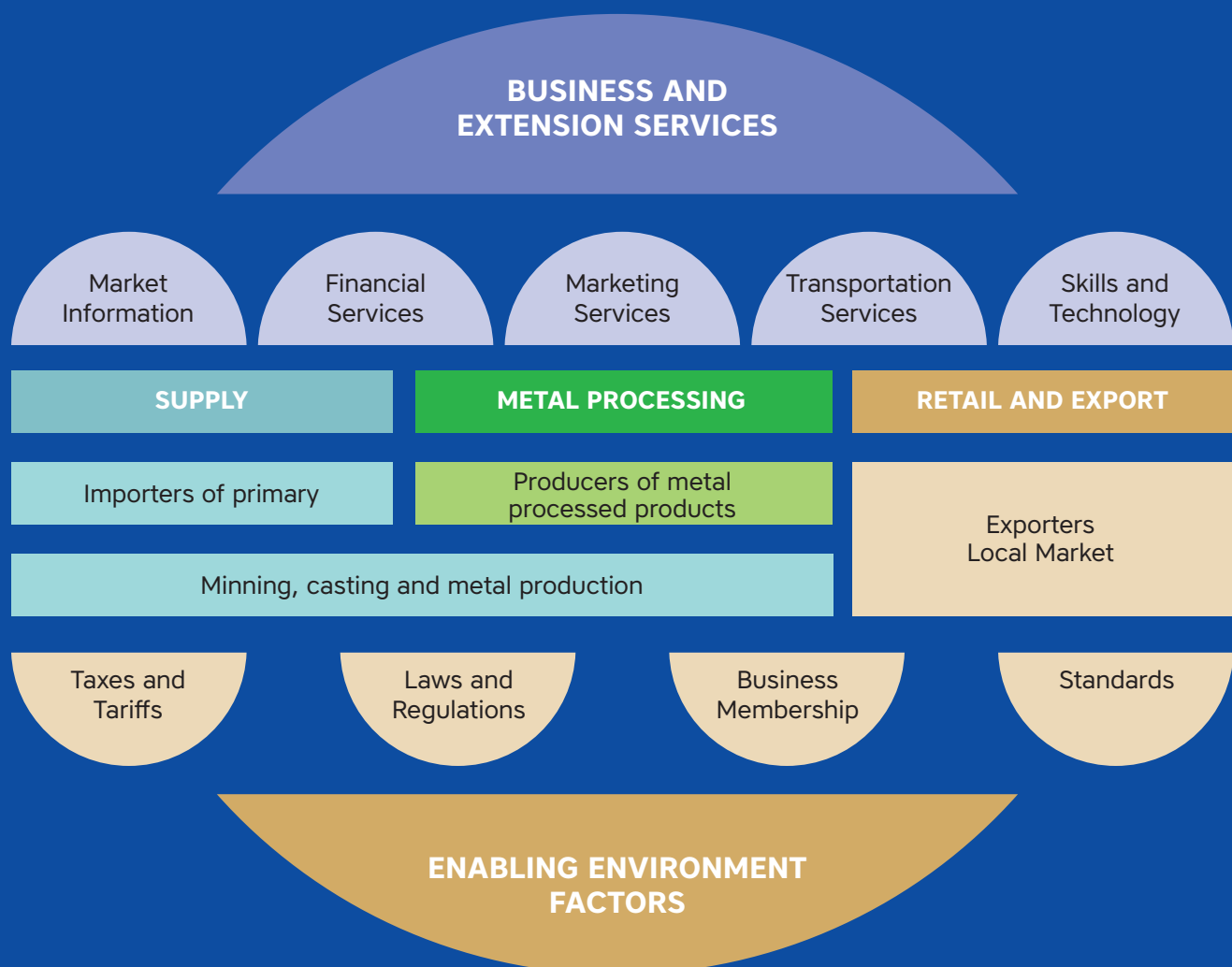
Source: Own investigations

4 Value Chain Analysis

4.1 Sector Value Chain Map

The following figure depicts the metal sector value chain map. Supply, metal processing and retail and export represent the three functions of the core value chain. The target of this study has been the metal processing industry and the study has thus focused on the enterprises that conduct this function. A glance at the metal processing industry reveals a rather simple value chain, where imported raw material is processed in Kosovo, mainly in semi-processed products and limited value addition, and is subsequently either sold in the local market or exported. Supporting services are organised around the sector, particularly regarding finance, marketing, market information and skills and technology. Most of these support services are not specific to the metal processing industry and thus frequently fail to fulfil the industry's requirements. Finally, the enabling environment is characterised mainly by laws and regulations as well as taxes and tariffs system, while companies are only rarely organised in business membership associations (BMOs) and quality standards are not very frequently applied.

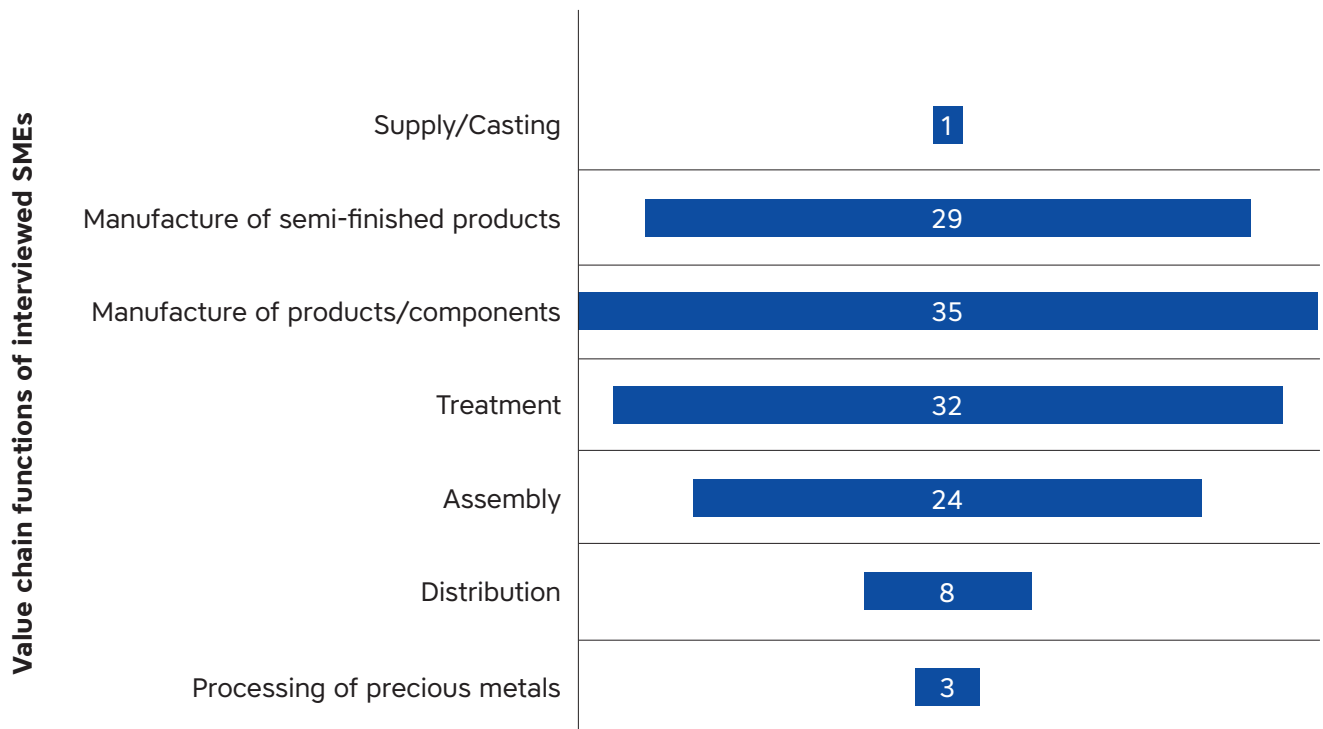
Figure 9. Metal Processing Value Chain Map



Source: Author's analysis based on the interview findings and following the Reçica and Meier zu Köcker (2019)

The findings in this section are based on the findings from the survey with metal processing SMEs. Overall, 48 SMEs have been interviewed for this study. Overall, there is an indication that metal processing SMEs in Kosovo are not specialised in specific value chain functions. This is assessed by the fact that most interviewed value chain SMEs perform various value chain functions. An interviewed SME performs an average of 3 value chain functions. This is depicted in the following chart, where it can be observed that the majority of value chain functions performed are manufacturing of products/components, followed by treatment of metals and manufacture of semi-finished products. In other words, over 60% of metal processing companies perform these three value chain functions.

Figure 10. Value chain functions of interviewed SMEs

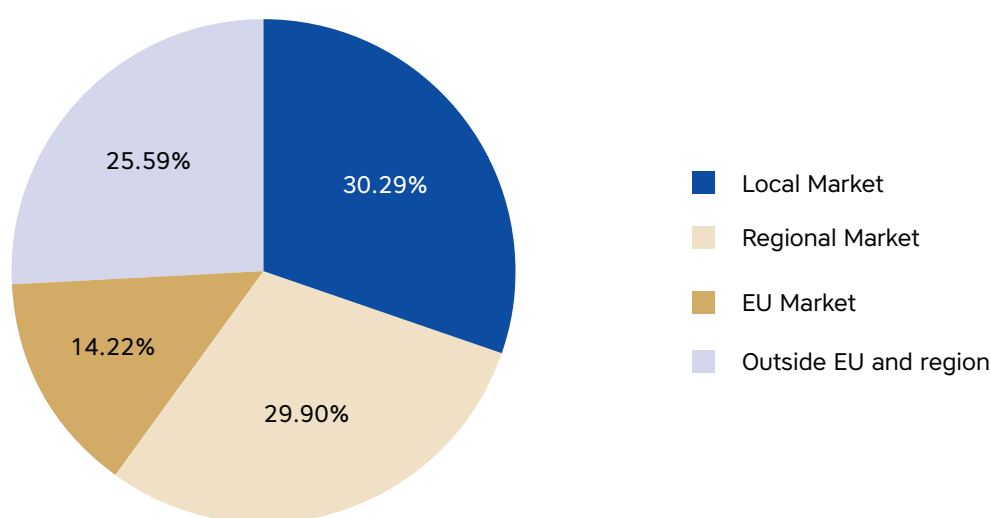


Source: Survey data, authors' calculation

4.2 Value Chain Analysis: Supply Side

Interviewed enterprises claim to use various channels for the supply of their raw material, mainly to reduce single-source dependency. Around 21% of companies claim that they fulfil their supply needs solely from the local market, whereas another 19% purchase a partial share of their primary production in the local market, through intermediaries for supplying the primary product. On the other hand, 15% of interviewed companies import all of their primary production directly from the markets outside the region and the EU. Since most metal manufacturing firms are micro or small firms (s. Fig. 11) sourcing raw material from outside Kosovo is a challenge, since the amount of raw material remains very small, which make imports difficult and comparably expensive.

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



Source: Survey data, authors' own calculation

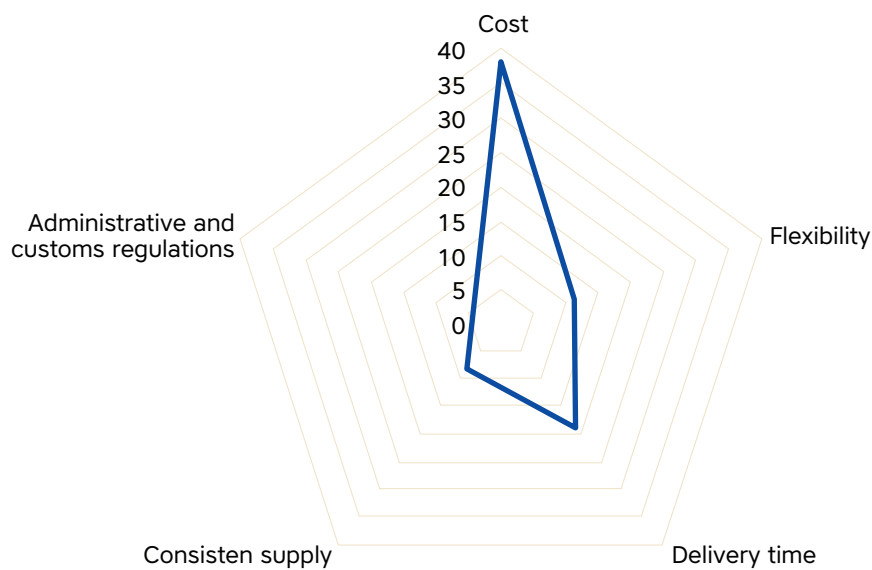
The local and regional market appears to present a similar weight (around 30%) concerning the share of raw material imports. This is followed by supply from non-regional and non-EU countries which comprise just over a quarter of the supply import share. Finally, just over 14% of the metal supply is imported from the EU market. The prevailing reasons for importing from EU or outside EU is the usually higher quality of the raw material as well as the lack of availability of certain raw materials in Kosovo. Sometimes bigger companies also have a multiple sourcing strategy, meaning they source from several sources, including from the EU and outside EU.

The majority of enterprises identify the supply of raw materials as one of the biggest barriers to their business activity. Specifically, over 62% of interviewed enterprises emphasise supply as a key business constraint. Among the most important reasons for this are the difficulties faced with ensuring consistent supply, whereas high supply cost has also been identified as a constraint. As given in Figure 11, most of the enterprises do not source locally, and their supply depends on global trends and challenges. The problems with ensuring supply have appeared particularly important with the post Covid-19 increase in the costs of primary products and transportation. This has been exacerbated by the recent and ongoing war in Ukraine, which presents a large global exporter of steel and related products.

When going into more detail to better understand the key constraint of supply, the cost of supply appeared as the most important constraint for supply with the raw material issue. Over 65% of interviewed enterprises emphasised that the cost of supply is their greatest challenge in terms of supply. Companies mentioned that with the recent increase in the cost of metal supply, metal prices have more than doubled in the past few years. This coupled with the high increase in transportation costs was emphasised as the most important supply-related challenge.

A second supply related challenge is related to delivery time. Around 40% of interviewed companies claim that the time of delivery is too lengthy. According to them, this is due to the distance of supply origin and the time required to prepare the shipment. This is followed by flexibility and consistency in supply, respectively. Interestingly, administrative and customs requirements are the least emphasised challenges. Specifically, less than 10% of companies outlined the regulatory framework as a challenge, where the payment of value-added tax appears to dominate.

Figure 12. The intensity of supply-related challenges (in percentage).

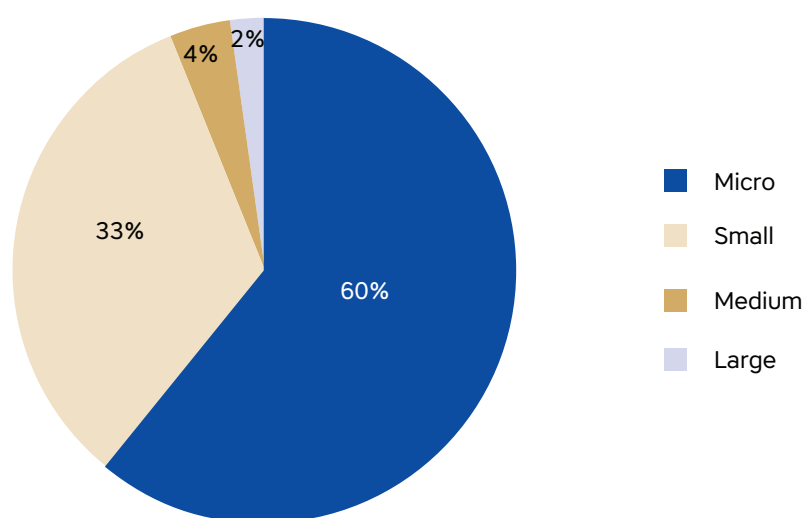


Source: Survey data, authors' calculation

4.3 Value Chain Analysis: Producer side

Most of the interviewed companies appeared to have less than 10 employees. These have been categorised as micro-enterprises and they comprise 61% of the sample group. The second largest category is the small enterprises (11 – 50 employees), which was over 33% of the interview sample group. Around 4% are medium enterprises (51 – 250 employees) - and large enterprises are just 2% of the sampled companies (over 250 employees). Survey findings show that the sector has increased its labour force by around 3,6% in 2021 compared to 2020.

Figure 13. Enterprise Size of the sampled entities.



Survey data, authors' calculation

4.3.1 Business Activity and Operations

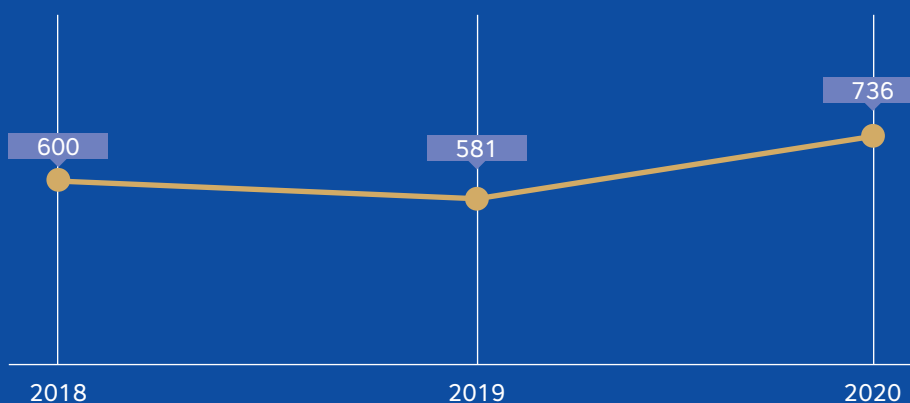
According to the Kosovo Ministry of Industry, Entrepreneurship and Trade (MINT)¹³, the metal processing sector has recorded a turnover of over €116 million in 2021. The sector currently numbers 736 enterprises, which employ 3.112 employees. These figures appear to contradict figures received from the Tax Administration (s. Table 1 as well as Chapter 2.1), where 1.176 firms and 3,954 employees are recorded.

As depicted in Figure 14, the metal processing sector has experienced steady growth in recent years, particularly in terms of the number of enterprises and employees.

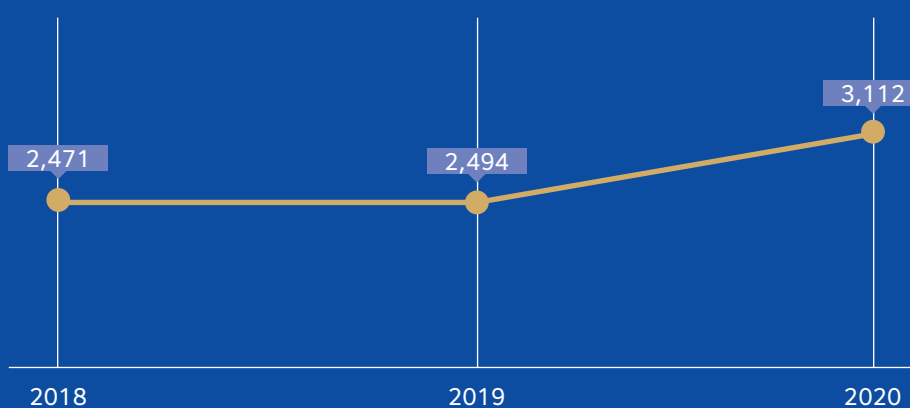
¹³ Ministry of Industry, Entrepreneurship and Trade (2021). 'Sektori C - industria përpunuese'.

Figure 14. Performance of metal processing industry in Kosovo in key indicators

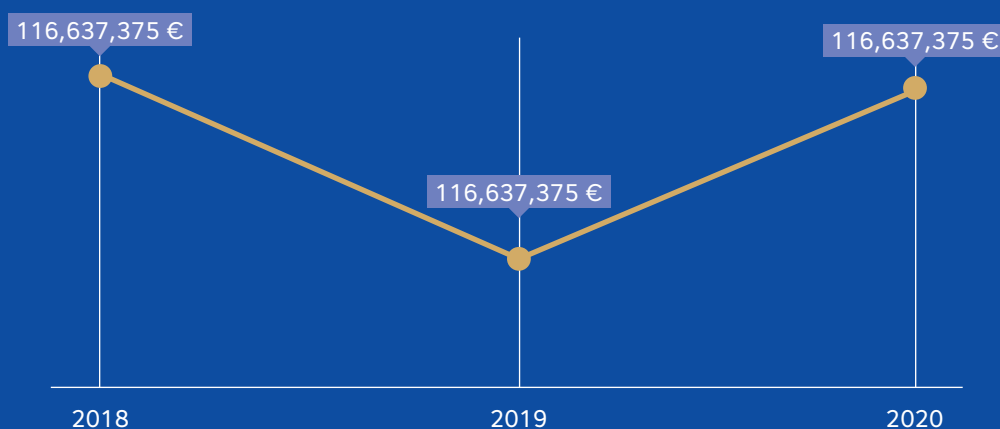
Number of Enterprises



Number of Employees



Turnover



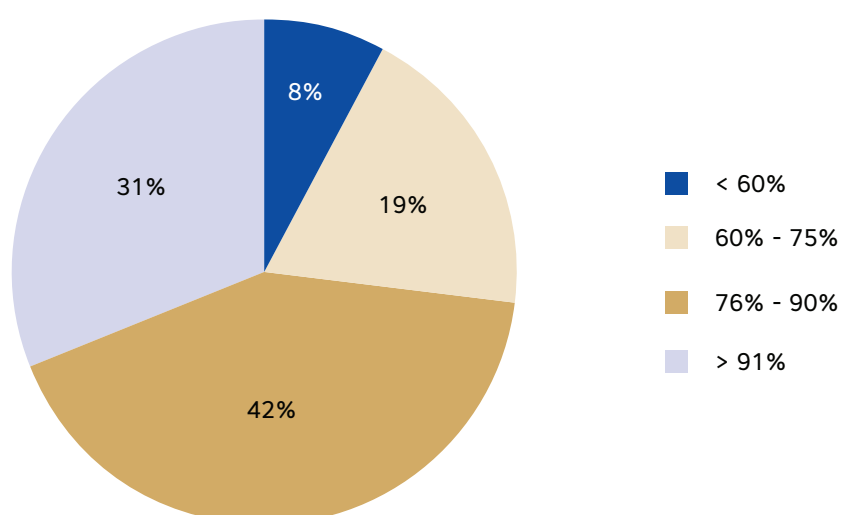
The same source shows that there are another 121 enterprises, labelled as metal producers – which have not been presented in Figure 13 – which focus specifically on the metal processing sector. Furthermore, the findings presented by MINT in the Manufacturing Industry Report show that the metal sector consists of a total of 857 enterprises, which presents a discrepancy of around 340 enterprises compared with the findings from the tax administration – which as presented in Table 1 shows around 1.200 enterprises in the sector. It is suspected that this could be due to the following possible reasons: the exclusion of machinery and equipment producers by MINT, possible misreporting of business activity in tax administration and enterprises that are registered and active in tax administration but reported zero economic activity.

Based on these assumptions, it could be argued that the metal sector in Kosovo is comprised of around 1.000 enterprises that are active (which is well in line with TAK data).

Since 2018 the number of enterprises in the metal processing industry has increased by around 23%, whereas employment has risen by over 26%. Nevertheless, despite the positive trends, the metal processing sector has suffered during the last few years. Findings from the interviews with metal processing enterprises show that despite the direct impact of the Covid-19 pandemic because of lockdown measures, this sector has also been heavily affected by the high increase in transportation and supply prices. The latter has also been influenced recently by the developments in the Ukraine war.

Overall, interviewed SMEs report a relatively high-capacity utilisation rate. The capacity utilisation rate is reported at 82%, on average, whereas 41% of all respondents claim to have a production capacity utilisation of over 90% (s. Fig. 15), Enterprises with lower values of 80% production capacity utilisation mentioned that lack of market opportunities, price competition and lack of sufficient raw material as the main reasons behind such comparably low utilisation rates. Almost all companies that utilise high levels of their capacities plan to expand through investment in physical capital.

Figure 15. Distribution of production utilisation capacities



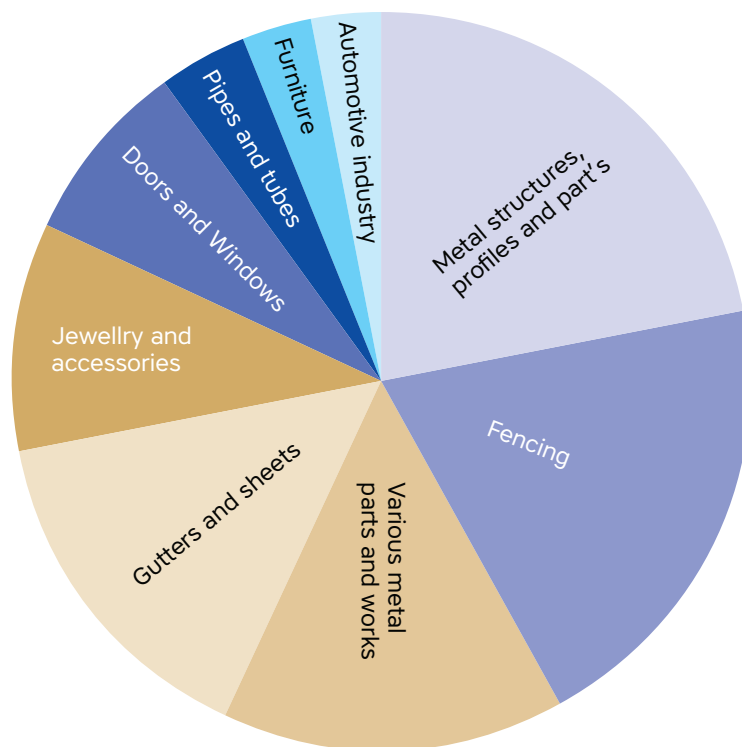
Source: Survey data, authors' calculation

It is interesting to note that the production utilisation capacities for enterprises with less than 10 employees is even higher (89%), whereas those enterprise with more than 25 and more employees is around 71%. Thus, one can argue that further job creation potential is more realistic for the very small enterprises compared to the medium sized enterprises.

The following chart represents an aggregation of the products that are manufactured by interviewed SMEs. The chart depicts groups of products based on the reported frequency. Metal structures, including profiles and parts, are most frequently offered by local companies. Metal fences and subsequent decorative parts stand on similar production intensity. These are followed by a products frequency group that includes various metal parts and works (e.g., garbage bins, barbeque grills, etc.), gutters and sheets (which are mainly based on aluminium works), jewellery and accessories (including works with gold and silver). On the lower end of production, frequencies are doors and windows, pipes and tubes, furniture and automotive parts.

All in all, these products can be considered not to be very complex and difficult to manufacture. Thus, the added value of such products is limited. With only very rare exceptions, enterprises from Kosovo are involved in component production, e. g. for automotive or medical technology applications.

Figure 16. Distribution of Kosovan metal processing products



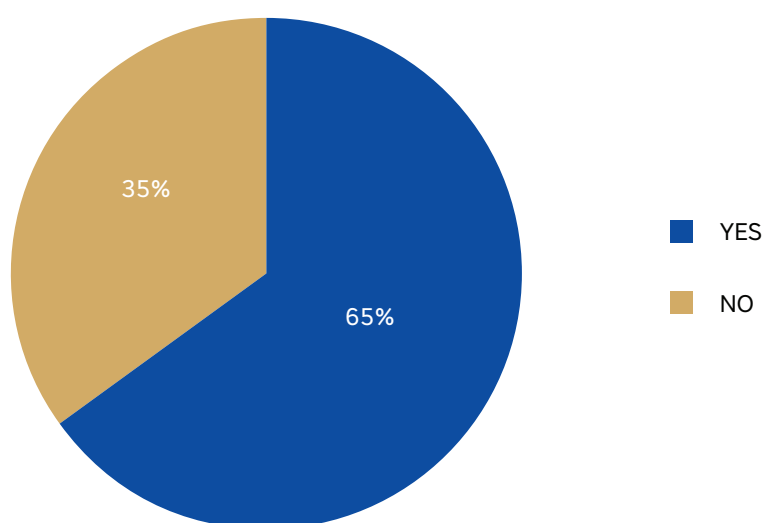
Source: Survey data, authors' calculation

Metal processing companies continuously emphasise the challenges they are facing with the increase in supply and transportation costs, which are closely related to recent global developments. The recent increase in the cost of metal supply and transportation has fuelled a significant increase in the price of metal processed products. This has been translated directly into a competitive constraint for the Kosovan metal processing companies. Other countries have larger firms with higher bargaining power or implemented interventions to strengthening the supply side of manufacturing industries. In other countries, local manufacturer networks have emerged that bundle similar demands of smaller enterprises, which also increases their bargaining power.

In line with the suggestion that companies value and prefer cooperation with other value chain actors, 65% of interviewed actors confirmed that they engaged subcontractors to complete assignments (s. Figure 17). This type of cooperation seems to be established in the sector and it is a two-way relationship, as around 25% of companies also are subcontracted to other companies in the sector.

The most frequent obstacles to cooperation mentioned by the respondents are the Kosovo market size, trust between actors, unfair competition, and compliance with contracts.

Figure 17. Share of SMEs that subcontract their production to other SME.



Source: Survey data, authors' calculation

When asked about services and training needs for future growth in the domestic and export markets, the majority of companies suggested investments in capacity building of their human resources. Furthermore, many respondents also suggested support for the upgrade of technologies, machinery and equipment. Mainly due the fact their current machines are outdated or to better follow upcoming trend. Matching grants and other financial mechanisms to accelerate and de-risk their investment plans were mentioned most frequently. When it comes to investments in technologies, machinery or equipment, it has to be taken into account that most enterprises are very small, usually without sufficient liquidity for their own investments nor being bankable.

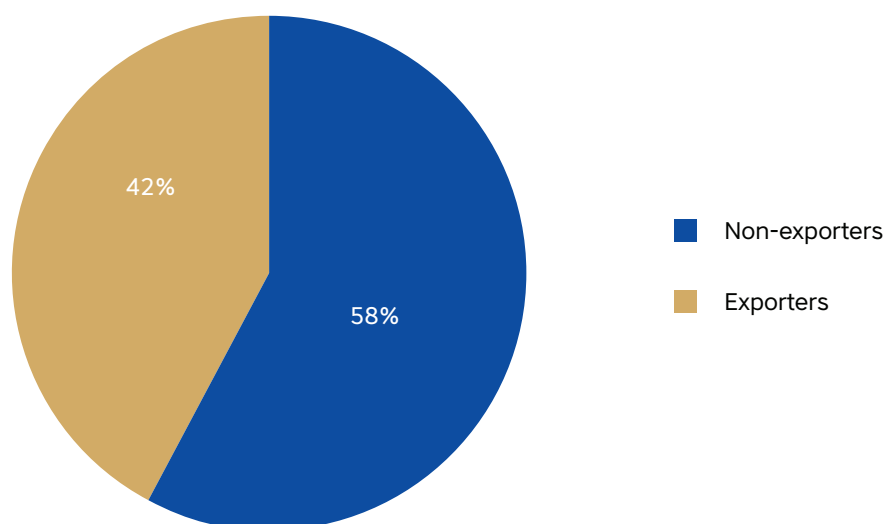
Training of human resources on new product development, dealing with new technologies, logistics and stock management, pricing strategies or general training on metal-related products were mentioned most frequently.

In terms of business environment advantages, labour costs and current tax levels are considered the biggest advantage. For more sustainable growth, companies prefer to have a stock exchange in the country, visa liberalisation with the EU countries, and opportunities for better market access in export destinations

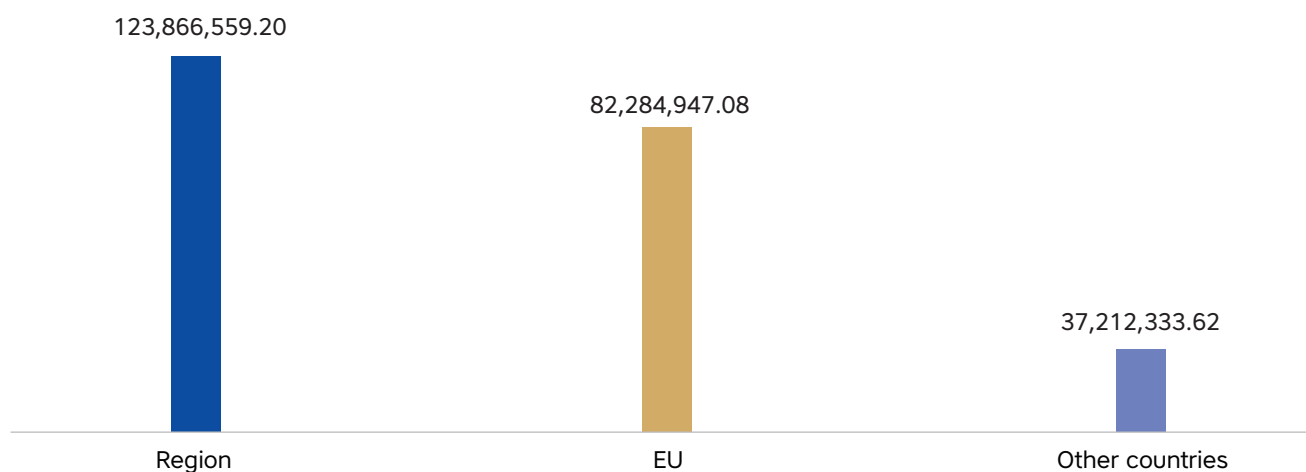
4.3.2 Local and Export Markets

As indicated by the following figure, around 42% of interviewed enterprises engage in export activity. This is an important finding, indicating that this sector is highly export-oriented. The remaining 58% of enterprises that are focused only on the local market indicated that their limited capacity primarily and lack of export linkages and channels, secondarily, are the main reasons for not engaging in exports.

Figure 18. Share of exporters and non-exporters

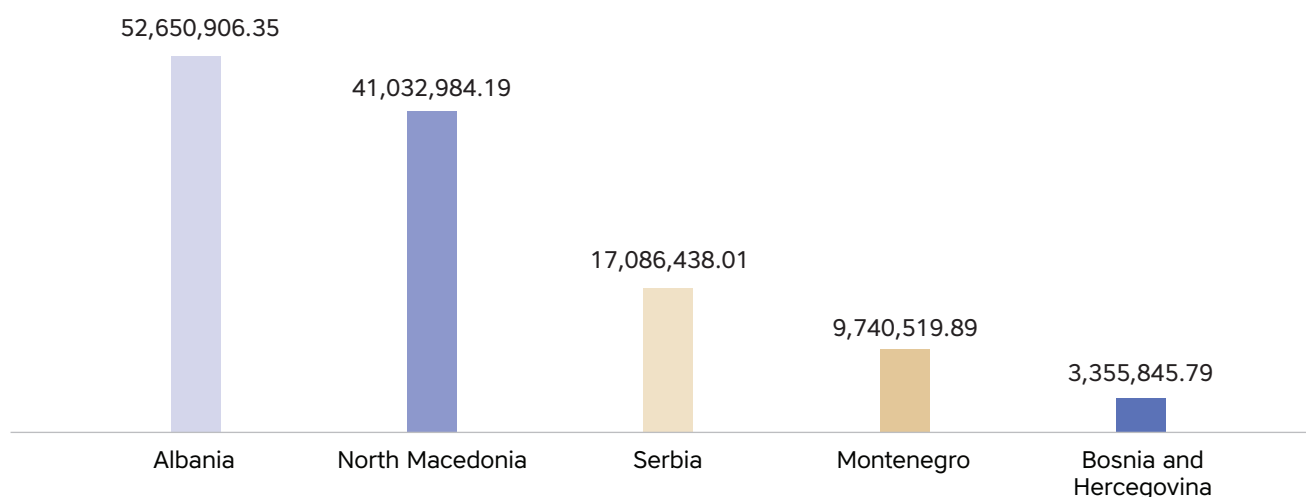


Looking at the export markets by country, Figure 19 shows that countries in the region are the main destination for Kosovan exporters, accounting for over 50% of all exports. The second target destination is the EU countries, which account for around 33% of all exports, and all other countries with around 15%.

Figure 19. Kosovan metal sector exports, by region, 2021

Source: Author's calculation, Kosovo Customs Data

Looking at the regional countries as the main export destination, the data shows that Albania is the main export partner for the Kosovo metal industry, accounting for over 42% of all metal exports in the region. The second destination for metal exports is North Macedonia, with around 33%, followed by Serbia, Montenegro and Bosnia and Herzegovina at a much lower scale.

Figure 20. Kosovan metal sector exports, by country, 2021

Source: Author's calculation, Kosovo Customs Data

Italy appears to be the main EU exporting partner, receiving 53% of all Kosovan metal products exported in the EU in 2021¹⁴. Regarding other countries, metal exports to Turkey have reached around €10 million in 2021, followed by Kazakhstan with around €9,5 million.

¹⁴ Main exports to Italy are composed of nickel and related articles extracted and produced by Newco Ferronikeli in Kosovo.

Furthermore, it is interesting to notice that around 75% of the enterprises that export have 10 or more employees, whereas the majority of enterprises with less than 10 employees do not export at all. There seems to be a clear interdependence between a critical size of enterprises in terms of number of employees and the capability to export.

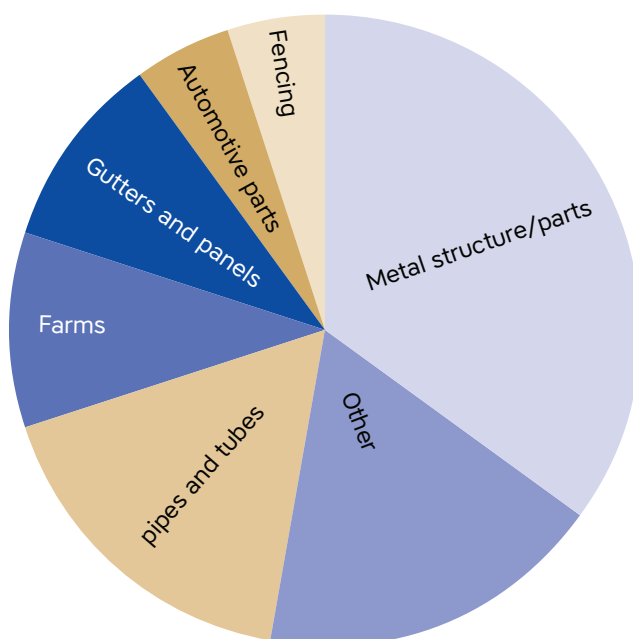
The most important market for the SMEs that export is the EU market. As indicated by the figure above, around 43% of the output is sold in the EU market, followed by a share of 41% in the local market. The regional market as well as outside the EU and region comprises the market share least accessed by metal processing enterprises that export. The two markets add up to around 16% of the total market share. Interestingly, these destinations are the primary supply market for Kosovo companies. This represents an important finding – Kosovan metal processing companies generally import their raw material from non-EU countries and sell it to the EU market afterwards.

Germany, Italy and Switzerland dominate as European export destinations for Kosovan metal processing companies. Followed by France, Sweden, Croatia, Slovenia and Norway, which are also frequent export destinations for Kosovan metal processing companies.

The diversity of exported metal products seems quite low. Among the most frequently exported metal products are metal structures, parts, and panels. Considerably lower in frequencies are pipes and tubes, followed by gutters and panels, forms and products, automotive parts and fencing. Finally, individual companies mentioned that they export also other metal related products such as metal doors, window frames, interior products, etc.

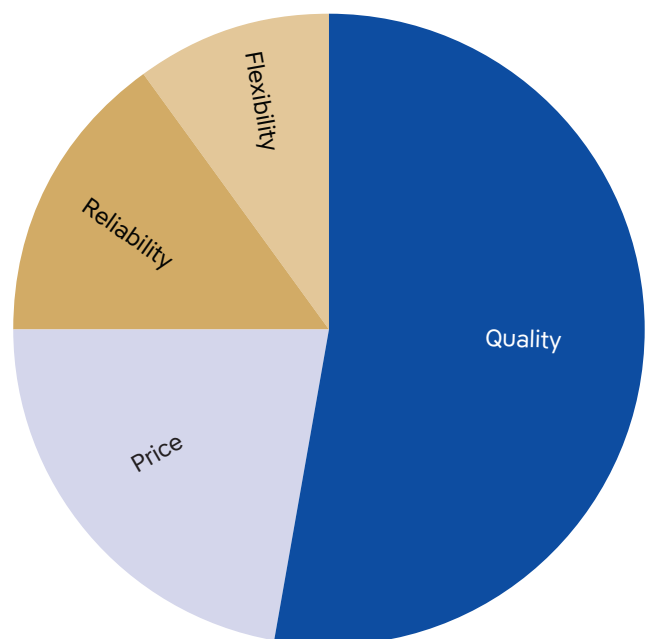
Figure 21b reveals that main success factors behind the export of these products. Quality is assessed as the most important success factor in penetration of export markets, followed by price, reliability and flexibility. However, it must be noted that the products exported are not very complex, meaning the export success factors focusses only on those products.

Figure 21a. Export metal products



Source: Survey data, authors' own calculation

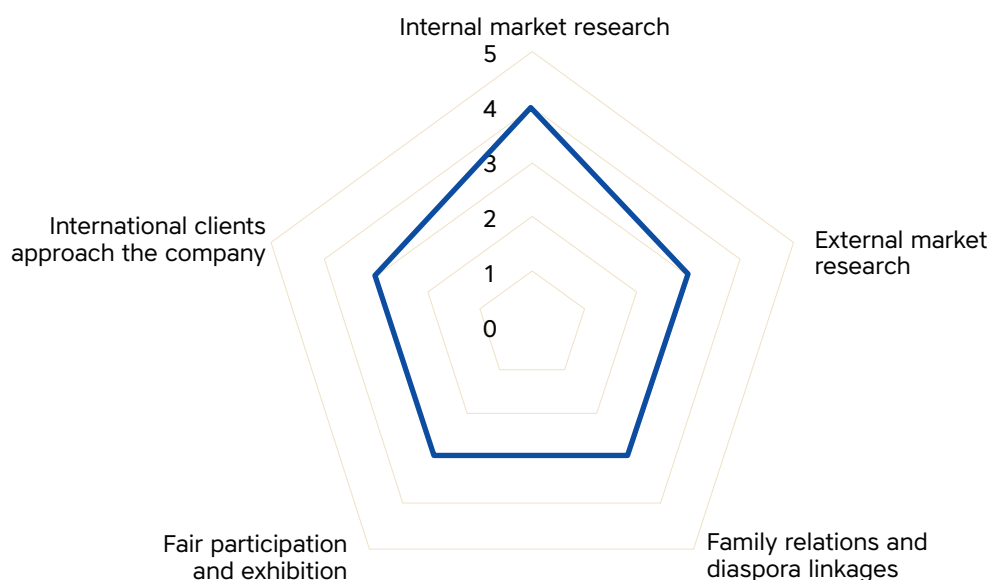
Figure 21b. Export success factors



Source: Own investigation

The following chart represents the methods that metal 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 other methods, such as external market research or fair participation is rated on a similar level by interviewed enterprises. Family relations and diaspora linkages are assessed as the second most important means for market access and penetration. This emphasises the importance of diaspora linkages, through family relations and business networks, in market access for Kosovo companies. Though rated as the least frequent method but with minor differences from others, it is interesting that several enterprises have reported that international companies/clients regularly approach them directly. Details of rating with regards to the assessment of five methods for market and client identification are presented below.

Figure 22. Market access and client identification means



Source: Survey data, authors' calculation

During the interviews, the respondents were asked to assess their own business competitiveness. This was done by applying a Likert-scale like rating. The highest-rated aspect in terms of competitive advantages is quality, with a rating of 4,91 out of 5. Almost all interviewed enterprises agreed that the quality of their product is their strongest advantage. This is even more evident when assessing these aspects in terms of the export market with a rating of 5 out of 5. On the other hand, enterprise rates are not as good in working with small lots and quick delivery. This is particularly important for export, with a rating of 3,64 out of 5, where a significant share of enterprises claim that working with small lots is a disadvantage for their business activity. They would rather prefer to work with large orders and more flexibility, particularly for the export market. Punctuality (with 4,74 for the local market and 4,44 for export market) and delivery time (4,69 for the local market and 4,27 for the export market) are also assessed as business competitive advantages by the interviewed enterprises.

Product price is also assessed in the lower ends of competitiveness since Kosovan companies complain that they have to be very competitive, thus they cannot charge “good” prices. Nevertheless, price is considered a disadvantage more for the local market than for export. This is mainly due to the fact that many domestic clients do not value the quality of the products as much as international clients do. Consequently, companies argue that they can be very competitive in terms of price for the export market. However, due to increasing prices for raw material this competitive advantage might vanish in the future. Product offer, in terms of innovative and unique properties, is also recognised as one of the weaker competitive elements by many of the interviewed companies. This is not a surprise, since mainly product with limited value added are manufactured.

There is a very positive outlook for export growth. Around 63% of interviewed enterprises assess that they will increase their export sales in the next three years, compared to 36% who claim that they expect the level of exports to remain the same. Companies with a positive outlook on export growth predict an almost 50% increase in the export level within the next three years. Interestingly, none of the companies think that there will be a decrease in export levels in the near future. The positive outlook of the enterprises is in line with global supply trends. Global supply chain distortion puts a pressure on growing metal related processors in the EU market to diversify their supply chain and increasingly look for new partners in the Western Balkan countries. These developments provide good growth opportunities, which were confirmed by the firms interviewed.

4.4 Human Resources

Interviewed companies in the metal sector report an increasing employment trend, on average, growing by around 15% in 2021, in line with the growth of sales and the labour-intensive nature of the sector. The share of women in employment is relatively low, accounting for around 15% of all employees on average. Of all employees, around 26% have a tertiary education degree. Regarding salary levels, 27% of companies in the sector pay salaries that are higher than the industry average.

In general, salaries paid by Kosovan manufacturing companies are relatively low compared to companies in the same region of Europe, which along with the comparative advantages of the Kosovan tax system as compared to the EU countries, represents one of the key sources of advantage for Kosovan metal manufacturers.

In total almost one-third of the interviewees confirmed that they have issues to find workers. However, there seems to be a clear dependency between firm size and staffing challenges. 55% of the respondents for small firms confirmed that it is a challenge for them to find proper staff. On the contrary, bigger firms did not report having issues since they have better access to skilled workers due to a good reputation and the possibility to pay higher salaries. Micro enterprises did not complain much, simply because only a few are looking for (new) workers.

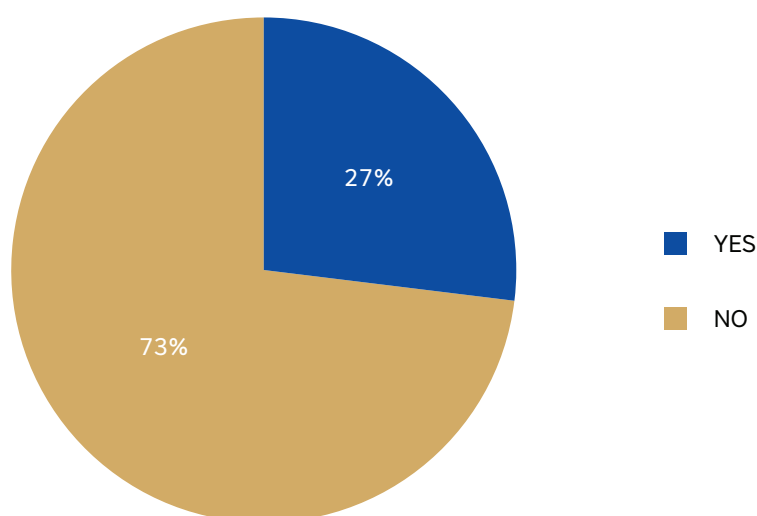
When asked about the main obstacles related to required skills needed in the market, a lack of qualified employees and migration are the two most frequent barriers mentioned by companies. The main professions indicated to be missing in the market include, among others: welders, machinery technicians/operators, engineers of construction and machinery, designers, and economists.

The further increase of digitalisation of the metal manufacturing sector will require even more skills and competences. It is likely that this trend will put even more pressure on the enterprises to find properly skilled workers and could become one of the prevailing barriers for further growth. Very small enterprises will be especially challenged to find workers with appropriate skills since working conditions for bigger businesses are usually more attractive than for very small enterprises. (e. g. higher salaries, better career development paths etc.)

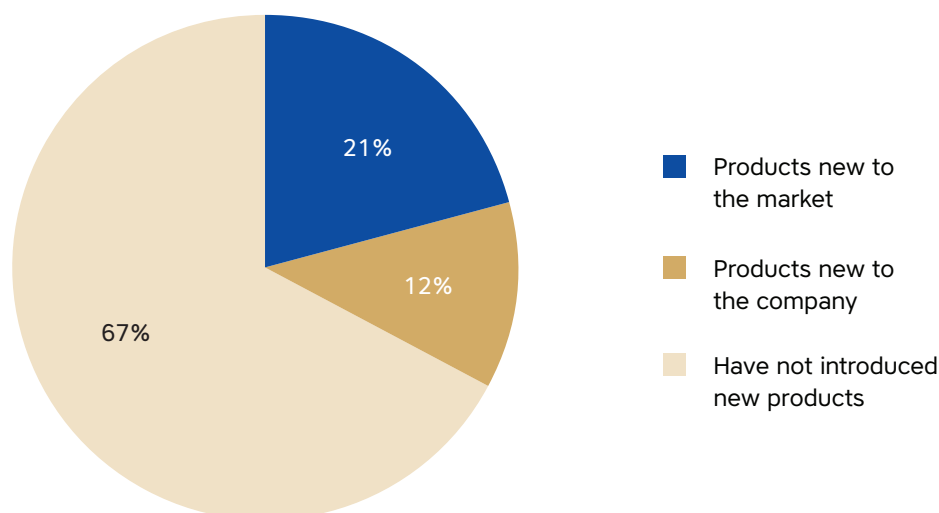
4.5 Innovation and digitalisation

The metal sector in Kosovo seems to follow a traditional pattern in terms of new product development. Levels of investment in innovation and digitalisation appear to be relatively low. In the last three years, only 27% of companies have undertaken any kind of significant investment to foster innovation or digitalisation (Figure 23). In line with this observation, the findings reveal that only 21% of companies interviewed have introduced products that are new to the market, while only around 12% of companies have introduced products that are new only to their company (Figure 24). Around 67% of the enterprises have not introduced new products in the last couple of years. These are mainly companies that do contract manufacturing according to the needs of their clients.

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



Source: Survey data, authors' own calculation

Figure 24. Rate of the introduction of new products

Source: Survey data, authors' calculation

Again, there seems to be a clear relationship dependency between the size of enterprises and the readiness / capabilities to invest in innovation and digitalisation. 60% of the small and medium firms invested in innovation or digitalisation, whereas only 12% of the micro enterprises companies did so. Similar trends can be found when it comes to new products.

Among companies that have invested in innovation and digitalisation, the main investments included an upgrade of machinery, new production lines, and in a few cases training and software development. The introduction of new products has increased customer satisfaction due to a higher quality of products but in some cases has also improved operations efficiency and management.

The lack of financial resources and development engineers, as well as financial and operational disruptions caused by the Covid-19 pandemic, were given as key barriers for not having invested in innovation (new products or processes) or digitalisation.

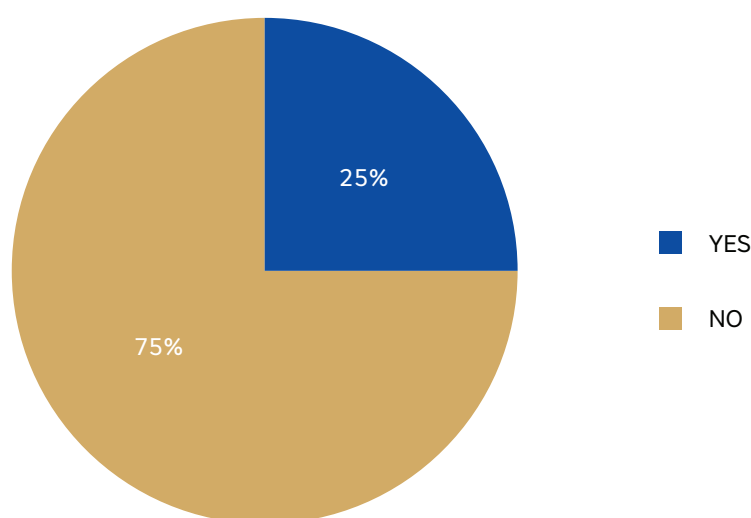
It is important to note that despite a very low intensity of investments in digitalisation, around 93% of enterprises considered that their level of digitalisation is proportional to market demand and digitalisation trends, indicating a self-satisfaction with their state of digital improvements. Whether this is really the truth, or an inaccurate perception needs further investigations. Given the fact that most products manufactured are comparably simple and the portfolio of products per company is comparably small, the findings are not surprising. Usually, the demand for digitalisation increases by production volume, complexity and spectrum of products manufactured. However, there is good evidence that digitalisation can provide competitive advantages even for small enterprises with smaller production volumes. Interviews with sector experts confirmed the impression that the level of digitalisation is lower than those of West or East European peers.

The findings further show that cooperation between enterprises or enterprises and R&D institutions is very rare. None of the companies have reported concrete cooperation in innovation or common R&D. There are various reasons for this observation, such as a lack of trust, access to finance or knowledge of future market demands the prevailing reasons.

4.6 Networking Landscape

The metal sector appears largely unorganised as the majority of the companies operate individually and without any formal cooperation. Only around 25% of the metal sector companies interviewed have declared to have a formal relationship with one of the existing business associations in Kosovo. Most of those that have a formal relationship are members of the Metal Industry and Renewable Energy Cluster of Kosovo (MIRECK), or of one of the economic chambers in Kosovo, including the Kosovo Chamber of Commerce, German-Kosovar Chamber of Commerce and American Chamber of Commerce, Kosovo Manufacturing Club, or the Association of Artisans of Kosovo.

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

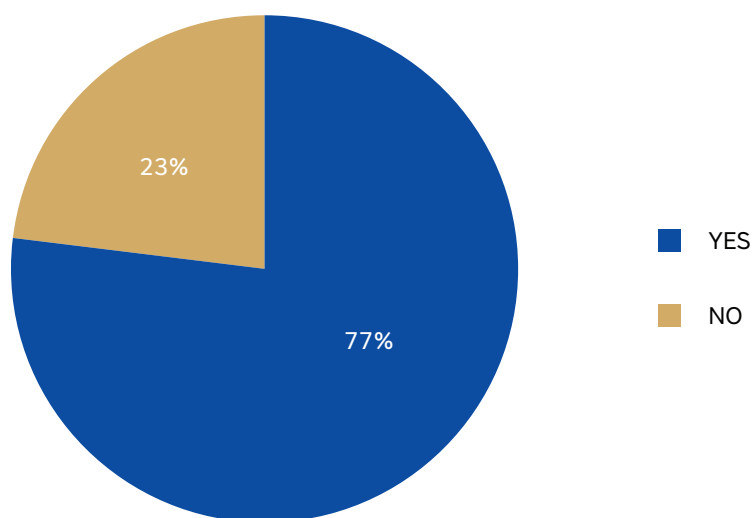


Source: Survey data, authors' calculation

Interviews with managers or coordinators of these networks / associations (outside of the chambers) revealed that most of these intermediaries are lacking critical mass. It is important to emphasise that among 75% of companies that are not members of any business association, the vast majority do not have any information about the existence of sector-related associations, or the benefits they may bring to them. In addition, some firms interviewed are not happy with the way associations operate. The comparably high number of associations in the metal manufacturing sector, targeting the same sector actors, might also be a reason why the membership is small.

Companies that are members of one of the business associations consider that this brings advantages to them in terms of better access to market knowledge, better access to training, finding new buyers and business networks, and in particular, easier access to export markets.

Figure 26. SMEs assessment of the importance of proximity to other actors for business growth;



Source: Survey data, authors' calculation

Around 77% of the interviewees considered proximity to other sector actors as very important for their business development. Being located nearby suppliers, transport companies and others are considered to provide a certain competitive advantage to sector companies. Basically, this observation underlines the potential of BMO's or sector associations to benefit of such proximity and gather related actors accordingly.

4.7 Cross-sectoral potential

Metal products can be manufactured for various sectors, ranging from medical technologies to automotive and energy generation. Requirements and competences needed with regard to metal manufacturing are often similar. As far as metal manufacturing enterprises in Kosovo are concerned, the majority of the products produced are intended for the construction sector. Since focussing on one sector is usually comparably risky and limits further growth potential, diversification can be an option to ensure the sustainability and resilience of this sector in the future. The table below described potential sectors which could become relevant for metal manufacturers interested in diversifying their product portfolio as well as a preliminary justification of existing barriers.

Table 4. Potential sectors for diversification of the metal manufacturing sector in Kosovo

Sector	Market size in Kosovo	Market size in EU	Entrance barrier EU
Automotive	Small	High Despite that fact that the trend for eMobility will reduce the demand for metal components in the future, the market volume is still comparably high.	Medium , since the automotive sector has high requirements in terms of quality, amount of supply and ability to become integrated part of global supply chains. High requirements with regards to certification exist. However, if accompanied with sufficient FDI made by OEMs or Tier 1 entities, the barriers can be significantly lowered.
Aviation	Small	High The aviation sector is attractive for all suppliers. Especially since the European aviation industry is on the rise again.	Very high , since the aviation sector has very high requirements in terms of flexibility of suppliers, precision of manufactured parts. Mandatory certification requirements are very high, too.
Energy	Medium	High The demand for sustainable and renewable energy supply is a key driver for this sector and will ensure a further growth of this sector	Low , since the sector is very diverse and only a small part has specific high security requirements. However, this sector can serve a promising entry sector for diversification efforts.
Medical technology	Small	Medium , This sector is smaller than e. g. the automotive sector and still attractive for many suppliers. Future investment in wellbeing and improvements of the health sector will assure demand for various medical devices.	High , mainly due to high safety and quality standards. Most products and components belong to the so called mandatory areas, where product and system certification is mandatory (e. g. according to EU Medical Device Directives).
Mechanical Engineering	Medium	Medium , This sector is under constant transformation and growing. The sub-sector of special purpose machinery manufacture, which is often still labour intensive, could be attractive for taller Kosovo enterprises	Medium , because certification is not so prevailing. If enterprise can demonstrate competences and capabilities it is a quite open sector.

Source: Expert opinions¹⁵

¹⁵ based on interviews with five European experts from the Automotive, Medical device technologies, energy and engineering sectors, conducted in June 2022

With regards to specific export opportunities for the automotive industry, the majority of interviewed enterprises (over 54%) think that Kosovan companies have the potential to produce and export for the global automotive industry. However, this perception might not be the case in the reality, since the pressure of pricing and certification requirements is high. Also the requirements to manufacture very precise parts are high. It is characteristic for neighbouring countries, like Serbia, or Bulgaria, that succeeded to set-up a remarkable automotive industry that significant investments of OEMs or Tier 1 firms were first. As far as Serbia is concerned, firms, like Continental, ZF, Michelin or FIAT invested billions of EUR in the countries to set-up such an automotive supply industry. Furthermore, OEMs also invested, like FIAT did in Serbia. Without such huge FDI it is unlikely to turn Kosovo into an automotive supplier¹⁶. However, recent talks to potential foreign investors pointed in the direction that there is interest from outside Kosovo to significantly invest in manufacturing and assembly for the automotive sector in the country. There are additional reasons why the potential to produce for automotive industry are lower compared to other sectors.

A high number of interviewed enterprises assess that many metal processing sub-sectors have high export and growth potential. Specific reference is provided to metal sheets, structures, aluminium, steel, steel, windows and doors, etc. Workforce development and training were emphasised as crucial in making use of these potentials.

¹⁶ For further information how Serbia became an automotive supplier see <https://ras.gov.rs/en/sector/automotive>

5. Supporting Policies and Institutional Setting

The legal and policy framework that affects the metal sector in Kosovo is regulated by ministries such as the Ministry of Industry, Entrepreneurship, and Trade (MIET), the Ministry of Environment, Spatial Planning, and Infrastructure (MESPI), the Ministry of Finance, Labor and Transfer (MFLT), and independent regulatory agencies, namely the Independent Commission for Mines and Minerals (ICMM).

The MIET is responsible for the development of industrial sector related policies, promoting private sector growth, and 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.

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

- Kosovo Investment and Enterprise Support Agency (KIESA) is the responsible institution for promoting investments in Kosovo and exports. Among other things, KIESA is active in organisation exhibiting Kosovan companies in international fairs or in implementing trade mission abroad. Some of the support measures offered by KIESA include financial grants, technical support and advice on quality standards certification, business counselling, etc.
- The Industrial Property Agency (IPA), is responsible for registration and protection of industrial property rights.
- The Kosovo Standardization Agency (KSA) operates as agency responsible for standardisation and Kosovo Accreditation Agency (DAK) as agency responsible for accreditation, aiming to implement a national conformity assessment system that is conducive to support the Kosovan private sector to meet national and international standards.
- The Kosovo Metrology Agency (KMA) is responsible for development and offer national measuring means, including calibration services
- The Kosovo Business Registration Agency (KBRA) is in charge of the registration of new businesses.

The Ministry of Environment is the responsible institutions for environmental issues. Kosovo is now a signatory of the Green Agenda for the Western Balkans (GAWB)¹⁷ an EU led initiative for promoting 'green' economies in the region, which will have implications in the industrial sectors. Although there are no clear country specific action plans when it comes to the commitments that derives 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

¹⁷ 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>

achieving climate neutrality by 2050.¹⁸ Independent of what policies and measure 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 ensured along the entire supply chain. As more Kosovan enterprises focus on experts, the more they will be affected. Sustainable production, meeting environmental and worker safety standards as well as material efficiency will become key success factors. It would be beneficial, if the Ministry of Environment and other ministries active in this field can improve framework conditions that facilitate the enterprises from the metal manufacturing sector to better meet these sustainability requirements in the near future.

MFLT and its executive agency, Tax Administration of Kosovo, 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 business friendly by the private sector in Kosovo. Kosovo Customs is responsible for the implementation of regulations on customs, specifically on 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 aspires to eventual EU integration, Kosovo Customs operates in accordance with EU standards.

The Kosovo education system offers a variety of programs in six public universities, over 80 professional and vocational education schools, and dozens of private education providers, both at secondary and tertiary education levels. Nevertheless, there is no education programme focused on the metal sector's technical and engineering expertise. Firms in the metal manufacturing sector usually search for employees that have graduated in machinery related programs or at least have undergone short term courses provided by Vocational Training Centers (VTC) in Kosovo. VTCs provide professional training services on practical knowledge and skills for unemployed people and other jobseekers in order to better match the labour market needs. Currently, there are 8 VTCs across Kosovo that offer training services on more than 30 different profiles, including a few related to the metal sector (i.e., welding, central heating installation, etc.).

However, the interviews revealed that the public education system is not able to provide properly a skilled workforce needed by the private sectors. The industrial demand changed dramatically over the recent years since, among others, the sector is under significant transformation pressure. Current curricula intended for workers in the metal manufacturing sector, like welders or machine setters are outdated. The same is the case for the training equipment. Whereas CNC machines are more and more becoming state of the art in Kosovo, trainees cannot get access to them during their educational programmes. Modern skills, like mechatronics or ICT in manufacturing are not supported in VTCs.

¹⁸ European Climate Law <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R1119&from=EN>

5.1 Investment promotion and support

Investment promotion remains a cornerstone in national efforts to support private sector development. According to estimates the new flow of foreign direct investments (FDI) in Kosovo in 2020 was €340 million compared to 2019's figure of €270 million¹⁹. Especially in the food & beverage, ICT, infrastructure, energy, and wood processing sectors FDI has increased in the recent past e.g., investments within the wood processing sector have been focused on producing kitchens, baths, doors, upholstered furniture, combined wood, metal and glass.

To promote further investments in Kosovo, the Program of the Government 2021-2022 aims to review several areas as well as review policies in promotion and supporting investments. These include the legal framework for strategic investments, promotion of economic zones as well as building institutional reforms and designing policies to promote investments according to the European Reform Agenda. Furthermore, the government aims to conduct an analysis regarding potential investments in economic zones in order to improve their functionality and attractiveness. Within this framework the programme aims to also create new economic zones with the purpose of stimulating technology transfer with a special emphasis on giving priority to diaspora investments in Kosovo and potential countries that are interested in investing in Kosovo.

Over the last years different laws and regulations have been adopted according to international standards such as the policy and legal frameworks in relation to FDI's improved over time, like the Law on Foreign Direct Investment adopted in 2014 or the 2017 Law on Strategic Investments. It is important to emphasise that the Law on Strategic Investments lists several industries that have strategic potential. These industries include energy, infrastructure, manufacturing industry, health, mines, transport and telecommunications, tourism, agriculture and food & beverage industry, and waste management. Other laws and regulations that directly and indirectly ensure more comprehensive legal frameworks are e. g. the Law on Late Payments in Commercial Transactions, the Law on Bankruptcy, the Law on Prevention of Money Laundering and Combating Terrorist Financing, and the Law on the Credit Guarantee Fund.

Despite the progress on investment policies, the decline in development of investment promotion and facilitation remains a challenge. This is related to several factors that 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 fact that many laws are not properly enforced.

Despite the efforts of KIESA and the Council of European Investors (CEI), which aim to promote and provide a better investment climate in Kosovo as well as Stabilisation and Association Agreements (SAAs), the Central European Free Trade Agreement (CEFTA) and double tax agreements signed with several countries, Kosovo still has a low investments rate²⁰. Other bodies have been established with the aim to further promote FDI in Kosovo, such as the National Council for Economic Development (NCED), established by the Platform for Dialogue between Government and Investors Kosovo Government, as well as other measures, such as investment guarantees within the Multilateral Investment Guarantee Agency (MIGA)²¹. The source

¹⁹ Foreign Direct Investments in Kosovo, 2021, American Chamber of Commerce in Kosovo, <https://www.amchamksv.org/wp-content/uploads/2021/07/FDI-in-Kosovo.pdf>

²⁰ 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>

²¹ Free Market Economy (IFME) (2019). *Foreign Direct Investment in Kosovo. The Investment Climate, Potential and Barriers Research Report By Institute For Free Market Economy (IFME)*. Free Market Economy (IFME).

of low investments in Kosovo and the partly negative perceptions of investors is also related to inefficient institutional coordination of different government bodies.

Many institutions that are charged with attracting FDI, like KIESA, are lacking sufficient capacity and human / financial resources to manage due to the roles they have to play²². However, Kosovo has improved the ease of doing business and has improved facilitation of services and its following activities. As a result, Kosovo is ranked 12 out of 190 countries in terms of the ease of starting a business²³. 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 in relation to political instability, which influences their decision to invest in Kosovo. It is interesting to see that the Covid-19 pandemic did not have much impact of FDI activities in Kosovo. The recent developments connected with the Ukraine war might make Kosovo even more interesting for FDI. Although not yet based on a sound analysis, interviews with stakeholders indicated an increasing interest from foreign investors, even for a traditional sector, like the metal manufacturing sector.

5.2 Competitiveness and Innovation Support

Institutional mechanisms that are responsible for promoting and strengthening the private sector are weak. The legal framework regards enterprise and industrial policy is lacking in terms of providing clear aims on improving the business environment and promote industrial development. Despite the fact that the main function of the Ministry of Industry, Entrepreneurship and Trade is to provide advice with regard to industrial policy, it has limited capacities to actually do so.

There is no grant scheme available that provides monetary support for competitiveness and innovation for enterprises. There were several trials in the past, but these various efforts did not succeed. For instance, in 2018 / 2019 a National Strategy for Innovation and Entrepreneurship was developed, but never backed with dedicated support schemes or interventions. The only exception is The Law on Economic Recovery that was adopted by the Government in 2020 with the aim to stimulate a private sector that had been affected by Covid-19. The stimuli included subsidies of wages of employees who lost their jobs and the removal of value added tax (VAT) on raw materials.²⁴

The recent Programme of the Government of Kosovo 2021 – 2025, aims to take several measures that will lead to a better transparency and quality of services and increase the effectiveness of administration for enterprises and citizens. The characteristics of this interventions are to achieve two main objectives, firstly by improving inter-institutional coordination in relation to inspections of business activities and digitalise the process of inspection²⁵.

The Fund for Innovation and Technology Development is a good example on how funding of skills development within enterprises leads to improved worker competencies.²⁶ Other mechanisms to support enterprises

22 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>

23 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>

24 EBRD. Transition Report 2021-22. <https://2021.tr-ebd.com/countries/#>

25 Government of Kosovo (2022), Economic Reform Programme 2022-2024 Kosovo, <https://mf.rks-gov.net/desk/inc/media/23D2D3B1-81C1-41FE-B6C0-2D5C739A6F69.pdf>

26 OECD/ETF/EU/EBRD (2019), SME Policy Index: Western Balkans and Turkey 2019: Assessing the Implementation of the Small Business Act for Europe, SME Policy Index, OECD Publishing, Paris. <https://doi.org/10.1787/g2g9fa9a-en>

through institutional services for innovative SME's are the Innovation Centre Kosovo (ICK) and Gjirafa Lab. These institutions are donor based, for example ICK through Norwegian, Swedish, and German donor programs and EU grants. Gjirafa Lab is supported by the United States Agency for International Development (USAID). Another mechanism to support enterprises oriented towards innovation is Jakova Innovation Center established by the Ministry of Trade and Industry (MTI) with the support of the US Embassy in Kosovo.²⁷

In a nutshell, there are some programmes and interventions in place, but only to a limited extent. Dedicated support schemes that provide monetary support to de-risk investments in innovation or support cooperation between the private and academic sector for joint R&D or technology / product development are missing. If any support is provided in the field of innovation and competitiveness, it is only institutional support. According to the interviews conducted, the quality and intensity of the services provided by such institutions varies.

5.2.1 Conformity Assessment

Testing, inspection and certification are services which are important for the private sector in order to ensure compliance with national or international standards or to meet essential safety requirements. The Kosovo Standardization Agency (KSA) and Kosovo Accreditation Directorate (DAK) within the MIET are the government bodies responsible for standardisation and accreditation activities in Kosovo. KSA's key tasks are to:

- Organise procedures on the formulation of standards; approve and apply such standards; certify products, services, quality systems, and personnel.
- Organise procedures on standardisation, accreditation, and certification based on international and European standardisation systems.
- Approve, adapt, and implement international and European standards, except in the area of telecommunications.
- Revise existing standards in Kosovo, and
- Maintain and administer a standardisations archive on foreign and local standards; upon request, communicate technical information to domestic and foreign subjects that conduct business activities in the territory of Kosovo.²⁸

Kosovo does not have a national product certification body, but it has certified experts in ISO 9001 and similar areas cooperating with internationally recognised certification bodies. The country is a member of the European co-operation for Accreditation (EA), the International Laboratory Accreditation Cooperation (ILAC), and has adopted the code of conduct of the International Accreditation Forum (IAF).

Despite that fact that DAK is a member in the above mentioned organisations, it is not a so called "signatory" to the EA/BLA and / or ILAC MRA. This means test results or certificates issue by a Kosovan entity are not internationally recognised. This results in the fact that if international clients require test results or certificates from Kosovan suppliers, they have to appoint foreign conformity assessment bodies. This can be considered as a major disadvantage for the Kosovan metal manufacturing industry. Luckily, certification

²⁷ OECD/ETF/EU/EBRD (2019), SME Policy Index: Western Balkans and Turkey 2019: Assessing the Implementation of the Small Business Act for Europe, SME Policy Index, OECD Publishing, Paris. <https://doi.org/10.1787/g2g9fa9a-en>

²⁸ Standards for Trade, October 2021, International Trade Administration, <https://www.trade.gov/country-commercial-guides/kosovo-standards-trade>

is not such a prevailing issue for the metal manufacturing sector, compared to other sectors, such as the food & beverage sectors. In case certificates are requested from international clients, the ISO 9000 for quality management is the most commonly requested certificate and there are many foreign certification bodies in Kosovo that offer such kinds of service. However, in case the sector intends to further diversify in areas, where certification of metal products becomes mandatory (e. g. aviation or medical devices), that lack of international recognition of the Kosovo national conformity assessment system will become a real constraint.

5.3 Export promotion programmes and activities

Based on the interviews conducted, export seems to become the main growth opportunity for the metal manufacturing sectors. Thus, export promotion might become a key to support the enterprises on this regard. Modern export promotion contains various facets, ranging from traditional activities, like support in trade fairs or delegation missions over provision of market information and networking partners to conferences and events as part of location promotion activities. Such activities are often backed up with financial support, like loans or export credits. Having offices abroad is often another support scheme, which is acknowledged by enterprises interested in entering foreign markets.

Besides institutional support provided by KIESA there are some support programmes in place to help the private sector in Kosovo to internationalise operations. The Competitiveness and Export Readiness Project (2017 - October, 2022; ongoing), funded by the World Bank, aims to support the certification of products for export (s. also chapter 5.2.1), strengthen the capacity of export-oriented firms and lower the costs of inspections for firms. This project has two main components

- build a better business environment for export and
- help firms to be ready to compete in international markets²⁹.

The project Creating Employment through Export Promotion (ongoing since 2018) funded by German Federal Ministry for Economic Cooperation and Development (BMZ) is intended to explore the potential in international markets. This project offers information about procedures, product regulations, and certifications in the EU and prepares firms for the EU market. This project aims to promote public and private services provides, which can generate employment and has export potential.

Export-led Growth activity (ELG) in Kosovo (August 2020 – August 2025) is an ongoing project, funded by the U.S. Agency for International Development (USAID). The activity promotes resilient and self-sustaining market systems to improve competitiveness at the local, regional and global levels. The activity is utilising a market system approach aligned with USAID's Private Sector Engagement Policy and is focusing in three key export-oriented sectors - wood processing, food processing, and information and communications technologies (ICT) - to increase their competitiveness sustainably. Key beneficiaries include market system actors and private sector.³⁰

Significant efforts have been also spent in the past such as the export promotion programme "Increasing Competitiveness and Export Promotion" which was implemented in May 2016 - October 2018. The purpose was to support firms to improve both performance and competitiveness of export products and services

²⁹ Kosovo: Competitiveness and Export Readiness Project Link <https://projects.worldbank.org/en/projects-operations/project-detail/P152881> (Accessed March 2021).

³⁰ <https://www.usaid.gov/kosovo/fact-sheets/usaid-export-led-growth>

produced in Kosovo. The programme's objective was to reduce the trade deficit for economic growth and private sector employment in Kosovo.³¹

Further support for the development of trade in Kosovo was implemented in March 2018 – July 2020, financed by the EU. It aimed to integrate and strengthen the government's role in economic governance by focusing on more effective regulatory functions that are in line with obligations derived from SAA. This project had four components: i) trade agreements; ii) trade policies; iii) the impact assessment; iv) industrial property rights. Overall, this project aimed also to build strong institutional capacities and policies aligned with EU practices and support/improve exporting and importing traders³². The key beneficiary is the Ministry of Trade and Industry.

However, it is a notable characteristic that all these projects and initiatives were financed by donors and not by the Kosovo government.

31 Increasing Competitiveness and Export Promotion Project Link: <https://kosovoprojects.eu/project/increase-of-competitive-ness-and-export-promotion/> (Accessed March 2021)

32 Increasing competitiveness and export promotion project Link: <https://kosovoprojects.eu/project/further-support-to-the-development-of-trade-in-kosovo/> (Accessed March 2021)

6. Opportunities and Barriers

The interviews with enterprises and on the stakeholder level identified a broad range of opportunities and constraints related future development of the metal manufacturing sector. Most of them are cross-sectoral and valid for all sub-sectors of the metal manufacturing sector.

6.1 Opportunities

Based on the findings a set of opportunities can be identified, which can be considered as future drivers of the metal manufacturing sector in Kosovo

1. Metal manufacturing represents a growing sector, with particularly good export opportunities

The statistical data confirm a positive trend in this sector over the recent years. The impact of the Covid-19 pandemic or ongoing geopolitical tensions, like the Ukraine war and related sanctions, have significant impacts on global supply chains, which countries like Kosovo can benefit from. Many European companies started to shift their supplier network towards the Balkan countries as part of their nearshoring strategy. Interviews with stakeholders further confirmed an increasing interest of investors in Kosovo as a manufacturing location. Whereas the opportunities for increased export activities look promising, the domestic market remains limited.

2. Local enterprises are able to meet the mandatory quality of national and international clients

According to the firm-level interviews, the quality and price of products and parts manufactured in Kosovo represents the key competitive advantage. While other determinants, like punctuality, flexibility or timely delivery matters as well, an appropriate price / quality ratio seems to be of the highest relevance for international clients. In times of disrupted supply chains, international clients focus more on quality and reliability rather than just on the price. Being able to provide a good quality / price ratio is an important added value and provides promising growth opportunities for domestic enterprises, especially if Kosovo is to be advertised as a reliable quality manufacturing site.

3. The domestic metal manufacturing industry is able to cover a broad variety of products and materials

The findings reveal that local manufacturers are able to produce a broad spectrum of products ranging from gutters to pipes. The same can be observed when it comes to materials to be manufactured. Both competences represent a promising base and good growth opportunity to further extend the product spectrum as part of firm-level diversification strategies. Moving up to the manufacturing of more complex products and parts provides further growth opportunities since the current complexity of the manufactured products is still comparably low compared to international peers. Local manufacturers of more complex components for high quality applications (e. g. for Automotive, Aviation or special purpose machinery manufacture) are still an exception in Kosovo.

4. The manufacturing sector is high on the political agenda

Specific public support measures and interventions for enterprises from the manufacturing sector remained an exception in the past. Interventions were mainly provided for export promotion, whereas other areas, where the sector needed support, like innovation, digitalisation, skills development or networking and cooperation, were neglected. Nowadays, there seems to be a higher policy awareness that the domestic metal manufacturing sector needs tailor-made support schemes, which address the specific barriers and weaknesses of the sector. The current study seems to be a first promising step towards a process that hopefully leads to improve framework conditions for the metal manufacturing sector in Kosovo.

6.2 Barriers

In the following key barriers / constraints are listed, which can hamper the competitiveness of the entire metal manufacturing sector. Addressing these constraints is expected to boost the metal manufacturing sector and build more sustainable, more efficient, and better integrated metal manufacturing value chains in the future.

1. The metal manufacturing sector is dominated by micro and small enterprises

The vast majority of Kosovan manufacturers are micro and small firms with very limited production and financial capacities. The latter ones hamper them to invest in increased capacities or new machinery, equipment or technologies needed to properly respond to new market trends and customer needs. Such small firms always have issues gaining access to the necessary financial means. Limited production capacities further limit any growth opportunity. Going international becomes challenging for such small enterprises, since related experiences, competences and capacities are missing. The limited firm size can be considered as a major barrier for future growth opportunities.

2. Most products and parts manufactured are of limited added value.

Although the good price / quality ratio can be considered as a dedicated competitive advantage, it has to be noted that most products manufactured in Kosovo are not very complex and, thus, are of limited added value. This exposes the domestic manufacturers to heavy competition from other low-wage countries as confirmed by many interviewees. Manufacturing processes for pipes, gutters or profiles are those that can be comparably easily fully automatised / digitalised resulting in significant cost reductions. If competitors focus on fully automatised production of such products, Kosovan manufacturers can be easily pushed out of existing supply chains. Since most enterprises in Kosovo are small, they do not have such means to properly invest in automation / digitalisation to properly respond to potential competitors.

3. High dependency on international trends and external demand

In the past, Kosovan metal manufacturers were able to properly respond to international demand. What appears to be a dedicated strength, is also, in return, a big concern. Being so dependent on international trends and demands and not being able to influence such future demand patterns (e. g. by new or very innovative products or technologies), represents a big risk. Furthermore, most manufacturers have limited knowledge or access to their clients that could help them to better predict future demand patterns. This leaves most domestic manufacturers comparably blind and limits them to only being able to respond to day-to-day requests from their clients.

4. Cost increases in supply and transportation

The high dependency from raw material supply from abroad becomes a significant threat for the domestic manufacturers. The limited amount of such raw material individual enterprises requested from their suppliers provides them with limited bargaining power. This in return, leads to comparably long delivery time and high purchasing costs. Since the price / quality ratio can be considered as the main competitive advantage, any significant increase of purchasing prices of raw material will significantly lower this competitive advantage.

5. Low readiness to invest in innovation and digitalisation

There is a common feeling among the metal manufacturers that increased investments in innovation, digitalisation and new technologies are needed in order remain competitive in the future. Practise has shown that only a small number of enterprises were willing or able to invest accordingly. The reasons for such reluctance range from lack of access to finance for any investments over the lack of knowledge how and where to invest. The main barrier, again, is the limited size of the enterprises since 60% of the small and medium firms are investing in innovation or digitalisation compared to only 12% of the micro enterprises.

6. Low availability of skilled workers

Interviewed companies reported an increasing employment trend, on average, growing by around 15% in 2021. This trend might have been even stronger if the enterprises would have succeeded in finding properly skilled workers. 55% of the respondents for small firms confirmed that it becomes a challenge for them to find properly trained staff, especially firms that see good growth potential and need properly trained workers. It seems to be easier for bigger enterprises to obtain properly trained staff. Future trends towards automation, digitalisation or data analytics will increase the demand for highly skilled workers even more.

7. Limited knowledge about and access to international markets

There is no doubt that main growth options for the Kosovo metal manufacturing sector lays in increased export. On the contrary, most enterprises seem to have only limited knowledge about foreign markets and their international network is limited, too. Micro and small enterprises cannot afford to have a dedicated unit in place that build up proper international market intelligence. Institutional support is limited, and current support schemes cannot satisfy the various demands. This makes it very challenging for the domestic manufacturers to go international and limits existing growth opportunities.

8. Embryonic institutional support landscape

A well-developed programmatic and institutional support landscape is a characteristic of a conducive regional ecosystem. As far as Kosovo is concerned the institutional support landscape is still embryonic. Despite that fact that there are some sector associations and BMOs in place that offer support for domestic enterprises from the metal manufacturing sector, the private sector seems to be reluctant to use the support and services offered. The interviews identified two prevailing reasons. Firstly, most of the respondents were not aware of such intermediaries and their support offered. Secondly, those that were aware expressed their dissatisfaction concerning services and activities offered. When taking a closer look at these associations and BMO it became obvious that most of them are understaffed and only able to offer very limited support. The fact that those entities are reluctant to cooperate and bundle their limited resources seems not to be conducive in this context.

9. Missing tailor-made support schemes

A deeper look at existing support schemes and interventions that are conducive for the domestic metal manufacturing revealed that only very limited support is given. Whereas neighbouring countries, like Serbia³³, Montenegro³⁴ or Bulgaria³⁵ heavily invest in innovation and digitalisation of the domestic manufacturing sector, not much programmatic support is available in Kosovo. So far, export promotion exists in Kosovo, which does not satisfy the domestic demand. Innovation, access to finance or digitalisation are areas in Kosovo where no proper support schemes exist. It is understandable that the current focus is given to export promotion and FDI, but this seems insufficient to support the domestic manufacturing industry.

10. Missing international recognition of the national conformity assessment system

As described in chapter 5.2.1 the national conformity assessment system of the Republic of Kosovo is internationally not recognised. This means, certificates and testing results prepared in the country are not accepted by foreign clients. This fact can be considered as a dedicated barrier, since the main growth potential lays in the export. In practice, it means that metal manufacturing companies that must provide test results or certificates from laboratories or certification bodies from foreign countries that are internationally recognised (e. g. Germany, Italy, Slovenia etc.). Increased costs and loss of time (e. g. by sending testing samples through Europe) are the consequences that hamper the competitiveness of related firms or of the entire sector.

³³ The Innovation Fund Serbia has approved over EUR 44 million for 340 innovative projects, EUR 4.8 for 917 innovation vouchers and EUR 2.33 million for support in technology transfer. In total, slightly more than EUR 52.8 million were approved.. <http://www.inovacionifond.rs/en/fond/about-fund>

³⁴ Smart Specialisation Strategy 2019 – 2024 for Montenegro, <https://www.hgk.hr/documents/smart-specialization-strategy-of-montenegro5c8a159a9255d.pdf>

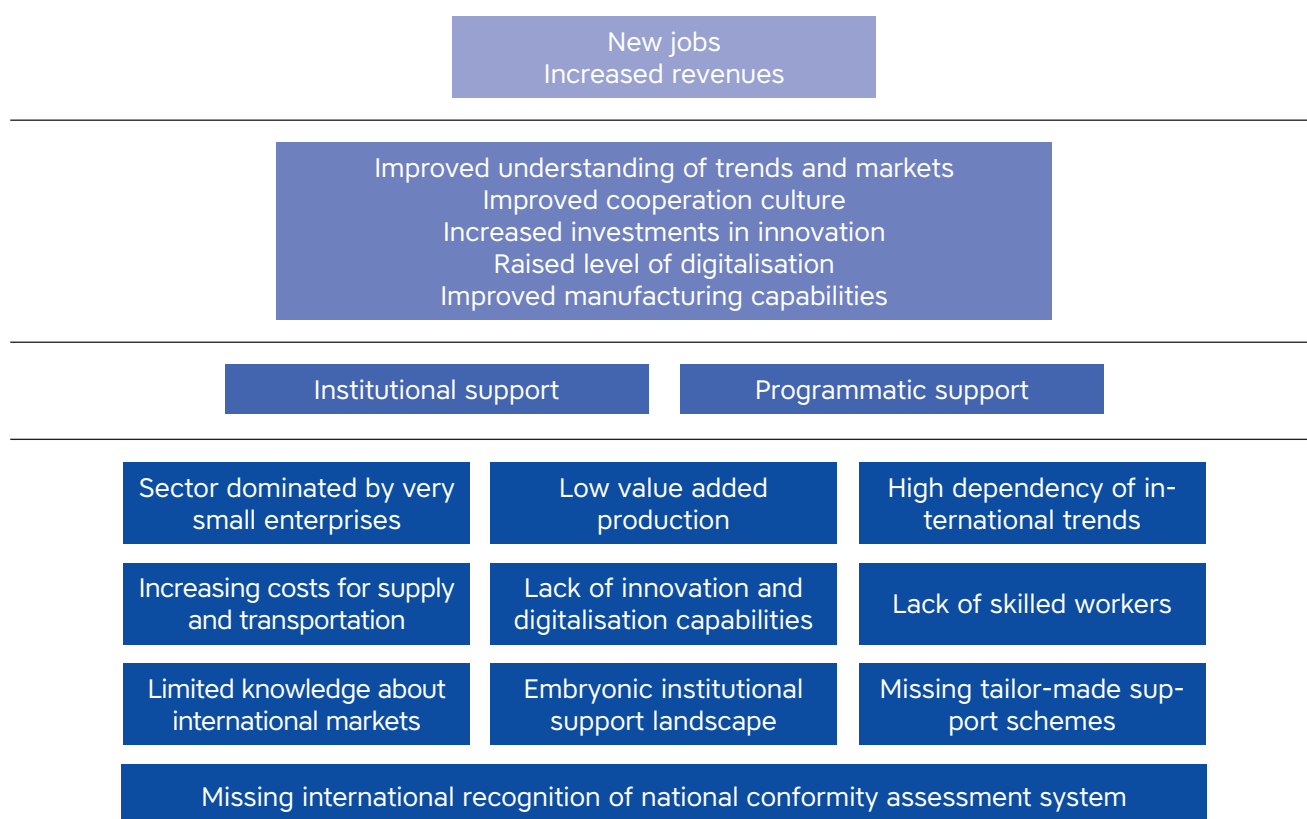
³⁵ Smart Specialisation Strategy, 2014 – 2020 for Bulgaria, https://www.mi.government.bg/files/useruploads/files/innovations/ris3_26.10.2015_en.pdf

7. Main Recommendations/ Interventions

Despite that fact that the metal manufacturing sector developed positively over the recent years, it is still in a fragile status. The sector is significantly under transformation and the patterns of global value chains, where many domestic enterprises are embedded in, are changing. These trends contain a lot of opportunities, but also threats. Threats are also coming from the neighbouring countries, whose metal manufacturer sectors is partly much taller and industrial productivity partly much higher than in Kosovo.

Although the Kosovo gains higher attention from foreign investors and more and more international firms are interested to involve local suppliers in their supply chain, there are significant barriers and constraints that might hamper the future development of the entire sector. Furthermore, the rise of costs for raw material and transport will likely increase the production costs of most products and elements manufactured in Kosovo. Since the price / quality ratio is one of the key competitive advantages of the domestic metal manufacturing industry, any increase in sourcing and production might diminish the existing competitive advantages in the near future.

Figure 27. Theory of Change of the proposed interventions

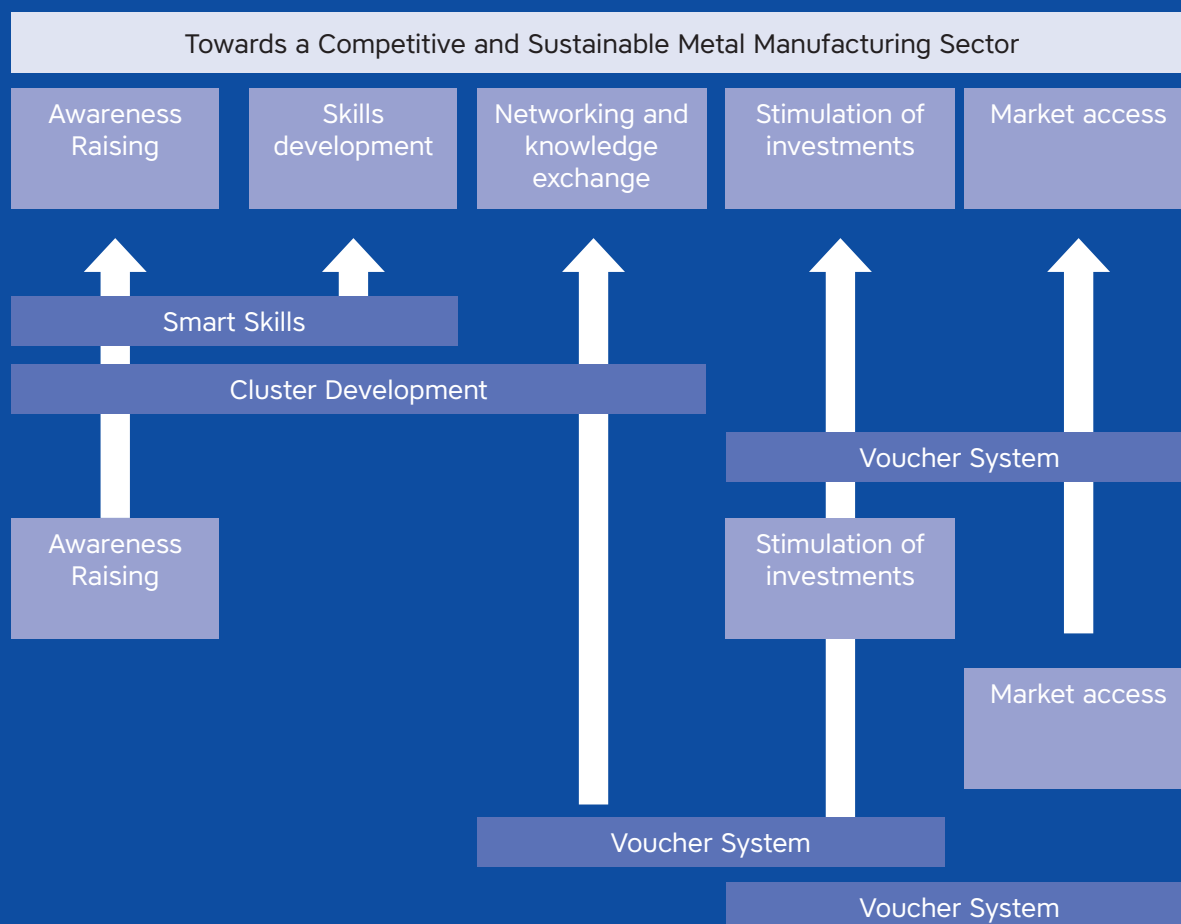


Source: Anteja ECG

The main objectives of the proposed interventions aim to improve the competitiveness of the entire metal manufacturing sector by specifically addressing the identified barriers and constraints (s. Figure 27). The overall goal can be achieved through a series of interventions on the institutional and programmatic levels. These interventions shall be embedded in a long-term strategic approaches and the commitment of the Government to improve the framework conditions of the manufacturing sector in Kosovo. The set of interventions proposed is composed of institutional as well as programmatic support that tackles one or several barriers / constraints identified within this study (s. chapter 6). Focus is given on such interventions / recommendation, which are in the scope of the MIET.

In a nutshell, six dedicated interventions (programmes) are proposed that address one of several areas of improvements as given in Figure 28. Dedicated attention is given that these interventions are complementary, but are also well interlinked.

Figure 28. Six proposed interventions and addressed areas of improvements



Recommendation 1: Support in workforce development

Rationale: New transformation pattern in the metal manufacturing sectors have significant consequences for the skills of workers and workforces. In the past competences in mechanics mattered, but nowadays competences in mechatronics, software and automation are crucial for success. However, the national educational system is not yet prepared for the future demand of the metal manufacturing sector. Even in case efforts are spent to upgrade 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 that such institutions provide the support, which is really needed.

Thus, new ways have to be identified how to better and faster support skills development in the metal manufacturing sector. Main barriers to support employees in skills development are a lack of training needs, a lack of training providers and a lack of financial means.

A promising intervention could be a **“Manufacturing Skills of Tomorrow” grant scheme**. Main beneficiaries of the grant scheme are SMEs and crafts from the manufacturing sector who can receive advice in formulating skills strategies and financial support for skills development through training vouchers.

- Enterprises 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.
- Enterprises can receive vouchers for training programs which are relevant to developing mandatory skills.
- Education and training providers, scientific organisations, association 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 the **Manufacturing Skills of Tomorrow” grant scheme** shall focus on the manufacturing process and related fields. Due to the increasing digital transformation of the manufacturing 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, the “Manufacturing Skills of Tomorrow” grant scheme can increase the awareness about the increased need to invest in own employees. It facilitates the design and implementation of tailor-made training programmes, but also allow training providers to extend their knowledge.

Good Practice Example

There are several European countries that successfully implemented similar training voucher schemes, like Croatia or Slovenia. The **Slovenian** approach is very successful, where such vouchers for (digital) skills development are an incentive for micro, small and medium-sized enterprises with the possibility of 60% co-financing. As far as the implementation is concerned, there are regular public calls for such vouchers to be published as part of the **Slovenian Enterprise Fund (SPS)**. There are different kinds of voucher schemes, but this one is intended to raise competencies in enterprises. There is good evidence that the voucher scheme encourages enterprises to provide adequate skills of employees and management staff for the key areas of their business and co-financing of eligible training costs (group, individual) for raising competencies (outsourcing costs). The maximum amount per voucher is limited to €10,000³⁶.

Recommendation 2: Strengthening of sector and business member organisations

Rationale: The national landscape of business member organisations, sector associations and cluster initiatives is still fragile or not even existing. Most interviewees responded of not knowing of any related associations. Others appear to be understaffed and not able to offer demand-oriented services for their clients. Furthermore, there seems to be tendencies towards competition between such organisations. On the contrary, such organisations do play an important role and when looking at other competitors (e. g. BiH or Serbia), it becomes obvious that such countries have a much more matured landscape of such organisations in place.

The main objective of the proposed intervention “Cluster Development Kosovo” is to improve the competitiveness of enterprises from the manufacturing sector by enabling them to engage in more value-added activities. The objective would be achieved through the support of business membership organisations, associations or cluster initiatives that promote cooperation and networking amongst firms. These activities will be enabled through the scheme’s support of cluster organisations. The scheme will support cluster organisations 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 cluster organisations 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 “Cluster Development Kosovo” grant scheme will not exclusively focus on the metal manufacturing sectors, but on selected national key industries.

Beneficiaries of the scheme are legal entities that intend to manage cluster initiatives, BMOs or similar networks. Cluster members can be start-ups, small, medium and large enterprises, research and knowledge dissemination organisations, business and knowledge service providers, government organisations or other legal entities.

³⁶ <https://www.podjetniskisklad.si/en/>

The scheme shall support the cluster organisations in:

- Animation of the cluster initiatives 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,
- 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,

Interviews with stakeholders indicated a potential of 5 – 10 cluster initiatives in Kosovo in selected key industries

Good Practice Example

The Romanian cluster grant scheme mainly supports research, development and knowledge transfer among industry and academia within the cluster initiatives in order to create a high-quality, modern R&D cooperation. In this context, the programme provides financial support for cluster organisations. Sector priorities are Bioeconomy; ICT, Space and Security; Energy, Environment and Climate Changes; Advanced Materials; Health; Patrimony and Cultural Identity; New and Emergent Technologies.

The grant scheme supports the cluster development in the following activities

- Initiation of cooperation between academia and private sector,
- Innovation support activities among cluster participants and
- Cooperation support measures, business services and measures to improve information exchange in the cluster.

While the first two pillars aim at supporting cluster actors in the field of R&D and innovation, as part of the third pillar, the Romanian cluster support programme provides full funding to cluster organizations to manage the cluster initiatives properly.

The support of cluster organisations is implemented by the “Romanian Cluster Association” (Clustero), which was founded in 2011 as a platform for cooperation, exchange of information and support for the development of Romanian clusters. Currently, 47 of the most active Romanian clusters are active in sectors such as textiles, renewable energy, electronics and software, mechanical engineering, wood and furniture, and agri-food.

Clustering provides regular information on the legal framework for cluster work, funding opportunities, events, support and advice for the creation, development and cooperation within and between clusters through networking. The association also supports the interests of its members at national and international level (Romanian government, European Union, etc.), monitors and evaluates cluster performance and organises courses and training.

Currently Clustero focuses on three main challenges:

- Promotion of innovation and internationalisation of the cluster members.
- Support towards cluster management excellence through specific training courses.
- Promotion of international exchange of experience and participation in joint initiatives and projects.

The Romanian cluster support scheme has an annual budget of €7 million.

Source: Clustero

Recommendation 3: Setting-up a voucher system to stimulate firm-level innovation and digitalisation

Rationale: The findings demonstrate that most manufacturers are reluctant to deal with innovation and digitalisation related topics. The low investment rate of companies in such topics is obvious. There are many reasons for such a reluctance. Enterprises in Kosovo are not able to invest in innovation and digitalization and have worse innovation outcomes to competitors in neighboring countries. Furthermore, there is often not sufficient knowledge within the enterprise to decide where and how to start. Finally, enterprises suffer from a lack of access to qualified business services providers that can support them accordingly.

Designing and implementing a so call Voucher Programme is recommended to respond properly to the above mentioned constraints. 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 meant to address Micro, Small and Medium Sized Enterprises' (SMEs onwards)³⁷. Voucher programmes are well established in Europe and beyond and have proven to be an effective tool to support SMEs 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 Digital Transformation, Belgium), transformation (e. g. Transformation Voucher Baden-Württemberg³⁸) and skills development (s. recommendation 1).

It is recommended to implement a voucher programme that stimulates innovation and 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 innovation auditing
- Innovation related services (contract research, proof of concept, prototyping, testing and validation, demonstration activities, scale up), technology transfer, and commercialisation services (such as patent drafting and protection)
- Testing, certification, and standards services
- Business advisory services, including market research, design, and branding; business strategies and planning; operation and management improvement projects

The amount of the vouchers shall be limited, e. g. €10,000 per voucher and applicant (within 24 months)

³⁷ Voucher Schemes in Member State, European Commission, 2017, https://ec.europa.eu/information_society/newsroom/image/document/2019-32/member_states_use_of_voucher_schemes_0D31F683-AA92-B7FF-684433BCBD8A4F3A_61225.pdf

³⁸ <https://www.transformationswissen-bw.de/beratung/beratungsgutschein>

Good Practice Example

The Walloon regional government of Belgium issues vouchers for digital transformation and cyber security for local SMEs to stimulate investment in transformation and digitalisation. The vouchers support the implementation of various measures and cover costs up to €60,000. This also includes the support for risk analysis and cybersecurity policy setting (up to €20,000). The vouchers are issued by the region of Wallonia. In 2017 and 2018, each year vouchers worth €1.5 million were issued. The voucher scheme was part of the package for RTI support measures specifically tailored to SME and leveraged an additional €800,000 private investments of the benefitting SMEs. Between March 2017 and November 2018 more than 350 SMEs received funding. The Walloon voucher system represents a fast and flexible support scheme that is requested by the local industry³⁹.

Recommendation 4: Setting-up a material efficiency expert pool to reduce production costs

Rationale: The Kosovo metal manufacturing industry is under increasing cost pressure, mainly related to raw materials and transportation. Whereas the government itself has few options to directly support the private sector in this regard, there are other support scheme that can help the metal manufacturing enterprises to reduce costs through more efficient use to raw material.

Many SMEs in Kosovo are unaware of the potential of material efficiency. For example, a significant part of raw material and related costs can be saved if the internal production and logistic processes areas optimised. Reduction or reuse of scrap and manufacturing waste, setting-up new production approaches towards near-net-shape manufacturing or the use of energy and material efficiency approaches. Improved quality systems can reduce the delivery of wrong or damaged products. Modern storage management can also help to optimise such processes.

The intervention “Material Efficiency Expert Pool Kosovo” aims to increase knowledge and capacities in the country to support enterprises from the metal manufacturing sector to better unleash their potentials through material efficiency. This intervention aims to identify, train and make available 20 – 30 local experts that can work with interested enterprises on material efficiency strategies. The experts operate as neutral specialists and offer a comprehensive range of services to identify potential savings in raw material and energy consumption, support them in financing and implementing material efficiency measures, and provide information on the topic at events, training courses and networks. The work of the material efficiency experts will be subsidised to incentivise the cooperation between the experts and the beneficiary enterprises. This intervention may be (preferably) tailor-made for specific needs at the firm level.

The management of the qualification of the experts as well as of the implementation of the scheme can be done by public entities, like associations, BMO or chambers.

Similar approaches, but with a focus on digitalisation rather than on material efficiency were implemented in BiH⁴⁰ or Serbia in the past.

³⁹ <https://portail-wallonie.valid.wallonie.be/en/demarches?recherche=voucher>
⁴⁰ <https://www.giz.de/en/worldwide/76894.html>

Good Practice Example

The Resource Efficiency Agency Lower Saxony (Germany) aims to support companies to reduce energy and material consumption through efficiency measures, thus cutting costs and at the same time improving firm-level competitiveness. Experienced consultants of the agency take an on-site look at operations, processes and consumption, identify potential for improvement and suggest possible measures. The companies then receive a consulting report with the most important results and savings opportunities, as well as information on funding opportunities and next steps. The consultancy is free of charge for the companies advised and is financed from state funds. Interested companies contact the agency directly and agree on common activities. The consultations are carried out by qualified energy consultants from a pool of consultants.

Recommendation 5: 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 for sustainable growth. Although many enterprises already do 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, 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 to go 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 are 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 potential. 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 how to internationalise as well as strengthening the diaspora networks are activities would all help the sector to go international. Increased visibility of Kosovo as a hub for the manufacturing industry shall become part of a dedicated branding strategy.

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 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 information⁴¹. 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 Slovenian potential suppliers, the business environment, industries and other business-specific information can be found on the portal Slovenia Partner.

⁴¹<https://www.sloveniabusiness.eu/>

Recommendation 6: Setting-up and Implementation of an Innovation Fund for the private sector

Rationale: The findings have shown that most metal manufacturers neither invested in innovation nor in 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 within the manufacturing sector, 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 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 manufacturing sector.

Eligible activities under the scheme are:

- Industrial research
- Experimental development
- Feasibility studies
- Study visits to improve the knowledge/expertise from international partners
- Engineering services for metal manufacturers
- Investments in renewable energy sources and other measures to shift from traditional fossil energy consumption to renewable.

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 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 projects⁴².

Source: Innovation Fund Serbia

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

Recommendation 7: Stimulating public private dialogue through a National Manufacturing Forum

Rationale: The finding revealed that there is no continuous communication between the public and the private sector representatives active in the metal manufacturing sector. Interest in sector associations and BMOs that could service a communication or coordination platform is low. On the contrary, practice has shown that a Public Private Dialogue (PPD) can serve as an excellent platform to initiate and deepen a mutual dialogue with public and private stakeholders around manufacturing with special attention to the metal sector. Although there are PPD platforms at national level in place (i.e. National Council for Economy and Investments), it is recommended to set-up a PPD that aims to support Kosovo manufacturers (e.g., called National Manufacturing Forum) that brings together various stakeholders and continues discussion around improvements of framework conditions for the manufacturing sector. The Forum can become a powerful event and further reach out to representatives from the government and private sector. It can include public awareness measures, like innovation or sustainable manufacturing awards.

Recommendation 8: Setting-up an internationally harmonised conformity assessment system

Rationale: The national conformity assessment system of the Republic of Kosovo is internationally not recognised. This results in a dedicated competitive disadvantage. It shall be noted that not only the metal manufacturing sector is handicapped, but also many other sectors that are export oriented. Despite the fact that in 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 members, but not an EA full member. Key competitor regions, like Serbia, Romania or North Macedonia have internationally recognised conformity system in place. More efforts have to be spent from DAK side to meet the international requirements given by EA. It is recommended to set up a reliable roadmap, incl. action plan, how the DAK and the Government of Kosovo will meet the requirements to become 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 improvements.

8. The Way Forward

The metal manufacturing industry of Kosovo has reached an extremely critical point. Due to the geopolitical challenges and the ongoing digital transformation processes taking place at the same time, the sector is facing great upheavals. There is a good chance that the sector will take advantage of the emerging potentials and become a manufacturing site with international attractiveness. The potential identified in this study gives good reason for hope.

However, there are also a number of challenges ahead which, in the worst case scenario, could have a very negative impact on the sector's competitiveness. Neighbouring countries have also developed comparably well in recent years, and this also applies to industrial productivity, which is higher in these countries than in Kosovo. The digital transformation requires extensive investments in machinery, technology and human resources. At the same time, a rethink concerning suitable business cases is required. Knowledge intensive services are options that need to be exploited. If companies fail to take advantage of the opportunities offered by the digital transformation, there is a risk that they will lose their international competitiveness and technological connectivity to international clients. Since the sector, by nature, is very export-oriented, this would have serious consequences.

The study shows concrete proposals for solutions that can help the sector to maintain and further expand its competitiveness. However, significant public and private investments are necessary to succeed. The proposed interventions aim precisely at giving concrete directions for the private sector to make it easier for them to invest in future technologies and knowledge. In this way, it could be possible to support the metal manufacturing sector in a sustainable way.

The recommended interventions not only depend on an appropriate design, but also on a professional implementation. However, there is little experience on how to implement such interventions and funding schemes in the country. It is important to avoid the mistakes of the past, which were made in many Western Balkan countries. The interventions must be implemented in a demand-oriented, fast and comparatively unbureaucratic way. Companies need quick decisions and not months of waiting.

The study lays the foundation for a public-private dialogue about the findings and proposed interventions, which in the end should lead to a targeted use of the limited public funds where they could have the greatest impact on the metal manufacturing sector.

