Where are we now and where should we go?

GAP ANALYSIS OF KEY INDUSTRIAL SECTORS

CREDO KRAJINA

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Contents

Introduction

CREDO Krajina is a project financed by Sweden and implemented by the Development Agency EDA, Banja Luka, in cooperation with the Association for Development – Nerda, Tuzla. The aim of the project is improvement of competitiveness of medium and small size companies in the area of Krajina, in order to create and maintain jobs, reduce poverty and improve the economic status of this area. The project should support creation of around 200 new jobs and maintain up to 1000 jobs in the companies/sectors encompassed by the project interventions. The CREDO Krajina Project lasts for 30 months and it consists of several phases and components. Through an initial analysis of the priority commercial sectors, a selection of industrial sectors with a significant potential for creation of new jobs was done and representatives of companies from these sectors, through sectoral boards, defined priority needs for advisory assistance and training. Additionally, a part of an advisory and financial assistance is directly aimed towards the municipalities with intention to significantly improve local business environment and establish a permanent and efficient dialogue with the private sector.

This analysis is based on the two previously performed analyses within the CREDO Krajina Project. The first one is "Baseline Study of the Industrial Sectors", the aim of which was to explore and identify the sectors with the biggest potential for growth of competitiveness and growth of employment. On the basis of this analysis, a decision was brought that the CREDO Krajina Project will focus on the sector of metal industry, food processing industry, wood industry and leather and footwear industry. The second analysis is the value chain analysis for these four sectors. The focus of this analysis was on the production, processing, distribution and sales together and this has enabled us to analyze each step in its comparison to the previous one and to compare it to the next step in the chain. The results of this analysis are being used to a great extent as a basis for the GAP analysis.

GAP analysis has offered an overview of the situation in the metal, food, wood and footwear industry, from the point of view of comparing the current reality with desirable possibilities offered at the market. GAP analysis is a business analysis tool, which implies defining of differences between the current and desired state and manner of functioning of the branch.

In its basis, the GAP analysis asks two questions:

- Where are we now?
- Where do we want to be?

This document consists of the five parts. After an introduction, the four parts follow, each of which presents an analysis of individual sectors - metal, wood, food and footwear industry. Each of these parts is structured so that we first describe the current state of each sector, followed by the approximate sketch of the desired future state of the sector and, thereafter, definition of gaps between these two situations and their description, as well as concrete measures to overcome gaps, which are defined in the process of working with the sectoral boards. The fifth section analyzes the general problems faced by all sectors, followed by the concluding remarks.

We thank all the companies that participated in the survey, sectoral coordinators Miloš Šipragić, Goran Janković, Brane Novaković and Aleksandar Draganić, sectoral experts prof. dr. Vid Jovišević, dr. Rajko Latinovic, Dragan Savić and Zoran Grumić, members of the Sectoral Boards and workshop participants. We owe special gratitude to Shawn Cunningham and Frank Waeltring from German company Mesopartner and Zdravko Miovčić, the director of Eda, for the advisory support in preparation of the analysis.

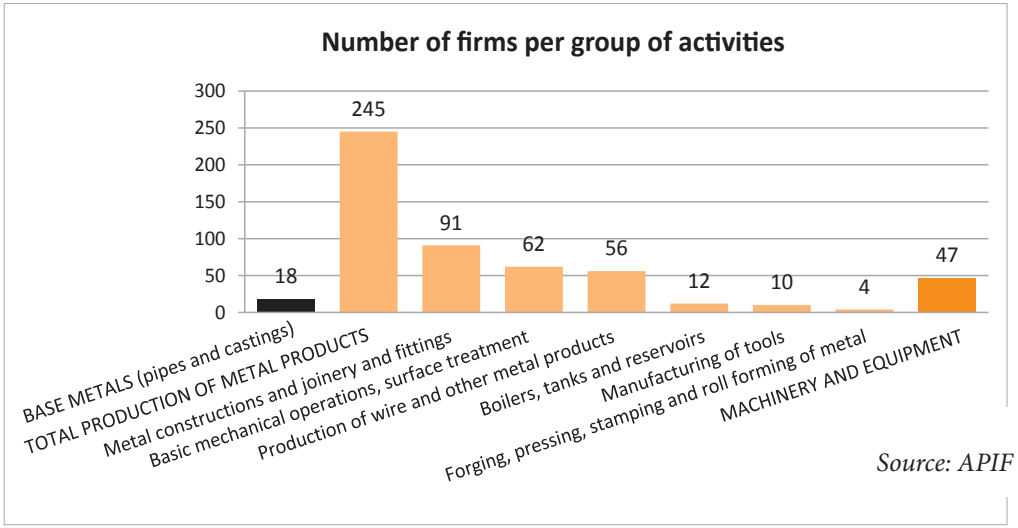
1. Metal industry

1.1. Where is the metal industry today?

Metal industry is the leading industry in the area covered by the CREDO Krajina project. This sector has great potential and has a solid human and resource base, as well as a long tradition that allows the development of different activities. On the territory of 34 selected municipalities this industry has shown vitality in post-war renewal of production and readiness for the introduction of modern technologies. Due to tradition and the existence of quality workforce and knowledge in this area, technical capacity in mold casting, precise casting, cutting, bending, pressing, forming, welding and processing have been renovated, all of which form the basis for manufacturing and assembly of metal products. This sector still has the potential to significantly increase sales, exports and employment.

The metal industry, in 308 companies registered for this activity, employs about 5,100 workers. As we can see in Graph 1, the largest activities are in the manufacturing of metal products, while there is significantly less activity in the production of base metals and the manufacturing of machinery and equipment.

Graph 1 All firms of metal industry in 34 municipalities

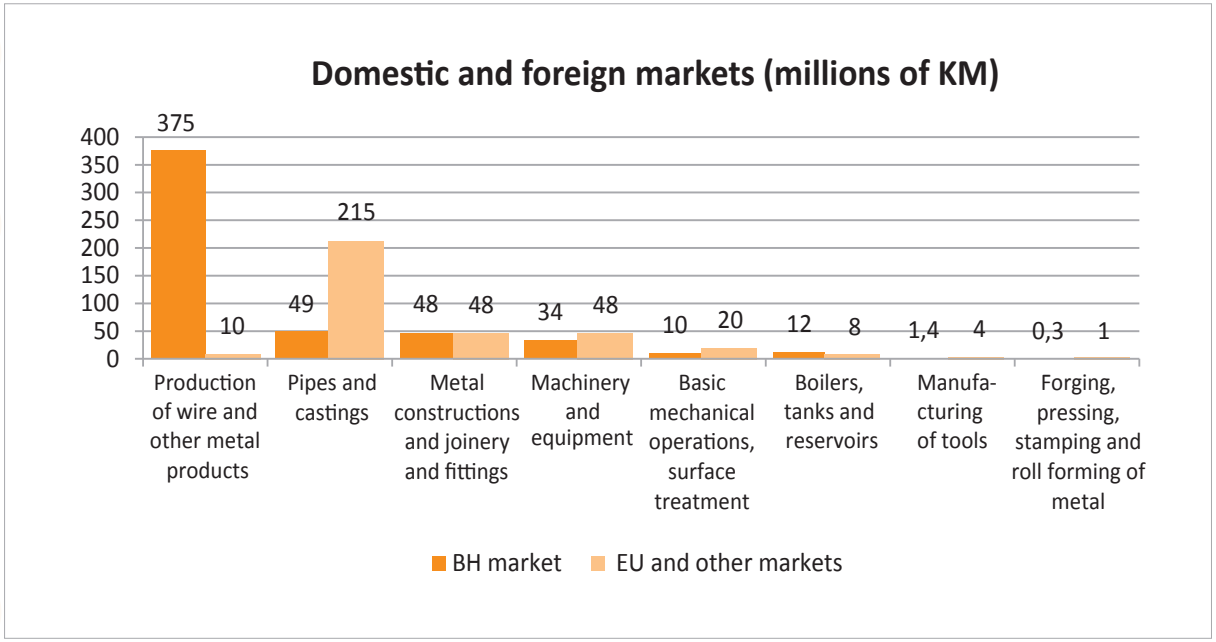


Source: APIF RS and AFIP FBiH

The market position of metal industry

Total sales of the metal industry in the area of all 34 municipalities is around 900 million KM. Of these, about 43% is exported, and about 42 million KM are profits.

Graph 2 Sales on the domestic and foreign markets (in millions of KM)



Source: APIF RS i AFIP FBiH

Most dominant production is a production of welded wire mesh for the construction industry at the domestic market (about 1/3 of total sales of whole metal industry, it is mainly one company, Komerc Mali from Prnjavor). Production of pipes and castings is a basic industry that exports a lot (mostly firm "Unis" pipe factory, Derventa). These two activities are based on these two companies. Concerning the production of machinery and equipment, only 15 of 47 companies produce machines for other industries, the others are dealing with cooling and ventilation equipment, household appliances (eg "Mehanizmi B" Gradiska, "Megamont" Čelinac), etc. The most important machine manufacturer in this field is PMP Jelšingrad Gradiska (industrial gears, rollers and systems for continuous casting - part of FIMSI Group,

Italy). However, based on previous research, it can be concluded that the most dynamic is the production of metal products. This is confirmed by quantitative (the largest number of firms) and qualitative indicators (qualitative ratings of participants in the study).

The opinion of most of companies that participated in this research is that the domestic market is too small for the dynamic growth of this industry and is especially limited because of very strong competition from abroad (for example, manufacturers of boilers for central heating as one of the most technologically advanced have a strong competition at the domestic market, since 15 million KM of these products are imported into B&H, and they export about 10 million KM).

Companies that have experienced high growth rates in production and growth in the number of jobs are mainly oriented to the external market. Therefore, the majority of companies (58.7%) are export oriented, while those that are not exporting are mainly smaller firms, with craft products.

Most producers in the metal industry are oriented to the EU market. At the moment, the trade is limited to few countries (Germany, Austria, Slovenia, France, etc) but can potentially be a whole market of the European Union, all 28 countries. The EU market for metal products is huge. In 2012, EU has imported 1,165 trillion Euros of metal industry products[1]. However, EU legislation is set in the way that guarantees free access and flow of goods, only if certain standards and requirements are met. Concerning certificates, a condition that must be fulfilled is CE mark, which in essence, is a passport with a visa for export to the EU. There are also other certificates. For example, a very important are ISO standards as well as standards and certificates that are applied in individual countries, e.g. GS mark is valid only for Germany, etc. Without the fulfillment of these standards and requirements, it is impossible to export to the EU.

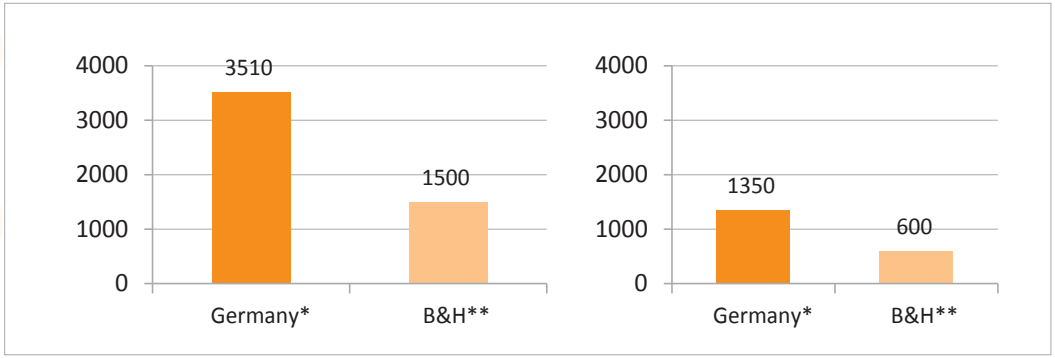
Those firms that have succeeded in achieving compliance with European standards have equal and fair treatment when they export to the European Union. Our companies gain a lot of with this. For example, firm Topling, as a leader in the production of boilers for central heating and as one of the technologically most advanced firms of metal industry in the project area, in 2011 exported about 35%, and in 2013 has already exported about 70% of its production to EU.

The key reason why our firms are present and why they do business in the EU market is the fact that their products are made with standard, good quality but are sold at much lower prices than European competition. Concerning technologically advanced companies, our products cost less mainly

1 Trademap.org

because engineering and technical personnel that designs products and leads production costs much less than the same personnel in EU. For those firms that are more labor intensive and do not have product development, key reason is good quality of product and lower labor costs.

Graph 3 Average gross salaries of engineers and workers in manufacturing (in EUR)



**Source: EU SalaryCalculator, Eurostat*

***Source: CREDO interviewed companies*

It is important to emphasize that international competition is fierce and sharp and that their competitiveness is based on the knowledge and technology. For certain products that firms make for the EU market, there is a large competition by producers from Poland and Romania as well as non-EU manufacturers from China, Turkey, etc. For some products that are available in China and are acceptable by term of delivery, shape and weight for transport to the countries of Western Europe, our manufacturers generally are not competitive. One of the managers in the metal sector told us this: "In some cases we even can not get the material by the price for which producers from China delivered the finished product , which we checked , has a good quality ."

Market access and market approach is one of the most important shortcomings of our firms. Although our firms, when they cross the threshold of the required technical and other standards, have an equal opportunity to compete on the entire territory of the EU, they face , as we have already said , fierce and "smart" competition. The main trend in the EU and the developed world in this industry is quick response to market demands. Currently, most of our companies in the metal industry , even the most advanced, have a problem with following changes in the market and market access. Concerning the most

advanced manufacturers, they have their own product with which they compete on the European market, a product that is not much different from other standard competitive products, except by the price. However, the development of products in the EU is a continuous thing, so that existing products quickly become outdated and new ones are created, using better technologies, with an improved functionality , especially in the electronics and automation.

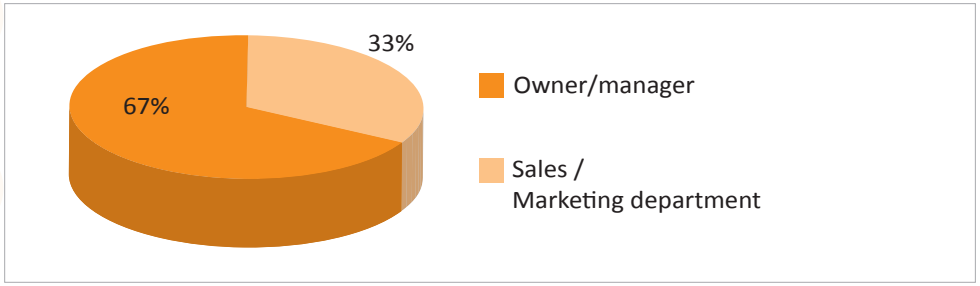
Although our companies develop their products from time to time, the continued development is a significant problem. First of all, this is expensive and requires high-quality market information, on the one hand, and, on the other hand, it requires well-trained engineers who follow the latest technology and development trends in the world and are able to apply these trends in their own production . The essence here are market and technology forecasts. Our firms that are continuously engaged in monitoring the markets and technologies in a systematic manner, and predict what products should be developed in the future are rare. The fact that some firms have technologically advanced products is rather the result of the extraordinary efforts of key engineers and other key personnel, then the result of a systematic approach. However , without systematic and continuous following of market and development of existing and new products , they will not be competitive at the market and will not survive.

SASP Automatic System for Bio-Mass Combustion – the product of Topling, Prnjavor

Concerning the segment of companies engaged in the manufacture of components, they are in a position to receive the specifications from the customers, usually larger foreign companies, and produce those components on the basis of received specifications . Many of them are currently in a passive position, although there are cases that some of these companies got good reputation in the quality of manufacturing, reliability of delivery, competitive prices, etc. With this approach these firms have gained the trust of the customers and created opportunities to achieve better long-term relationships with them. Such companies are on track to gradually transform their relationship of small firm doing just one service for a large company, into relationships that could take the form of partnerships . However , if these manufacturers do not follow the market and technological changes, they can become uncompetitive and lose their position in value chains. This situation is not unusual , because some small firms are losing business because they fail to reach the criteria set by the customer. The small companies that produce components , at least once a year go through the process of evaluation by their partners from abroad. This process is exactly defined, especially through the ISO 9001 standard, and contains criteria that a small supplier must meet in order to remain a supplier . If they do not meet the criteria, they lose a job .

The most of our companies are more focused on the production process itself and do not pay sufficient attention to the market. Market relations with EU partners are often based on occasional and random contacts of managers and owners with potential buyers. Also, one of the common ways to sell their products are trade shows where they find buyers. In addition, sale is also done trough personal selling, sales departments, website, etc.

Graph 4 Sales and marketing responsibility within firms of metal sector



Source: CREDO Interviewed firms

As we have already said, there are few cases of following market trends and predicting future trends in the EU market in a systematic and sustained manner and incorporating these insights into business practice.

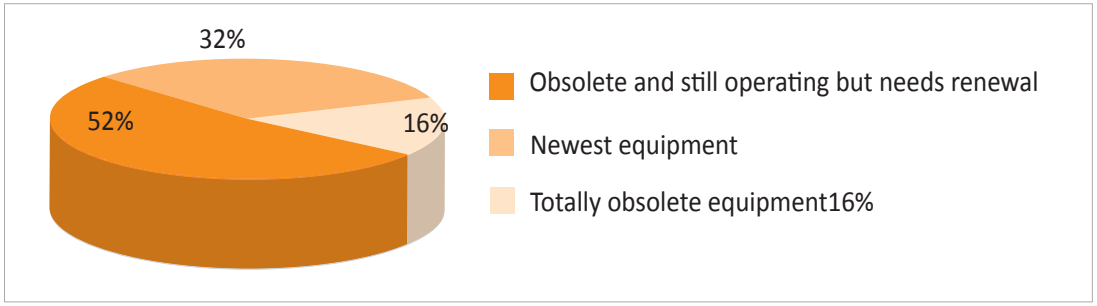
There are even companies that do not have a people who are engaged in the marketing i.e. in positioning and progress of the company in the market. All in all, market access and market approach is one of the most important shortcomings of our companies in the metal sector.

Production and technology

Our most advanced manufacturers today are not far from its competitors in terms of technology and machinery used in production. And even with other manufacturers, most of the things in terms of production processes, machines and basic technology is not a major concern. Machines are most often purchased in the EU, so it's the same or a few years older technology.

However, with other manufacturers, things are a bit different. In fact, about 2/3 of the manufacturers have whether a completely obsolete equipment that the needs urgent replacement or an obsolete equipment that still can be used. Such an equipment increases maintenance costs, and thus increase the cost of production. In addition, the use of obsolete equipment in the production requires a large proportion of manual work. Except in cases where the company is focused on the individual market segments (niche markets) where there is no production in large series (individual and small-scale production), this production is usually not competitive in the domestic and in particular on the European and other markets. A particular problem is that some manufacturers have no possibility of investing in advanced technologies that would enable them to be competitive.

Graph 5 Metal industry firms level of technology



Source: CREDO Interviewed firms

Also, most companies in the metal industry , including the most advanced ones, have a problem with designing that laggs behind European competition. In accordance with the practice of rapid response to market changes, the EU and the developed world have created significant changes and improvements in the field of technology, with the basic trend of production flexibility in order to quickly react to changes. The most of our firms do not apply modern techniques of design and communication with the market, where products are changed very rapidly and quickly adapted to requests of European buyers. Our companies, as a rule , spend a lot of time in design because they use outdated techniques . Most often they use AutoCAD and print technical drawings, but it is not uncommon for the technical drawings and technical documents to be drawn by hand . This often results in poor solutions and slow response to the demands of the customers. Some domestic companies , leaders in technological development, apply new techniques in design (Solid Works and 3D parametric design) and achieve outstanding results . For example, with the application of these techniques, the company "Spektra" has managed to substantialy increase productivity and shorten the process of making parts 13 times.

From design, to production and to finished work – Spektra DMG, Banja Luka

The problem here is the engineering and technical personnel, who should be educated so that they can be technologically equal to the competition. This is particularly true for companies that export certain components because they can not adequately communicate with EU companies that ordered these components without well-trained engineers. Without them it is hard to make harmonization of the products with the requirements of the directives and standards of the EU, which means that it is not possible to remove technical barriers to the export of products. Also, only a well-trained engineers can quickly and efficiently respond to the demands of European customers. That's the only way to retain customers, to expand cooperation with them and to get new customers.

People and knowledge

In terms of people and knowledge, there is one, at first glance, contradictory situation, which, when we get a little deeper into the analysis, really reflects the current situation. The most advanced firms point out that their main competitive advantage is "low cost knowledge", so that the key engineers who carry out the development and production cost much less than those in the EU. On the other hand, in most other firms there is a lack of quality engineers. This shortage is evident, and there are companies that do not have a single engineer. The key contradiction, therefore, is that engineers are also key advantage of the best ones, but also that there is a significant shortage of engineers in most other companies. In this field, the shift can not be made quickly, because it takes time to improve such a structure.

Concerning existing engineering staff, knowledge and skills they possess in some areas are at the level of knowledge of international competition, because it is based on the knowledge of experienced engineers, many of whom followed the development of technology from years ago and transfered their knowledge to the younger engineers. However, it is only a basis for building new solutions. The main flow of knowledge in terms of new things today comes from developed countries, mainly from Germany but also from other countries. Ways of transfer of new knowledge are different, through direct cooperation with individuals or companies from the West, participation in trade fairs, through the Internet, etc. The main disadvantage is that these flows are sporadic and often depend on the case.Also important issue is the aforementioned level of knowledge regarding new technologies for the design. As we have already said , it is not possible to adequately communicate to companies from the EU without well-trained engineers. The point is that European competitors use these new technologies , and often base their competitiveness on it. The rapid improvement in this area cannot be achieved very easy. There are companies that are focused on this , but, since quality engineering and technical personnel is lacking, this can not be quickly corrected.

The Faculty of Mechanical Engineering in Banja Luka

Experienced engineers are trained in these new things and new engineers are already educated to use modern technology, but there is too few of them. Faculty of Mechanical Engineering in Banja Luka has licensed software, same as universities in the EU and the developed world and is able to produce good staff. However , there is too few of those who study this area , and most of those who graduate from Faculty find a job abroad and leave. Annually, out of 10 graduated engineers 6 goes abroad and 4 are employed in the domestic industry .

Concerning the workers, the situation is somewhat better. Since the metal industry was relatively developed in this area before the war, there is a significant number of skilled workers of older generation. Many firms based their production on such workers. A good example of this is the manufacturer of elevators “Tri Best”. In addition to the significant engineering capacity, they employ skilled craftsmen whose knowledge often replaces the use of latest technologies, because they manage to achieve equally good results with older technology. However, all the other workers, who do not have the necessary knowledge are trained by firms themselves, which takes time and money.

The situation with workers is better in relation to the situation with engineers. The training is much shorter and it is easier to get workers ready for production. This is especially true for companies that

possess modern technology because it requires fewer workers with high specific skills. With modern technology a good part of the functions that were once performed by qualified masters, are transformed into automated processes, where the key role is of the person who programmes the machine, and the role of workers is based on simple operations. In this way, it is easier to transform workers who have little or no knowledge needed for the production process to a "usable" production workers.

One of the most important things in human resources in these companies is the lack of people and capacity for quality market performance. European competition pays a lot of attention to this area and invests a lot in monitoring changes at the existing market, in finding new markets, in competition monitoring, prediction of future market trends, etc. With most of our companies, this function is ignored, and there are few men who are engaged in this kind of activities. These people must be educated having in mind both technological and market aspects. Some of our firms have such a people (e.g. Topling), but in the vast majority of other firms, market presence and market research is created randomly.

Cooperation between enterprises

Cooperation between firms of metal sector is at a low level, as opposed to the EU and the developed world, where firms often cooperate. Manufacturers often buy components at the same place, but each on its own, although with joint purchasing they may have lower prices and more favorable conditions. Also, this applies to small firms that manufacture components, which are in most cases "freelancing".

The exception and the positive example in the metal industry is the production of wire products. The producers of steel wire mesh within our project area (Komerc Mali, Armaco, etc.) have come together and jointly purchase raw materials for many years. They additionally cooperate in terms of production and division of work.

Institutions for support and development of metal industry

Metal industry companies generally consider to have almost no support from the institutions. They say that, when they need such a help, organizations and individuals who can help them are very rare. Generally, our institutions are not included in economic life and are not interested in economic development. In addition to the chambers of commerce, companies of metal industry are rarely members of some

other business associations. Of the total number of surveyed companies in the metal industry, only about 20% are satisfied with the support provided by the chambers of commerce. This support is mainly reflected in specific training, support in the preparation of standards, etc.

As far as educational institutions, there are two secondary schools in the project area (Technical School in Banja Luka and Technical - Transport mixed secondary school in Bihac) , but the quality of the knowledge and practical skills of students in particular are very limited . Companies are willing to work closely with these schools , so that students would be allowed for practice to get right skills from which students and companies can benefit . However , such cooperation does not exist. In addition, motivation and work habits of those who complete these schools are often a problem, because today in B&H there is a different value system relative to that which would be desirable from the standpoint of the industry .

A very similar situation is with the Faculty of Mechanical Engineering in Banja Luka and Faculty of Engineering (Mechanical Engineering Department) in Bihac . The number of students is not enough compared to the demand in the economy, although, in recent years, the number of students enrolled at the Faculty of Mechanical Engineering in Banja Luka is increasing. As we have already said , after they graduate, a significant portion of engineers leave the country and find a job in the EU. There is also insufficient cooperation between universities and industry, although it must be emphasized that some individuals from the Mechanical Engineering Faculty in Banja Luka play big role for firms, and some firms see them as the only support that exists in this region .

1.2. Where do we want to go?

FINAL RESULT	Metal industry firms improved position in existing and new markets, with improvements to existing and with created new products and components		
MARKET	A proactive approach to the market based on systematic and continuous monitoring of markets and technologies, and forecasting of what products and components should be developed in the future.		
PRODUCTION	Increased production of finished products, with continuous developement of existing products and creation of new ones, in accordance with the needs and changes in the market and technology	The production based on flexibility in response to changing market conditions	Increased production of components which progresses from simple product, to the integration of multiple components into assemblies and finished products
RESOURCES	Significantly increased number of qualified personnel important for market and competent engineering technical personnel	Most companies achieve compliance of products with European standards	Firms financed investments under favorable financing conditions
INSTITUTIONS	Educational and training institutions provide more educated and trained people for the economy	Technology institutions provide support to firms in the use of new technologies and in meeting standards	Financial and development institutions provide funding on favorable terms, equal for all

1.3. Which are the most significant gaps to be overcome?

The above analysis of the current situation and the projection of a desirable future state, it follows that the most important gaps that need to be bridged between these two positions are following:

- the market - the lack of people and the capacity for successful expansion in existing markets and for entering new markets;
- human resources - lack of engineers, technicians and skilled labor force;
- key processes - lack in development, design and implementation of modern production and business processes and models, and the lag in technical and technological level;
- cooperation between companies.

This does not mean that there are no more gaps that affect competitiveness. In the area of infrastructure there are significant problems (eg. Electricity), fiscal and para-fiscal charges are high, cooperation between enterprises is low and so on. However, we are here focused on those who are most important and bear "the greatest specific weight". All those firms that have successfully responded to the challenges in terms of markets, people and technology, managed somehow to deal with other issues. However, for those that did not overcome those obstacles, it is not likely that better infrastructure, lower taxes, etc. would much help. These conclusions stem from a thorough analysis of our businesses, with particular emphasis on companies that are successfully coping with the majority of challenges and which represent an example in which direction others should go.

What is particularly good is the fact that the project "CREDO Krajina", institutions, organizations and industrial enterprises participating in the project have the means to influence the improvement of the situation in these areas. Thus, these areas are "manageable", as opposed to infrastructure, tax system, customs regimes and so on, where it is very difficult to change things and where changes are going very slowly.

The market

One of the most important things in human resources in metalworking firms is the lack of people and capacity for quality market performance. The competition focuses significantly on this area and investing in monitoring changes in the existing market, finding new markets, competition monitoring, forecast-

ing future market trends, etc. With most of our companies, this function is ignored and there are few of them who deal with the market in this way. This profile of people should be educated having in mind both technological and market-economic aspect.

As we concluded in the analysis of the current position, in the vast majority of enterprises of metal industry connection with the market and market research occurs sporadically and randomly. This is one of their weakest links in the process and in this segment they are significantly weaker than their competitors. In their current sales orientation, starting point is the factory and production, or things that company produces. However, the key thing for a good orientation of the company to the market is to follow the needs of customers.

As for the performance in foreign markets, in our area there are a large number of small companies that have a chance to export, have products that have a future, but they should work on their products, harmonize them with the standards and requirements of European and other markets, to overcome the so-called technical barriers that are the first step on this path. These barriers can be overcome only by themselves and they must try to overcome them just to be able to even think about exporting.

The aspect	Why is it important?	Found weaknesses	Main actors	Area of activity and potential interventions
THE GAP– MARKET				
• Access to and participation in the market (bigger and better export arrangements)	• the key to further improvement of competitiveness, and increase of sales volumes	• In most businesses owners / directors perform the bulk of the work in sales (not using sales people who know the requirements and conditions of the market) • There is not enough knowledge about markets and sources of information • Required combination of engineering and marketing knowledge is rare • External knowledge (agents) are effective, but expensive (up to 20%) and do not lead to capacity building of companies	• German Chamber of Commerce (AHK) and similar associations • Economic missions abroad • Firme with positive experiences • Foreign trade and chambers of commerce • GIZ (CIM experts)	• Training: "How to export to Germany and the EU" • Organizing events that would be encountered by local companies and potential foreign partners • Fairs visits • Support to a creation of direct connections of companies with foreign customers / partners

The aspect	Why is it important?	Found weaknesses	Main actors	Area of activity and potential interventions
THE GAP– MARKET				
• The introduction of standards and certification of products	• CE marking is a prerequisite for export • ISO standards are a prerequisite for cooperation with foreign partners • Without foreign markets there is no growth and development	• A large number of small companies have the ability to export, but standards (CE, ISO) are barriers for them	• Companies and experts from the region with good experience in this field • Faculty of Mechanical Engineering	• Support to companies in the introduction of standards and certification of products

Human resources

There is a lack of quality engineers in most companies in this sector. This lack is evident and there are companies that do not have any engineers. In this area, the shift cannot be done easy, because the improvement of this structure takes time. Universities do not produce enough of engineers for the industry, and of those who graduate, about half of them immediately goes abroad. The main reason is that earnings of engineers are much higher abroad. It must be stressed that work of engineers has not been adequately valued in many of our businesses. An important issue is also the level of practical knowledge about new technologies. The point is that European competitors use new technologies and often base their advantage on it. There are some domestic companies that are focused on this, but so far quality engineering and technical personnel is lacking, especially those who can work on the development of existing and creation of new products.

Also, skilled workers are missing, especially if we take into account the potential development of the metal industry. Secondary vocational education does not produce enough workers, especially when it comes to qualifications that are highly demanded in the labor market (welders, CNC programmers and operators, etc.). Also the quality of those who complete this type of education is questionable. They are mainly workers without sufficient practical skills.

The aspect	Why is it important?	Found weaknesses	Main actors	Area of activity and potential interventions
GAP – HUMAN RESOURCES				
• Key skills - engineers (more good engineers would improve the competitiveness of companies and the sector as a whole)	• Represents a competitive advantage - cheaper engineers (knowledge workers) - An important factor for decisions of potential investors	• Faculties do not produce enough of engineers for the industry • About half of graduate engineers immediately goes abroad • SMEs do not hire enough of engineers • The work of engineers has not been adequately paid	• Mechanical Engineering Faculty Banja Luka and Bihac • Owners / managers of SMEs	• Building partnerships between the mechanical engineering faculties (Banja Luka and Bihac) and enterprises • Initiating changes in the program, practices in companies, support of product development, problem solving by the faculty on behalf of the companies
• Key skills - welders and other key professions that are missing (more certified welders would improve the competitiveness and attractiveness of the sector for investments)	• Represents a competitive advantage - cheaper key craftsmen • An important factor for decisions of potential investors	• secondary vocational education does not produce welders and other workers with practical skills • There is no well-organized and continuos (practical) training • Expensive certification of welders, no institutions in the country • When they learn to work and receive a certificate, a junior welders usually go abroad • Welders work is not adequately paid	• Secondary Technical School Banja Luka • Faculty of Mechanical Engineering Banja Luka - Department (and laboratories) for welding and material testing • Companies interested in training • Welding Institute in Tuzla (partnership with TUV)	• Support to the transformation of welding laboratory of Mechanical Engineering Faculty, Banja Luka into the Institute for Welding • Support to the certification of welders • Support to the building of partnerships between centers for retraining adults (WMTA Academy Srbac, etc.) and enterprises • Support for building partnerships between secondary vocational schools and enterprises
• Human resource management	• A significant portion of competitiveness is based on key experts (engineers and craftsmen)	• Key experts are treated as all other workers • Key experts go to other companies, or go abroad, or go to the public sector	• Consultants in this field • Businesses (which could not keep key people, and those that keep them satisfied)	• Organize events to exchange experiences and knowledge for executives • Opening the possibility of consulting in human resources management

The key process and technology

If they want to survive, our companies must continuously work on the development of existing, creation and development of new products. First of all, the market and technology are changing rapidly. Product development in the EU is a continuous thing so that existing products quickly become obsolete and new appear, using better technology, with improved functionality, particularly in terms of electronics and automation. Although some of our companies develop its products, the continuous development is a significant problem. It is, above all, expensive and requires high-quality market information, on the one hand, and, on the other hand, well-trained engineers who follow the latest technology and development trends in the world and are able to apply these trends in its own production. According to the current situation, most companies in the metal industry, including the most advanced, have a problem with the development of products, design and industrial design. In this area they are lagging behind the competition.

The conquest of new products and markets does not go without advancing technology. Technology is a part of every activity in which our companies create new value. Modern production technology is one of the main generators of competitiveness. Nowadays we have the increasing use of computers and robots in the production process, CAD / CAM systems (computer aided production), CAE (Computer Aided Engineering), 3D technology, CIM (computer integrated manufacturing), CAR (computer aided repairs), computer aided maintenance, CAT (computer aided testing) and many others. The application of these technologies in modern production is widespread in companies that are our direct competitors in the market of the European Union and other markets. Thus, the issue of equipment is very important for our companies, because it is usually a big investment, and very often it completely changes the technology.

Also, most of the engineering , professional and technical staff do not apply modern techniques of design and communication with the market, for example, software “SolidWorks”, which quickly changes the product and allows companies to quickly adapt to customer requirements. Similar thing goes for industrial design that is often below the level of competitors.

In addition, changes are needed in key business processes. The strong growth of some of our companies is not accompanied by appropriate management and organizational transformation. Many owners or managers have limited (professional) knowledge, and because they are often of technical education, they lack the market and management skills in particular. Some of them are aware that they have become a bottleneck for the development of the company and their firms need a transformation in management. Also, some intend to engage seriously their family members as heirs in the management of the company, but in some cases there is no heirs or, sometimes, they are not interested.

The aspect	Why is it important?	Found weaknesses	Main actors	Area of activity and potential interventions
THE GAP – KEY PROCESSES AND TECHNOLOGY				
• Key processes - product development	In the context of having its own finished product: • Greater stability of business • Greater bargaining power towards buyers In the context of the development process and technical preparations: • Reducing the time required for the preparation and execution of production • Simulation and correction of any problems / errors • Flexibility in changing demands of customers (different product characteristics) • Creating a knowledge base / "solved" products	• Few companies have their own product (part of the strategy of firms: own product versus „lohn" production) • Outdated methods of design and production preparation dominate • Companies are aware of the need for support in this area (as professional-engineering, and financial)	• Successful companies (eg. Spektra DMG) • Faculty of Mechanical Engineering • Individuals / companies that offer these services	• Support to companies in product development (rapid prototyping, equipment, etc.). • Supporting the training of engineers and students (CAD / CAPP / CM SolidWorks)
• Key processes - organization of production	• There are opportunities to increase efficiency and reduce production costs (lower cost and / or higher profits) • Important primarily for the (few) company engaged in the manufacture in large series (eg. „Metalac MBM")	• There is an interest of companies for this area (lean production) • Few experts in our proximity, in this field	• Companies and experts from the region with good experience in this field • Faculty of Mechanical Engineering	• Improvement of production processes (5S, Lean, Kaizen - initial training and consulting) • Support and improvement of equipment maintenance

The aspect	Why is it important?	Found weaknesses	Main actors	Area of activity and potential interventions
THE GAP – KEY PROCESSES AND TECHNOLOGY				
• Key processes - management and organization	• Directors are decision makers, all operational activities, as well as organizational culture depend on them, especially given the fact that they do not delegate enough • Entrepreneurial way of running the company by founders, becomes a constraint for growth of companies	• Owners / managers are often technical profile and lack market and management knowledge • Directors are looking for practical solutions, experiences and their exchange • Some owners are aware that they have become a bottleneck for the development of the company and the need for transformation • Some are not • Some intended to be to seriously engage their heirs in the management of the company	• Companies that have successfully solved some problems • Organizations that have experience with training of directors (eg. Adizes) • Organizations that have experience in the transfer of "tacit" knowledge (Eda) • Sectoral experts	• Events for the exchange of experience and knowledge for managers / owners • Improvement and professionalization of management (Adizes, etc. - Initial training and consulting)
• Investment capital for the purchase of new equipment and introduction of new products and innovations	• about 2/3 of the companies needs to invest in better equipment and technology • The introduction of new products and innovation funding	• Expensive financing • Access to resources of IRB difficult and conditioned • No more subsidies for increasing competitiveness (for export) • The unwillingness of owners to use new ways of raising capital (equity ...) • No venture capital funds	• Banks, • IRB • Credit guarantee fund • Western Balkans Innovation Fund • Companies with a positive experience • Stock market	• Support to procurement of key equipment • Provision of investment capital (initial training and consulting)

Cooperation between companies

Cooperation between companies of the metal sector is relatively low. As we said in the analytical part, a positive example in the metal industry in the project area is the production of wire products. The producers of welded meshes in our area ("Komerc Mali", "Armaco" and other companies) teamed up and jointly purchase raw materials for many years. In addition, they co-operate also in terms of production and division of work. However, in other enterprises cooperation is mostly when they borrow equipment from each other, but this is sporadic and rare.

There are many benefits that could be achieved through greater cooperation. First of all, it is important to increase the capacity of the sector to cooperate with foreign manufacturers and markets, of which, in fact, further progress in this sector depends. In common procurement their position could be better because the joint purchasing may acomplish a lower prices and more favorable conditions. In addition, it would make sense to exchange innovative practices, and even to have joint activities in developing new and improving existing products.

The aspect	Why is it important?	Found weaknesses	Main actors	Area of activity and potential interventions
THE GAP – COOPERATION BETWEEN COMPANIES				
• Establishment of better cooperation between local companies	• Important for improvement of the capacity of the sectorfor the cooperation with foreign manufacturers • It is important to increase the capacity of the sector • to produce their own products	• There are positive examples of cooperation, but it is still at a low level • The key problem is lack of trust between firms	• Domestic companies, especially those with a positive experience in cooperation	• Exchange of experience and managerial practices ("Wine for executives") • Promotion of innovative practices • Supporting companies in the areas of common interest • Support the systematic measurement and comparison of the performance of firms and rewarding best practice

2. Wood processing industry

2.1. Where is the wood processing today?

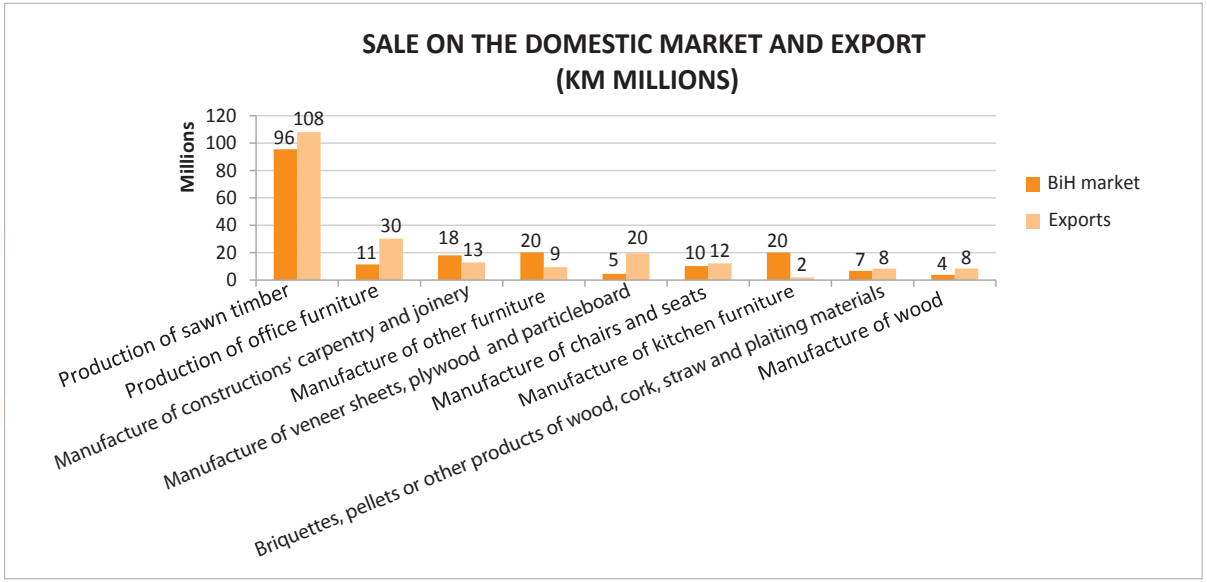
The area at which the CREDO Project is implemented has a long tradition and good international reputation in the production of good quality products made of wood and furniture that meet both the domestic and international demand. Relatively cheap and skillful labor force ensures competitive advantage for furniture industry. Still, this branch is still unable to fully achieve this advantage, mainly, because of the lack of skills in creation of final products, primarily in the modern market-oriented design.

The wood processing sector employs, at 432 companies registered for these business activities, about 6,000 employees. In the area covered by the CREDO Project, this is the largest processing industry sector. The biggest number of companies works in the production of cut timber, than production of carpentry finish and production of furniture.

The market position of wood processing industry

The total sale the wood processing industry realized in the area of all the 34 municipalities is about KM 418 million. Out of this, KM 218 million is attributed to export. This confirms that the sector, on the whole, has been, to a great extent, oriented to export.

Graph 6 - Sale on domestic and foreign markets (in KM millions)



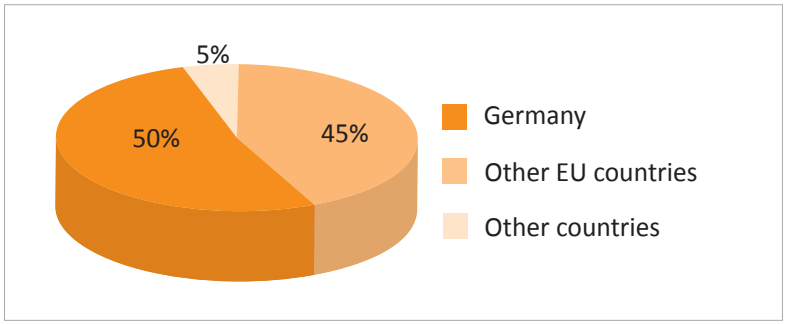
Source: APIF RS and AFIP FBiH

On the basis of this research, it may be concluded that the biggest dynamics and the biggest potential for creation of added value lies in the sector of furniture production. This is confirmed by the quantitative and qualitative indicators (qualitative evaluation of participants in the research). All other activities have a lower potential in the value creation. This is particularly related to furniture producers made of lumber, while, in the production of plate furniture, one company, A.D. Standard, Prnjavor, has been extremely dominant and has exported more than 2/3 of the total amount of exported plate furniture from this area.

The companies that have marked high degrees of production growth and growth of the number of jobs are mainly oriented to the external market. There is also sale on the domestic market, but this can satisfy only small producers. In the case of large producers, they cannot survive without large quantities, meaning, that they cannot function without external markets.

The most significant market, which the wood processing producers work for, is the market of the EU. As we can see on Graph 2, the very Germany absorbs 50% of B&H furniture export, whereas the rest of 45% goes to the EU, hence we export 95% of our furniture to the EU.

Graph 7 - Total export of furniture from B&H



Source: Trademap

The key reason why our companies are present on the EU market is the ability to produce standard high-quality furniture, at a price that is lower than that of the competition, for that quality level. Foreign customers know that our companies may produce products of a good quality, as we used to be, before the war, amongst those who were better, globally, in terms of the quality of raw materials (Bosnian beech is recognizable by its quality), quality of products and professional labor force (in the eighties, B&H was the second country by furniture export to the USA, immediately after Italy). When compared to the competition, in terms of quality, we are better than the Eastern countries (Romania, Bulgaria, etc.), whereas they offer lower prices. However, the EU customers know that our companies produce much better quality products and this is where are producers are trusted.

However, if we have in mind the size of the EU market, we can see than that our production and export are very small and that there is a lot of room for our producers. Namely, in 2013, the EU imported furniture in the value of Euros 57.4 billion. Germany itself, our largest furniture market, imports about Euros 14.2 billions of furniture.

The key problem of our manufacturers in approach and appearance on EU market is that they often wait buyers to find them, rather than actively seeking buyers. Access to the European market is usually through wholesalers who contact our manufacturers, offer them the types of products they need, agree on the price, give requests and then companies enter the production under these requests. Also, there are companies that have direct contact with foreign retail companies. However, these relationships are often the result of random contacts and acquaintances (usually through our people in the Diaspora), rather than the result of a systematic approach to the market.

When it comes to the market, the European demand has been increasing and our producers could increase production and export, if they would be able to find more markets for their products, which would mean a better contact with the market. This implies bigger activity to the market, more flexible and better design process and better product design. However, the lack of people and capacities for high quality market approach has been noticed in the companies.

Production and technology

Concerning the equipment, about 2/3 of our wood processing companies have machines that are 5-10 years old. With this type of equipment it is possible to achieve the desired quality of the production. However, for the further development it will be necessary to renew the technology, especially if we take into account the requirements of foreign buyers in terms of a constant, high-quality products. This, in itself, does not mean a complete orientation to CNC machines, as some of our producers base their competitiveness exactly on cheap labor and orientation towards labor-intensive technology. Such producers find that it is better to hire more workers on the "old", cheaper machines than to buy new equipment, which needs fewer workers, but cost much more. It would therefore be of great benefit to make improvements concerning the organization of production, the flow of raw materials, improvement of certain operations (egg. lacquering of wood is the problem of most of our businesses and there are companies where the lacquering of wood and its sending is performed in the same room).

The production facility of „Drvoprodeks"

Also, majority of companies in the wood processing sector have a problem with design process and technical preparation of production, i.e. they lag in this area behind the European competition. Our wood processing producers usually get a product or a picture of a product and on the basis of that they start their production. Except for individual cases, majority of companies have not been capable enough to turn those inputs, obtained in such a manner, into technical documentation necessary to prepare the production. Sometimes the preparation of a prototype is done in a crafts-like manner. In better companies, the products are designed using AutoCad, after which technical drawings are then printed, but it is also not a rare case that technical drawings and technical documentations are manually drawn. This frequently results in poor solutions and slow reaction to customer demand.

Some domestic companies, which are the leaders of technological development, apply new techniques in designing (Solid Works and parameter 3D projections) and they achieve good results. For example, D.I. Vrbas has, by applying of these techniques, managed to significantly increase the productivity of its production.

When it comes to the design, some of the companies have their designs, but it is difficult to expect that domestic companies develop this capacity on their own. The most common practice is to hire external designers or designing companies. However, in this case, the companies must be ready and have qualified staff to be able to communicate with the designers in a good quality manner.

Supplying of raw materials

Wood processing industries producers, who make lumber products, purchase the biggest part of their raw materials and semi-products on the domestic market. It must be emphasized that beech from B&H is a recognizable raw material, which additionally opens many doors at a global level to our producers. On the other side, the producers of plate and upholstered furniture mainly import semi-products necessary for their production.

There are significant problems in supplying domestic raw materials. Domestic producers have problems related to the quantities of delivered wood, its quality and continuity of deliveries, particularly during winter, as forestry holdings do not supply wood in winter. According to producers' statements, in some periods, they cannot accept requests of the customers because of being unable to provide raw materials.

Generally, the situation in the forestry sector is pretty unorganized. It often happens that those tradesmen, who have better "connections" with forestry companies and who export the wood while still raw or slightly processed, get the raw wood rather than producers who use the wood to process it and add value and create jobs. There are some examples where processing companies have 100 and more employees and they cannot get contracts, while the companies, which only do trading, with only 2-3 employees get the wood. This is, altogether, one chaotic and unorganized situation and, if the state, as a monopoly owner of forestry holdings, wants to create and add value in the country, as well as create new and maintain the existing jobs, then they will pay due attention to organizing this area.

Things here should be organized in such a way that the primary goal becomes that the final processing companies and those, who are in the chain of final processing companies, have a priority in obtaining raw materials or have better terms or incentives to use the raw materials for the production of final products. The situation now is totally opposite to that. Some of the companies, which export cut lumber abroad, have some incentives for that, through export subsidies (this subsidy has been renamed into the competitiveness subsidy for purely administrative reasons) and if this lumber is sold to our final producer, there will be no incentives, as the sale is done on the domestic market. It is clearly understandable, then, that there is a lower interest of tradesmen in wood and sawmills to supply domestic final wood processing companies rather than export.

People and knowledge

In terms of quality and expertise of labor force, B&H is well known in wider international circles. In the pre-war period, when ŠIPAD operated (a holding company, which gathered all the wood processing companies in B&H), knowledge and skills of the labor force were developed systematically and we benefit from it even today. The present labor force in this sector is relatively well qualified and trained; however, there is a problem here that the age structure of employees in this industry is unfavorable. The biggest part of well qualified employees are those who used to do this job in the previous system, they are of a relatively older age and it may be expected, in some time, that they will complete their employment and retire. This staff is one of our advantages. However, this advantage may easily be lost, as there is no continuity and systematic approach in providing new staff.

Some of the companies manage in renewing their human resource structure, however, there are cases that the companies lose their key people and the market offers no one to replace them. Such companies cannot respond to the market demands, as they do not have a sufficient number of qualified staff. The biggest problem here is presented by the lack of newly qualified employees, who could replace those, who are to retire, thus responding to the increased production needs.

Knowledge at work – solid wood furniture, firm Javor, Prijedor

Under these circumstances, there is a deficit of qualified people at all wood processing levels. It is not easy to cut wood, even the simplest of the logs, without knowledge. Simply speaking, there is a complete specter of wood processing staff missing: from manual workers to production operators and, particularly, engineers. However, our education system does not produce staff that the economy needs.

When it comes to the existing engineering staff, knowledge and skills are based on the knowledge of experienced engineers, out of whom many are very competent in the production and technological parts. However, they are very few for the existing needs, let alone for developmental and future needs of this sector. Also, a very significant problem is the level of engineers' knowledge about the new designing technologies. There could be no adequate communication with the EU market without well trained engineers, who, on the bases of new designing software, could rapidly adjust production to the customers' needs. The point is that the European competition uses those new technologies and often bases their advantage on it.

Some companies are organizing their work in this direction, but currently there is a lack of a good quality engineering and technical staff and this cannot be corrected easily. Experienced engineers get trained and new engineers get educated for the usage of modern technologies, as the Faculty of Mechanical Engineering has licensed software, as the faculties in the EU and elsewhere have. In particular, it must be emphasized that the Faculty of Mechanical Engineering, Banja Luka has a depatment for the mechanical

processing of wood, but this is only "on paper". For many years no one has applied for this department, which is a great pity. One of the problems for the activation of this department is the lack of teachers in the group of subjects related to wood technology.

Cooperation between the companies

There is several wood industry clusters in the project area, which mainly gather small companies. The Banja Luka cluster gathers 10 producers and its Coordinator Vojislav Petković considers that the Cluster should be focused on the products for equipping touristic facilities and interiors, as the advantage of the Cluster companies are flexible production in small batches. Because of this, they have an intention to open a Representation Office in Istria, Croatia. The Prijedor Cluster gathers 22 companies and co-operates with the companies from Prijedor and from other local communities (Banja Luka, Kostajnica, Kozarska Dubica and Novi Grad). The Prijedor Cluster has functioned well, though it does not function well now, because of violated internal relations and different interests. One of the results of this cluster is the introduction of a class for processing of woods in secondary schools. Cluster members mainly see their membership in clusters as beneficial, but also claiming that there is room for improvement, eg. in terms of joint purchasing, etc.

For majority of other companies, cooperation is at a low level. Except for several large companies, majority of others are small and many things operate in an unofficial manner. Producers often purchase raw materials separately, each for themselves, even though with joint purchasing they would be able to have greater negotiation power to the state forestry sector. This is, also, related to the access to the market for its products, where, in a great number of cases, our companies act individually.

There is also one more significant cooperation possibility. Namely, one of the largest companies in this area is D.I. Vrbas, which has significant human resources and technological capacities and sale of furniture made of lumber higher than KM 10 millions, etc. At this moment, this company is at a crossroads whether to go in the direction of serial production for one large customer or to have several smaller customers with a wide spectrum of products. They are at a crossroads as to what would they like to invest in and where should they go to. If one such company would get oriented to several smaller European customers with a wide specter of products, then, possibilities would occur for more intensive cooperation with a lot of small producers, to whom the basic advantage would be a great extent of flexibility and small series. On the other side, this would mean that the company D.I. Vrbas may invest less into its capacities

compared to the investment for a large-series production, as many small capacities already exist. Also, the large-series production for a large customer is a "lohn" job, with small margins. If small companies would have such a large company as a leader, this could mean mutually beneficial cooperation.

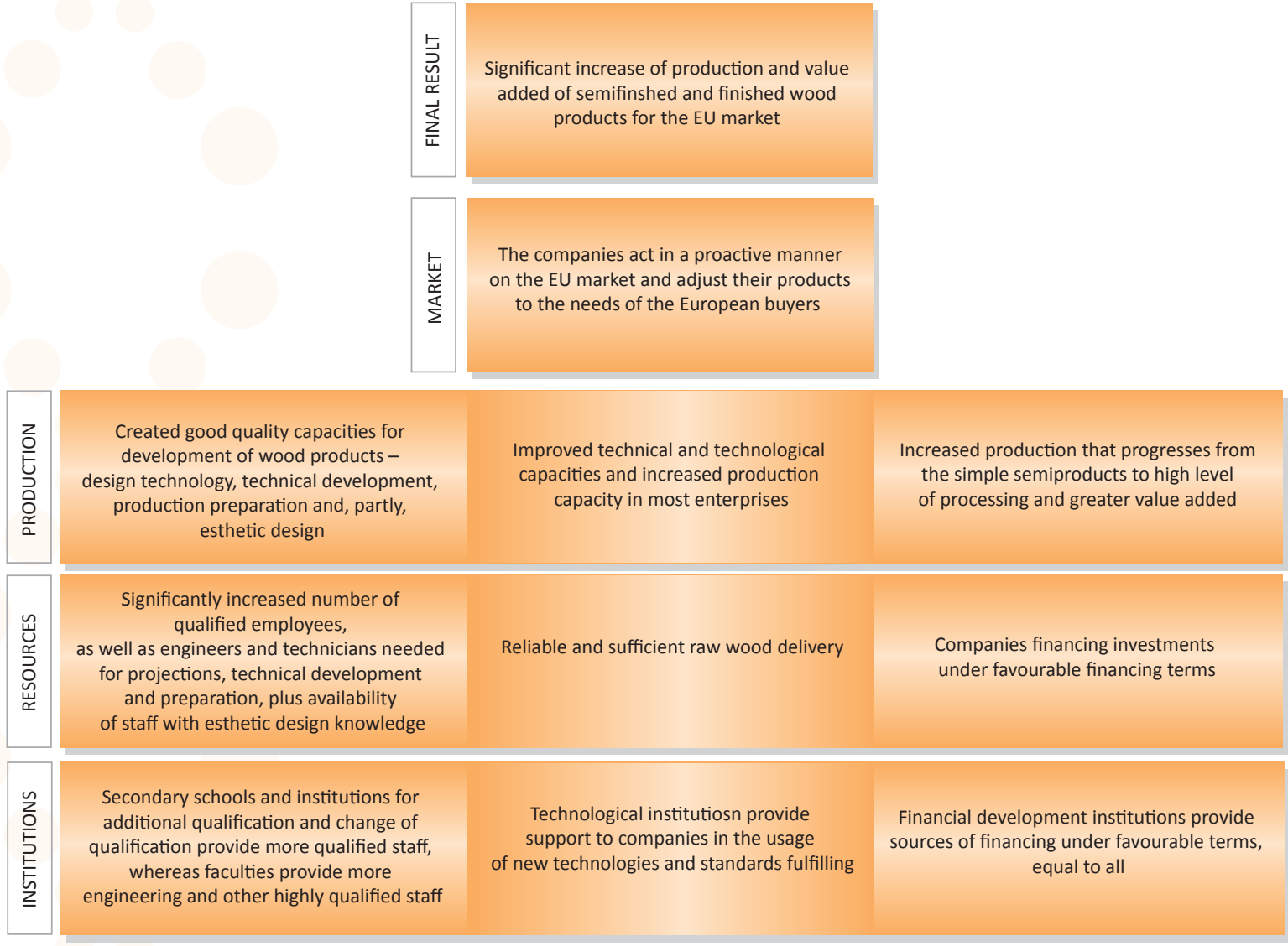
In the previous system, all the producers were organized in the so-called complex organizations of associated labor (SOUR), which used to include the companies from production of raw materials to final products. In our area, SOUR Šipad included all the producers in B&H. As we have already said, many, who work in the present companies in this area, come from the previous system and they have the knowledge and experience in connecting and joint work of several connected companies. This is why it makes sense to think about better connection of the companies in the wood processing sector.

Institutions for support and development of wood processing

Majority of wood processing companies are members of the Chambers of Commerce. The RS Chamber of Commerce has some results in establishing relations between the forestry and wood processing sectors, and it has also provided information about potential new markets. In some cases, the Chamber of Commerce has provided services of the designers and other forms of support. Some of the companies are members of the local associations and forestry and wood processing associations of the RS. A part of the companies believes that membership at the Chambers of Commerce is not beneficial and that they should offer more, particularly, when compared to the Chambers of Commerce in developed countries and their services for the economy.

Generally, there is no cooperation between the sectors and educational institutions (secondary schools or faculties). Even though production generates constant growth and increase of employment, secondary schools and faculties do not educate enough people for the needs of our wood processing companies.

2.2. Where do we want to get to?



2.3. Which are the most significant gaps to be overcome?

From the analysis of the existing situation and projections of a desired future state, it can be seen that the most significant gaps to be overcome between these two positions are as follows:

- Passive approach to foreign buyers
- Lack of people – qualified workers, technicians and engineers
- Technology and business processes

Passive approach to foreign buyers

The focus of wood processing industry is becoming more and more exports. The aim here is to increase contracting for European and world markets. The domestic market is too small and it cannot be counted on if we want to continue the dynamic growth of production and employment in the industry.

As we have seen in the analysis, the most important market for the companies is the EU, especially Germany. The biggest problem here is that our manufacturers generally wait for buyers to find them, rather than actively seeking buyers. Finding foreign buyers is often the result of random contacts and acquaintances (usually through our people in the Diaspora), than the result of a systematic approach to the market. German and other EU buyers currently do not have enough information about our companies, about their capacities for serving the EU market. On the other hand, our companies do not have sufficient knowledge of these markets and of sources of information that are important for specific markets. This represents a huge gap that needs to be bridged.

The aspect	Why is it important?	Found weaknesses	Main actors	Area of activity and potential interventions
THE GAP - MARKET				
• Access to and participation in the market (bigger and better export arrangements)	• the key to further improvement of competitiveness, increase of sales volume and employment	• Germans and other EU buyers do not get enough information about our companies, of their capacities for EU market • In most businesses owners / managers perform the majority of work in the sales and do not use sales people who know the demands and requirements of the market, • There is not enough knowledge about markets and sources of information	• German Chamber of Commerce (AHK) and similar associations • GIZ (CIM experts and support of exports) • Economic missions • Firms with positive experiences	• Training -How to export to EU, especially to German market (how to establish and strengthen ties with German companies) • Organizing events where local companies and potential foreign partners could meet • Support for direct connection and the promotion of companies through GIZ program and trough German Chamber of Commerce • Organize events for the exchange of experience and knowledge for the directors
• The introduction of standards and product certification	• Each company must have FSC standard • The CE mark is a prerequisite for the export of some products (baby beds, etc.) • For each market there are specific standards (for Germany GS, DIPT, etc.)	• A large number of small companies have the ability to export but some standards are obstacles (FSC, CE, GS, DIPT, etc.) • Lack of domestic testing laboratories and certification (using foreign is expensive, and domestic would be much cheaper, according to estimates)	• Companies and experts from the region with good experience in this field • Faculty of Mechanical Engineering • Laboratory for testing and certification, Zenica (emerging)	• Support to companies in the introduction of standards and product certification (this measure will be specifically elaborated in accordance with the specific requirements of companies)

Lack of people – qualified workers, technicians and engineers

The wood processing sector has been growing in a strong and continuous manner and the need for qualified employees has been getting increasingly bigger. The biggest problem here is the lack of qualified workers, who could respond to the need of production increase. This presents a significant problem for further growth of this sector.

The advantage we are known of, which is the quality and expertise of labor force, can easily get lost, as there is no continuity and systematic approach in providing new staff. Under these circumstances, the whole specter of wood processing staff is missing: from the workers to production operators and, especially, engineers and marketing experts.

What the education system produces is insufficient. What would be here of a great value is establishing of close cooperation between the business companies and educational institutions. The goal of this cooperation would be for the secondary schools and institutions to do additional qualifications and change of qualifications to provide more qualified employees and for the faculties to provide more engineering and other highly qualified staff that the businesses are missing.

The aspect	Why is it important?	Found weaknesses	Main actors	Area of activity and potential interventions
THE GAP – PEOPLE AND KNOWLEDGE				
• Key skills - • engineers	• They are important for the development of new products and the use of better and newer technology	• Faculties do not produce enough of engineers for industry • SMEs do not employ enough of engineers -	• Mechanical Engineering Faculties in Banja Luka and Bihac • The owners / managers of SMEs	• Initiating cooperation and support of joint activities of Mechanical Engineering faculty (Banja Luka and Bihac) and enterprises • Promoting the importance of employment of technical personnel to be competitive company • Promoting employment of youth in the wood industry

The aspect	Why is it important?	Found weaknesses	Main actors	Area of activity and potential interventions
THE GAP – PEOPLE AND KNOWLEDGE				
• Key Skills - CNC programmers and technicians	• Technicians are often those who "bear" production	• Vocational education does not produce technicians with practical skills (including CNC programming) • No well-organized and continous (practical) training of technicians	• Secondary Technical School in Banja Luka • WMTA Academy Srbac • Interested firms	• Initiating cooperation and support joint activities adult education centers (WMTA Academy Srbac et al.) And enterprises • Initiating cooperation and support joint activities of secondary vocational schools and enterprises
• Key Skills - • Carpenters and CNC operators	• The growth of the sector is conditioned by the availability of skilled labor	• Secondary vocational education does not produce workers with practical skills • No well-organized and continous (practical) training of workers	• Secondary technical schools (Banja Luka and Bihac) • WMTA Academy Srbac • Companies interested in training	• Initiate cooperation and support joint activities of centers for retraining adults (WMTA Academy Srbac et al.) and enterprises • Initiating cooperation and support joint activities of secondary vocational schools and enterprises
• Human Resource Management	• A significant portion of competitiveness is based on the key experts (engineers and craftsmen)	• treatment "egalitarianism" (allocated by key experts) • key experts go to other firms or abroad or to public sector	• Consultants in this field • Businesses (which are the key people left and those that keep them satisfied)	• Organizing events to share experiences and knowledge for the directors • Creation of possibility of consulting in human resource management

Technology and business processes

As we noted in the analysis, approximately two thirds of our wood processing companies work with the equipment that is old 5-10 years. With this type of equipment it is possible to achieve the desired quality of the production. However, renewal of technology will be necessary for further development, especially if we take into account the requirements of foreign buyers in terms of a constant, high-quality products. In addition to new equipment, this means improvements concerning the organization of production, the flow of raw materials, improvement of certain operations.

In addition, changes are also required in terms of key business processes. In our companies that have strong growth, this growth is not accompanied by appropriate management and organizational transformation. Many owners / managers have limited (professional) knowledge, and because they are often technical profile, in particular they lack marketing and management knowledge. Some of them are aware that they have become a bottleneck for the development of the company and that they need a transformation in management. Also, some intend to seriously engage their heirs to run companies, and some heirs are either not available or not interested.

The aspect	Why is it important?	Found weaknesses	Main actors	Area of activity and potential interventions
THE GAP – TECHNOLOGY AND KEY PROCESSES				
• Investment capital for the purchase of new equipment	• About two thirds of • companies have a need to invest in better equipment and technology	• Expensive loans • Unwillingness of owners for new ways of raising capital (equity ...) • Still no venture capital funds	• CREDO Development Fund • Banks • Credit Guarantee Fund • Companies with a positive experience • Stock exchange	• Support to procurement of key equipment • Training and consulting on the subject of obtaining investment capital

The aspect	Why is it important?	Found weaknesses	Main actors	Area of activity and potential interventions
THE GAP – TECHNOLOGY AND KEY PROCESSES				
• Key processes - development, technical preparation and Industrial Design	• iImproving existing and developing new products is crucial for performance in foreign markets • Reducing the time required for preparation and execution of production, • Simulation and correction of any problems / errors • Flexibility to changes in customer requirements (different product characteristics)	• Outdated methods of design and production preparation dominate • Some companies are aware of the need for support in this area (both professional-engineering, and financial).	• Customers foreign partners • Successful companies • Faculty of Mechanical Engineering • Individuals / companies that offer this service	• Support to use of available market information (current customer demands, trends in important fairs, internet, etc.) for the improvement of existing and development of new products • Support to procurement of equipment for the development and technical preparation of production • Support to the training of engineers and technicians (CAD / CAPP / CAM SolidWorks and other technologies) • Support to the strengthening of cooperation between universities and companies
• Key processes - organization of production	• There are opportunities to increase efficiency and reduce production costs (lower cost and / or higher profits) • Important primarily for the (few) company engaged in the manufacture in large series	• There is an interest of companies for this area (lean production) • Few experts in our proximity, in this field	• Companies and experts from the region with good experience in this field • Faculty of Mechanical Engineering	• Training and consulting in organization of production (Lean, Kaizen) • Training and consulting in specific selected areas (egg. laquering)

The aspect	Why is it important?	Found weaknesses	Main actors	Area of activity and potential interventions
THE GAP – TECHNOLOGY AND KEY PROCESSES				
• Key processes - management and organization	• Directors are decision makers, all operational activities, as well as organizational culture depend on them, especially given the fact that they do not delegate enough • Entrepreneurial way of running the company by founders, becomes a constraint for growth of companies	• Owners / managers are often technical profile and lack market and management knowledge • Directors are looking for practical solutions, experiences and their exchange • Some owners are aware that they have become a bottleneck for the development of the company and the need for transformation • Some are not • Some intended to be to seriously engage their heirs in the management of the company	• Companies that have successfully solved some problems • Organizations that have experience with training of directors (eg. Adizes) • Organizations that have experience in the transfer of "tacit" knowledge (Eda) • Sectoral experts	• Events for the exchange of experience and knowledge for managers / owners • Training and consulting in selected areas

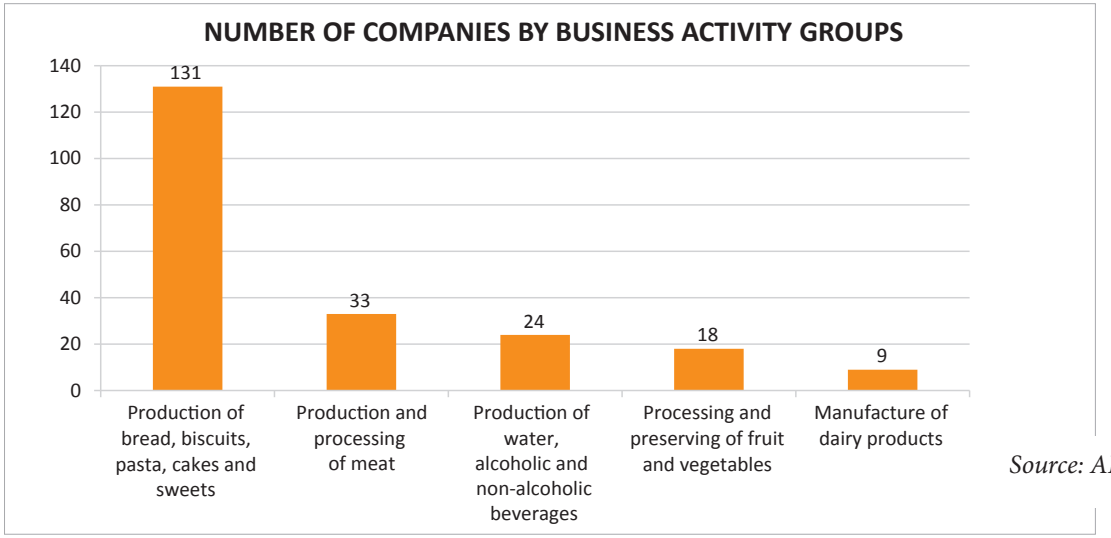
3. Food industry

3.1. Where is the food industry today?

The food industry is one of the leading industrial branches in the area covered by the CREDO Krajina Project. This sector has great potentials, also owning substantial natural and human resources, as well as a long tradition. The food industry, in the area of Krajina, in the late eighties and in the beginning of nineties of the last century, was considered to be one of the developed branches and, as such, it managed to follow global trends. Financial business results have still been positive for the majority of companies. Their products have their customers on both domestic and, to a slightly lesser extent, international market. This sector has further potential for significant increase of sales, export and employment.

The food industry sector, in 398 companies registered for these business activities, has employed about 5,000 employees. As we can see on Graph 1, the biggest number of companies is in the production of bread, rolls, cakes and confectionary products, whereas slightly lesser number of the companies is in the production and processing of meat, fruit and vegetables, production of drinks, as well as diary products.

Graph 8 - Food industry companies in the area of 34 municipalities.

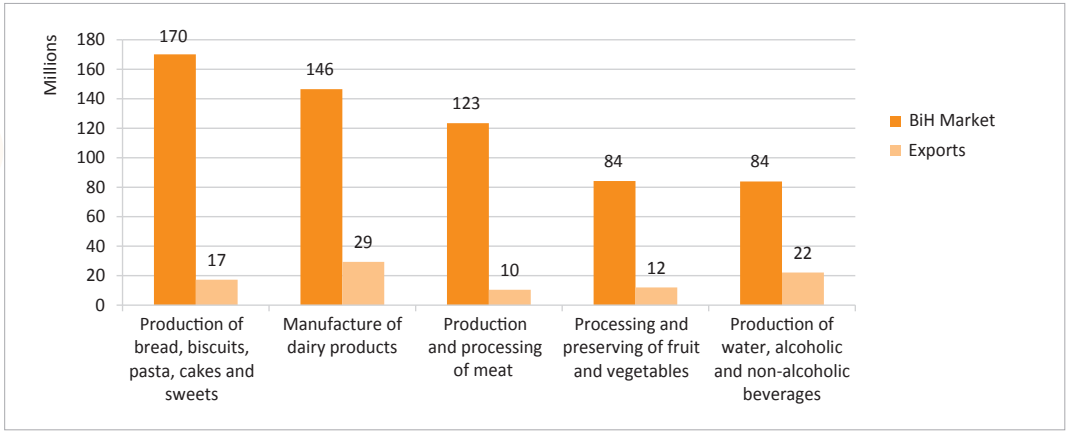


Source: APIF RS and AFIP FBiH

Market position of food industry

Total sale that the food industry realizes in the area of all the 34 municipalities, in this sector, is KM 680 million. Out of this, KM 100 million goes to export and KM 32 million accounts for realized profit. This shows that the sector, on the whole, operates rather well and that it has been less export-oriented, instead being mainly oriented towards the domestic market.

Graph 9 - Sale on domestic and foreign markets (in KM millions)



Source: APIF RS and AFIP FBiH

Graph 9 shows that the food industry companies are mainly B&H market-oriented. A wider market, which includes the food industry producers, is mainly a regional (CEFTA) market. The CEFTA Agreement on Free Trade, whose present members are: Albania, Bosnia and Herzegovina, Macedonia, Moldova, Montenegro, Serbia and UN Interim Administration Mission in Kosovo, on behalf of Kosovo.

There is one significant problem. The population of B&H and the Western Balkans region has a low purchasing power and this greatly affects the size and characteristics of the domestic demand for all kinds of goods, including for food products. Products in highest demand in these areas are in the lower price segment and the lower segment in terms of quality. Options on the domestic and regional markets are for this reason very limited.

Because of this the export potential is quite different in certain types of food products. For products of animal origin possibilities are very limited and mostly related to milk and milk products and poultry

and chicken meat products. The processing of pork and beef has many weaknesses, so the big question is whether it is to be stimulated. There is no significant opportunities and space for intervention in this area because, for example, dairy and poultry sectors are relatively well developed, and most of their problem stems from poor legal and institutional framework that exists in B&H. Just because of this, exporting these products to the EU at present is not possible, because we fail to meet EU requirements in several areas, for example, legal requirements, market issues and state support.

However, products that are very successful and increasingly exported to EU countries with a large market for food products (primarily in Sweden, Germany, Belgium, France and Austria) are berries (raspberries, blackberries), forest fruits, mushrooms, dried fruits, spices and herbs, and some sorts of vegetables (mainly cucumbers). Raspberries are exclusively grown on small family farms, but in blueberries, blackberries and other species, in addition to growing, the greater part comes through the collection of wild fruits. The largest part of these products is frozen and exported in this form abroad. In our area there are not many processing plants that have the necessary infrastructure and equipment. Major processors are only few companies Mushroom, Čelinac and Rolend, Bosanska Krupa, and Eco Bell as the producer of dried fruit (plums) and other fruits. In addition there are smaller plants and companies that supply large companies or retailers with fresh or semi processed products, and also do a direct export. The export potential for these types of products can be seen in the fact that berries makes a very small proportion of the fruit production in B&H, though its share in total exports of fruit is almost 40%, with an annual export value of around EUR 7 million.

Large retail chains

On the domestic market, the biggest part of sales goes through large retail chains. Several of these retail chains operate here, which are, in principle, the main market: Agrokor (Konzum, Konzum Super, Konzum Maxi, Mercator d.o.o. Sarajevo and M-BL d.o.o. Banja Luka) Tropik who took over the facilities and sales of Delhaize Group (Tempo, Delta Maxi, MojMarket), Bingo Tuzla, Hiperkort Derventa, Fortuna Prnjavor). Requirements that come from the retail chains are mainly reflected in the following:

- A great pressure on decreasing prices (the basic discounts are minimum 10%, additional activation discounts are minimum 7%, credit notes based on annual sales are about 2%, fees for listing of a new product are minimum KM 500, etc.). Average trading margin of retail chains for meat and meat products is about 15-20%.
- Long payment terms (moving from 60 to 120 days in cooperation contracts).

- Short delivery times (somewhere up to 2 days from purchase order, with a payment of fee in the amount of 20% from the amount of ordered goods).
- As long of a remaining shelf life at delivery as possible (minimum 70% of the remaining shelf life at delivery).

The main competitors on the domestic market are large companies from Croatia, Serbia and Macedonia. When it comes to large Croatian companies, membership at CEFTA (Free Trade Agreement) has created for B&H a competitive advantage, as customs duties have started being paid on Croatian products since Croatia joined the EU.

The certification of products

When it comes to certification of the system for quality management and food safety, the majority of the surveyed companies have obtained HACCP system certificates, in line with the guidelines given in the documents Codex Alimentarius. The application of the HACCP system in slaughter-houses for cattle and poultry and processing of meat is, also, a legal obligation in B&H. In smaller facilities, the application of the HACCP system is not full and a small number of these facilities have been certified.

Certification, according to requirements of other standards, such as ISO 9001, ISO 22000, is not present in as big a scope as the HACCP certification is in the surveyed companies, as certification, according to these standards, is voluntary and the companies have not recognized the usage from the implementation of the management system according to the requirements of these standards.

Changes that happen in the EU, when it comes to certification according to the requirements of trading association standards, such as the International Featured Standard and requirements that are given in the IFS Food Standard have still not been recognized by production companies, hence, in our area, there are almost no certified companies according to the IFS Food Standard (the only exception, according to our findings, is the company Mladegs Pak). As this standard is a condition for doing business with huge retail chains from the EU (Metro, Lidl, Spar, Getro…), their arrival into the B&H market will increase requirements when it comes to quality management and food safety systems of their suppliers. Some of our retail chains are also members of this Association; however, they still have not applied this control and requirement mechanism to the suppliers.

The promotion and branding of products

In the majority of domestic food industry companies, marketing and promotional activities are inadequate. Almost all surveyed companies stated that marketing and product promotion is their weakest link in the process and that, in this segment, they are much weaker than the competitors. Also, what they have noticed is a large lack of qualified people that could improve the market position, i.e. marketing and sales of our products.

Because of huge amount of efforts and money they invest into market positioning of their products, the competitors of our food industry, for example, from Serbia and Croatia, have a large number of known and recognizable food products and brands. Those products have enjoyed a high reputation of domestic and regional consumers. Their branded food products on the market are categorized into higher price categories, simply because they have a certain identity and they are easily recognizable at the market. The only way to make our products, which are usually not branded, competitive to them, is to offer a significantly lower price.

Vitaminka, Banja Luka – some of recognizable products

Recognizable products and brands made by our producers are rare. The company Perutnina, which produces quite a lot in our region, is a recognizable brand in terms of chicken meat and processed products. The milk factory Mlijekoprodukt, Kozarska Dubica, as well as fruit processing company Vitaminka, Banja Luka, both have products that are recognizable on the domestic and/or regional market, however, the majority of producers do not have products of such type. A good example of food products that may serve for branding is Banja Luka's ćevap (kebab), which is a meat product well-known in the area of former Yugoslavia and in the Diaspora of our people in the world, though its branding potential has not been well used.

What is the problem? It takes a lot of efforts to have a good performance at the market and our producers neither have the funds necessary nor the will to get into such a process. The main reason that they mention is that this, to a great extent, depends on the finances, and they do not have enough funds for that, thus the activities in these areas are limited.

The equipment and technology

Equipment and technology used in the food industry process are mainly obsolete, which is a specific characteristic for smaller processing plants. Out of the total number of surveyed companies, 62% of them have older generation equipment.

The modern equipment, enterprise Mladegs Pak, Prnjavor

A great part of such companies use the equipment, which is ten or more years old, however, there are no huge problems with productivity and competitiveness, as their machines are well kept and maintained and their shortcomings are compensated by cheap and trained labor force. Their logic is that it is better to pay cheap labor force than purchase an expensive machine. It is precisely this labor force that makes our companies flexible to the customers' demands. There are some examples where some of the large customers ask for products to be packed in a specific manner, which can only be done manually. Our companies meet these requirements without problems, because they have numerous and cheap labor force. They may change the order, in one day, but,

on the other side, they do not have huge series, as you cannot have both. Generally, there is no need for large series, therefore, such companies have good ratios: they are flexible and they can meet the required quantity.

On the other side, greater and more developed companies, for which large series are important, follow technological development and novelties and they apply them in practice (38% of surveyed companies). Such companies need this, as some things cannot be compensated by labor force.

Work force

In addition to the lack of qualified people that could improve the market position, i.e. marketing and sales, the food industry has the lack of qualified bakers and butchers.

What is characteristic is that in the processing plants, the majority of labor force does not have official education (for example of a butcher's profession) and the reason for this is, partly, that there is a lack of employees with this profession, mainly because, after the completion of their education, people do not want to work in the plants for meat processing. The situation is similar with qualified bakers.

As the food industry was relatively developed in this area before the war, there is a significant number of qualified employees of older generations in other professions. The companies need to train new employees, who do not have the necessary knowledge, which all takes both time and money.

Cooperation between the companies

Cooperation between the food processing sector companies is at a low level. This cooperation mainly occurs when some of them face huge breakdowns in production, thus, other companies help them by doing service production for them.

Producers often purchase inputs from the same supplier, but they all do individual purchasing. When it comes to common purchasing, their position would be better, as their joint purchasing could get them to a lower price and better services. Also, they all have huge costs of distribution, for example, as for many products takes the so-called "cold chain", i.e. that is transportation of goods in refrigerator trucks and warehousing at low temperatures. Joint distribution would, of course, lead to lower distribution costs.

In addition to that, it makes sense to have joint branding, so that the companies invest into brand creation, where several products would be made in a certain way. After they develop to be recognizable at the market, these products could get positioned in a higher pricing category.

Institutions for support and development of food industry

Several important institutions for the food sector do not perform their jobs in an adequate manner. The Food Safety Agency of Bosnia and Herzegovina is in charge for food safety and international rules from this area are applied. Basic comments of the companies about the work of the Food Safety Agency of Bosnia and Herzegovina are related to adoption of the legislation, which can hardly be applied in B&H and also the legislation that is not sufficiently clear to the very users, that is, to the companies that should apply them.

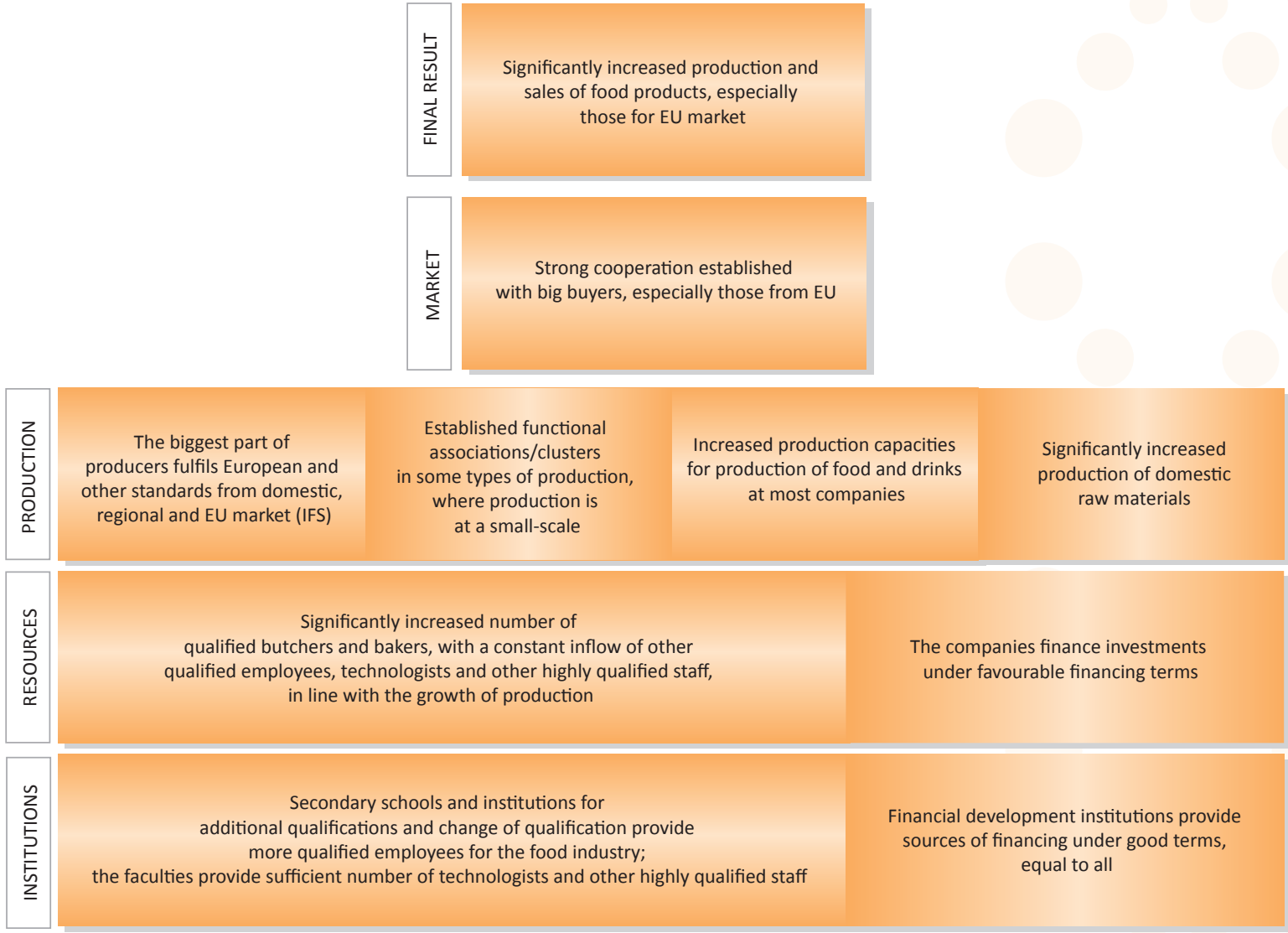
Also, the Veterinary Office of B&H (KZV B&H) and entity veterinary services do their jobs poorly and this is reflected in the following: inadequate product quality control system, complicated procedure related to certification of facilities, high costs of issuing certificates on health safety of shipments, non-harmonized legal regulations with regards to the import of meat from the EU, non-application of the provisions of the Law on Veterinary with regards to the application of HACCP system and auditing of the situation of facilities.

The food industry companies generally consider that they almost do not have any support by the institution. When, as they say, such help is needed, there are very few organizations and individuals to be able to help them. Our institutions do not deal with companies and they are not interested in them.

In addition to the Chambers of Commerce, food industry companies are rarely members of some other business associations. Out of the total number of surveyed companies in the food industry, only about 20% of them is happy with the support that the Chambers are providing to businesses. This support is mostly reflected in certain training, support in obtaining standards, etc.

When it comes to educational institutions, the secondary schools in the project area are the ones that train the pupils for the necessary occupations, however, the quality of knowledge and particularly practical skills of pupils have been very limited. Also, the Faculty of Technology of Banja Luka has for many years now had specialization in food technology and those technologists present one of the main strengths of the food industry. Also, technologists are educated, in this area, at the Biotechnological Faculty in Bihać. However, it must be emphasized that there is no sufficient cooperation between the faculties and businesses.

3.2. Where do we want to get to?



3.3. What are the most significant gaps to be overcome?

The analyses performed so far of the existing state and projections of the desired future state, it results that the most significant gaps to be overcome between these two positions are as follows:

- Access to and performance in the market
- Lagging behind in terms of technological and business processes
- Environmental protection and energy efficiency
- Lack of institutional support to development

Access to and performance in the market

Our food industry does have chances for getting onto the European market in terms of preferential, privileged treatment, however, a great deal of our producers and institutions does not fulfill the requirements for export of food to the EU, so this market is quite often not available to us.

Export potential is rather diverse, when looked at by individual types of food products. When it comes to meat processing, this is rather limited and it is mainly related to chicken meat and chicken meat products. However, berry fruit (raspberries, blackberries, etc.) have a good sale on the European market, as well as forest fruit, mushrooms, dried fruit, spices and medicinal herbs, etc. This segment covers significant promotions at exhibition fairs. Here, it is not necessary to look for distributors, which is why the fairs are, at the same time, channels of sale for these types of products. The preparation consists of preparing the offer of products well, along with pre-determining potential customers, agreeing on meetings with them in advance and focusing all the activities in this direction. For example, one of the most significant exhibition fairs in this area is Biofach Fair, as the biggest fair of this type in the world. The trend of this fair is not only to sell organic products, but also to present the products not organically produced, as the majority of companies dealing with organic products deal, at the same time, with ordinary, commercial production.

When it comes to standards and certificates, when the neighboring countries, for the reason of their acceding to the European Union, start applying European regulations in this area, those markets will get closed for us. The same happened with the export of milk to Croatia and the time is coming when

the same will also happen with the other neighboring countries. It is necessary to begin resolving these problems as soon as possible. Time works against our producers and if it is not reacted on time, the damage will be irreversible. It will take great investments (into facilities, resolving of slaughter houses waste, etc.) for the producer to be able to fulfill requirements. The second kind of obstacle all the producers in the food industry face are the trading standards, applied by large retail chains, such as International Featured Standard and IFS Food. These standards have not been recognized yet as significant by food processing companies, which is why only few companies in our region are certified in line with the IFS Food standard requirements.

The aspect	Why is it important?	Found weaknesses	Main actors	Area of activity and potential interventions
GAP - MARKET				
• Access to and performance in the market.	• Increasing the scope of sales and employment.	• Not enough knowledge about markets and sources of information. • Unused potentials and resources.	• German Chamber of Commerce (AHK) and similar associations • Processing companies • Village farms • GIZ	• Support to initiatives of producers for market research and entry to foreign markets and international retail chains • Support for attending fairs, where it is possible to negotiate sales • Support to initiatives for information exchange on market possibilities with regards to berry fruit (raspberries, blackberries), forest fruit, mushrooms, dried fruit, spices and medicinal herbs, etc. • Support to initiatives for establishing groups of producers and their activities.

The aspect	Why is it important?	Found weaknesses	Main actors	Area of activity and potential interventions
GAP - MARKET				
• Standards, certification and protection of product origin	• Entry of large retail chains from the EU (Metro, Lidl, Spar, Getro…) to the B&H market will result in increasing requirements to their suppliers. • Standards are preconditions for cooperation with foreign partners. • Without foreign markets, there is no growth and no development.	• Many producers have no HACCP, yet many who have it, only formally meeting the conditions • The standards applied by large retail chains, such as International Featured Standard and IFS Food have not yet been recognized as important by the processing companies.	• Companies and experts from the neighboring countries with a lot of experience in this area	• Information/training of companies about possibilities of introduction of standards and certification of products (one-day) • Introduction of HACCP and improvement of the quality control system • Support to certification by specific standards: • GFSI standards (IFS Food, FSSC22000, Global Gap, etc.), Halal, Kosher, Organic Certification • Checking possibilities for the protection of products based on geographical origin.

Lagging behind in terms of technological and business processes

Technological progress of the food industry in the world provided development of new products and diversification. One of the most important global trends, prevailing in the food production industry, is increasing productivity and technological development. Majority of our companies do not follow these changes and they significantly lag back in terms of equipment and technology, especially when it comes to small processing plants.

In addition to that, it would take changes of the key business processes. In our companies with strong growth, this growth is not followed by adequate management and organizational transformation. Many owners/directors have limited (professional) knowledge and, as they were often of a technical profile, they are particularly lacking market and management knowledge. Some of them are aware that they have become bottle necks for their company's development and that it would take a transformation in management. Also, in some of them there is an intention of the successors to seriously get into management of the company, while in some others, there is either no successors or they are not interested.

The aspect	Why is it important?	Found weaknesses	Main actors	Area of activity and potential interventions
GAP – TECHNOLOGICAL AND BUSINESS PROCESSES				
• Technological processes	• Technology is one of the key factors of domestic companies competitiveness	• The technology used in the food industry is most often old-fashioned, which is a special characteristic for smaller processing plants.	• Successful companies • Individuals/ • companies offering these services	• Information/training of the company about the benefits of introducing new technologies (one-day) • Support to the application of the latest technological solutions in the preparation (processing) and packing of food products and regulations of the most demanding markets: (IQF freezing technologies), • Support to purchasing of specific transportation vehicles • Support to automation of technological processes • Support to investing into facilities and infrastructure (factory plants, laboratory equipment, development of technologies for the production of new products)

The aspect	Why is it important?	Found weaknesses	Main actors	Area of activity and potential interventions
GAP – TECHNOLOGICAL AND BUSINESS PROCESSES				
• Investment capital for purchasing of new equipment	• The companies have the need for investing into better equipment and technology	• Expensive loan funds • Access to the IRB funds more difficult and conditioned • No more subsidies for the increase of competitiveness (for export) • Lack of readiness of the owner for new ways of obtaining capital (equity…) • There is still no risk capital funds	• Banks, • IRB, • Loans –guarantee fund • Western Balkans Innovation Fund • Companies with positive experience • Stock Market	• Support to purchasing of key equipment through development fund within the project • Training and consulting about the obtaining of the investment capital
• Key processes – organization of production	• Because of possibility for increasing efficiency and decreasing of production costs (lower prices and/or higher profit)	• There is some interest of the companies for this area (lean production) • Few experts for this sector in our area	• Companies and experts from the neighboring countries with good experience in this area • Faculty of Mechanical Engineering	• Information/training of companies about improvement of production organization (one-day) • Training and consulting in the organization of production (LEAN, KAIZEN…) • Connect the work of students (exercises) with resolving of such problems for specific companies.
• Managemend and organization	• Directors are decision-makers, whose all operational work and organizational culture depend on them, especially having in mind (an assumption) to delegate little…	• Enterpreneurship manner of running a company by the founders becomes a limitation in the company's growth	• Companies that resolved some of the problems successfully • Organizations having experience with training of directors (eg. Adizes) • Organizations having experience in the transfer of 'tacit' knowledge (*Eda*) • Sectoral experts	• Organization of events for the exchange of experience and knowledge for directors • Training and consulting about selected topics (according to requirements of the companies)

Environmental protection and energy efficiency

The food industry companies have significant shortcomings with regards to environmental protection. Waste water treatment and proper disposal of solid waste are requirements, which are already included into the legal framework, while, with the accession of B&H to the European Union, those requirements will become all the more significant. As a part of this, resolving the waste water issues as well as their treatment, as a necessary precondition for the health of population and preservation of water resources, above all, as well as meeting the requirements set before the companies. Also, by increasing the level of solid waste management, through enabling combustion and recycling of a part of waste, burdening of the environment will decrease and the very waste management system will seem sustainable.

It is important to emphasize the measures from the area of sustainable energy development of the food sector, by which the companies have tried to get familiar with the benefits from the energy efficiency measures and ways of application of renewable energy sources, which will also result in increasing the quality of the environment.

The aspect	Why is it important?	Found weaknesses	Main actors	Area of activity and potential interventions
GAP – ENVIRONMENTAL PROTECTION AND ENERGY EFFICIENCY				
• Environmental protection	• Non-fulfilling the standards of environmental protection may be an obstacle jeopardizing survival of majority of companies, because of the EU integration process.	• A great number of companies do not fulfill the EU standards for environmental protection.	• Companies and experts from the neighboring countries with a lot of experience in this area • Domestic companies	• Support to building of facilities and purchasing of devices for recover and treatment of technological waste waters • Support to resolving solid water disposal problems

The aspect	Why is it important?	Found weaknesses	Main actors	Area of activity and potential interventions
GAP – ENVIRONMENTAL PROTECTION AND ENERGY EFFICIENCY				
• Energy efficiency	• Increasing of energy efficiency may significantly decrease the costs and increase company's productivity.	• Modern approaches to increasing energy efficiency are very little represented with the domestic companies.	• Companies and experts from the neighboring countries with a lot of experience in this area • Domestic companies	• Information/training of companies about the possibility to increase energy efficiency (one-day) • Support for the usage of CO2 and IQF methodology in cooling systems – a longer shelf life of frozen products and energy saving • Support to replacement of environmentally acceptable fuels with environmentally acceptable fuel • Support for the usage of biomass as engine fuel • Support for the building and reconstruction of a cooling system plant, usage of waste energy for heating/cooling • Support to construction of systems using renewable energy sources.

Lack of institutional support to development

In the area of food production, there are many institutions that may directly help food industry companies. In addition to institutions whose work (or the lack thereof) a lot depends on, especially, with regards to export and import (Agency for Food Safety of Bosnia and Herzegovina, Veterinary Office of Bosnia and Herzegovina and entities' veterinary services), there are institutions having significant capacities for supporting food industry, however, those capacities, for the time being, are insufficiently used.

Branch associations, operating within the Chambers of Commerce and associations of producers, are a significant instrument in representing the interest of companies in their relations with the executive power authorities. Also, they may play a significant role in providing certain services to their members. However, according to the companies, these capacities are used in a way as to most often hear the voice of the "loudest" ones, yet, hardly getting to the issues of real significance to the majority of businessmen.

Agricultural Institute of Banja Luka, a respectable institution in the food production sector, currently employing 92 employees, including seven persons with Ph.D. degrees, eight with two-years masters degrees, one with a one-year master and 24 with bachelor degrees. An example of cooperation of this Institute with the food industry is cooperation with Banjalučka Pivara, where the application of new technologies has significantly increased participation of barley in beer production, with maintenance of the same quality, however, with a significant decrease of production costs.

Veterinary Institute of Banja Luka employs 60 staff, out of which 30 is with university degrees. Laboratories of the Institute are equipped with modern laboratory equipment for diagnostics of contagious diseases of animals, microbiological and qualitative food and fodder analysis.

Scientific Institute of Food Technologies, Novi Sad, is one of the leading institutes in the area of food analysis for the former Yugoslavia and other areas. It owns exceptional capacities for food industry technologies with a special emphasis on sustainable management of food production, creation and utilization of biological potentials and development of new technologies and products in the food chain.

Faculty of Technology, Banja Luka, is a scientific and educational institution, where the young, during their studies, obtain theoretical knowledge in all the areas of food technology, biotechnology and science of human nutrition (eg. production of nutritive products, conservation, storage of raw materials and finished products, control and management of production processes, quality assurance and food safety, etc.). The problem here is that the Faculty of Technology is very little connected with the industry and there are very little opportunities to gain valid practical knowledge.

The aspect	Why is it important?	Found weaknesses	Main actors	Area of activity and potential interventions
GAP – INSTITUTIONS TO SUPPORT DEVELOPMENT				
• Branch and other associations (Chamber of Commerce, PUZŽ RS and other associations)	• The voice of industry must be heard, if we want real changes of legal regulations and business environment	• Passive behavior of both companies and associations • Only the loudest are heard and those with "political backing"	• Brach association of the Chamber of Commerce • PUZŽ RS and other associations • CREDO Food Industry Sectoral Board • domestic companies	• Strengthening of capacities of branch associations for modern communication with private sector • Support to stronger connection of association with private sector • Support to associations in strengthening capacities for modern representation of the private sector interest
• Institutes (Agricultural and Veterinary in Banja Luka, Institute of Food Technology of Novi Sad)	• Companies can get from these Institutes the latest knowledge about technologies that are key ones for competitiveness of the sector	• Although individual Institutes present real "treasuries" of knowledge, they are insufficiently used by the companies	• Agricultural Institute in Banja Luka, • Veterinary Institute in Banja Luka, • Institute of Food Technologies of Novi Sad, • CREDO Food Industry Sectoral Board • domestic companies	• Information/training of companies about possibilities in transfer of know-how (one-day) • Support to transfer of know-how through projects, consulting, designing, feasibility studies, elaborated reports on individual products, training and such.

The aspect	Why is it important?	Found weaknesses	Main actors	Area of activity and potential interventions
GAP – INSTITUTIONS TO SUPPORT DEVELOPMENT				
• Faculty of Technology (TFBL)	• Faculty of Technology is the main supplier of companies with highly educated staff.	• Faculty of Technology has almost no connection with the industry.	• Faculty of Technology • CREDO Food Industry Sectoral Board • Domestic companies	• Initiating presentation and activation of the capacities of the Faculty of Technology to support the industry • Initiating introduction of practical education for TFBL students (food department) at food industry companies • Initiating change of the curricula of the TFBL according to the food industry SMEs' requirements • Promotion of the food sector and attractiveness of jobs in the food sector

4. Leather and footwear industry

4.1. Where is the leather and footwear industry today?

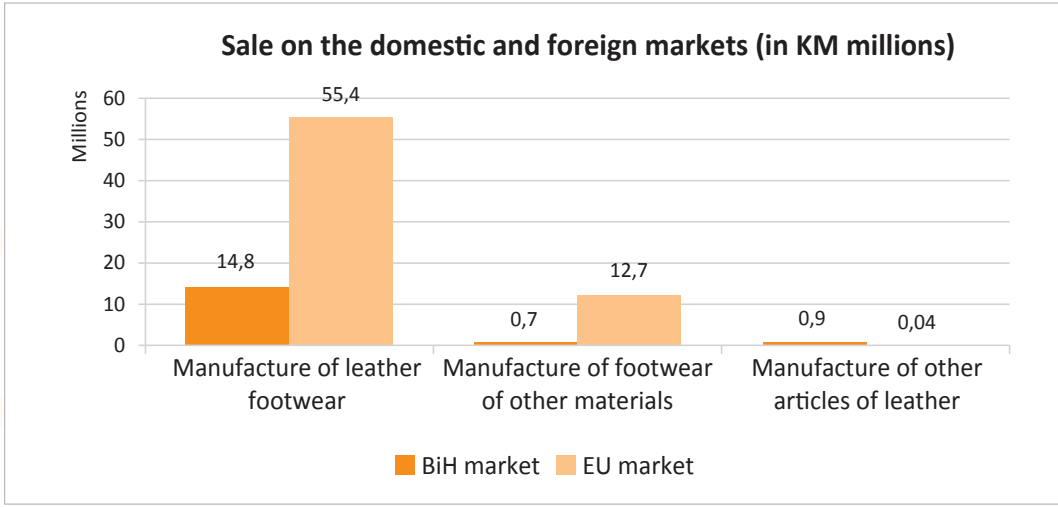
The area in which the CREDO Project is being implemented has a long tradition and a good international reputation when it comes to the leather and footwear industry. Progress has been made in the modernization of production units and introduction of new technologies, with the aim for the whole sector to become a part of the global market. This area has an experienced and qualified labor force with fine knowledge and practical experience. Its close vicinity to the markets of the Western and Eastern Europe is its main advantage. Leather and footwear industry owns capacities and good reputation on the European market. New partnerships have brought new equipment and know-how in company management.

Leather and footwear sector, in 44 companies, registered for these activities, employs 4,150 employees. Total income that is realized in the area of all the 34 municipalities, in this sector, is about KM 90 millions. Out of that, about 80% of it goes to export and profit rate is about 7%. This confirms that the sector, on the whole, has a positive business and is strongly export-oriented. The biggest number of activities is in the production of leather footwear, where 33 companies operate and the remaining 11 deal with either production of shoes made of other materials or production of leather accessories.

Market position of footwear industry

Total sales that the leather and footwear industry realized in the area of all the 34 municipalities is about KM 90 millions. Out of that, about 80% goes for export and KM 6 million is the realized profit. This shows that the sector, on the whole, operates positively and is strongly export-oriented.

Graph 10 - Sale on the domestic and foreign markets (in KM millions)



Source: APIF RS and AFIP FBiH

On the basis of researches performed until now, it may be concluded that the biggest dynamic is to be found in the leather footwear production sector. This is confirmed by quantitative and qualitative indicators (qualitative assessment of participants in research). All the other activities within this sector are to be neglected.

The companies that have marked high growth rates of production and growth of the number of jobs are mainly oriented towards external markets. This is why all the bigger companies are export-oriented, while those who do not export are mainly smaller companies.

The most significant market, which leather and footwear industry producers work for, consists of large European producers. This is related to several leading countries in this branch – Germany, Italy, Austria, etc. It must be emphasized that individual producers have made finished shoes for large international brands. Thus, for example, Sanino, Derventa, produces for Adidas, while Sportek, Kotor Varoš, for Nike, soccer shoes worn by the most famous international soccer player.

Cristiano Ronaldo wears football boots that firm Sportek is producing for Nike

European producers annually produce about 2.1 billions of pairs of shoes, in the value of about 49 billion Euros. By this, the EU covers about 5% of international production. Even though this seems small in the international context, it must be emphasized that the European producers focus on high market segments, where a decisive role is the role of design and high quality of shoes. Also, there is a trend, according to which European producers move direct production from the Far East, to the areas inside the EU or in the close vicinity of the EU. This happens because of the increase of production costs in the Far East and, more importantly, long delivery times and lack of flexibility of producers from the Far East. Also, one of the reasons is that this area of Central and Eastern Europe, when globally observed, produces the highest quality leather (because of the breed and manner of cattle breeding), which is important for a high quality of footwear, which the European producers are focused on.

The key reason why our companies may do business with large European producers is their ability to produce footwear of top quality, with flexibility for customers' demands, short delivery times and a relatively low price.

Producers, in the area covered by CREDO Project, are concentrated in 4-5 municipalities in which there is 90% of production of shoes in this area. Domestic production of shoes has a long tradition, from the former SFRY, where the production of shoes was done in several large socially-owned companies. Majority of owners/directors of the present factories used to be directors of those companies from the previous system, which are well familiar with the market and have connections with the old, particularly, European customers.

The creation of value added in lohn production

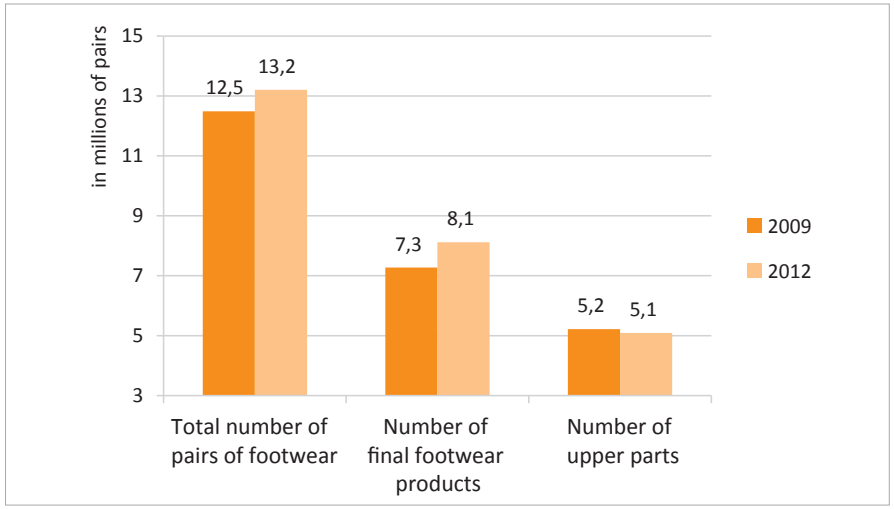
Dominant relations with the European customers mean production under contract, according to which the customer is also a supplier of raw materials. This is the so-called lohn production, where, in principle, it does not create a lot of additional value. However, the analysis of value chain has come up with some surprising knowledge in this area. Namely, not all lohn production is the same. The usual assumption, that the lohn production does not create a lot of additional values, has proven to be accurate with one part of the producers, most often with those less developed. Such companies mainly produce and export only upper parts of shoes, the so-called 'upper part', while all the other operations are performed elsewhere.

Partial lohn production

Integrated lohn production

However, it is surprising that the lohn production, in which there is a higher degree of integration, creates much more added value. The higher the degree of integration in production, the higher the added value. Also, there is a noticeable trend that the producers have advanced from simple operations towards the integration of several operations to the integrated production of finished shoes.

Graph 11 - Number of produced pairs of shoes in the RS (in millions of pairs)



Source: Statistical Institute of the RS

This is seen according to data on production shown in Graph 11, where the number of exported pairs of finished shoes has significantly increased, whereas the total number of exported pairs of upper shoe parts has declined. There is also a small part of the companies trying to develop and produce domestic shoe models; however, this presents less than 5% of production. Those companies mainly produce shoes for the domestic market – private and public consumption.

Production and technology

Our most advanced shoe producers are not far from their competitors today in terms of technology and machines used in production. The other producers have sound, but old equipment. New technology and machines usually come from large European companies. This equipment comes with production of new series and models, on the basis of the contract between a foreign partner and local producers. What has been noted is that the majority of domestic companies do not have sufficient capital for purchasing of such equipment.

Production facility, „Sanino“ Derventa

There is another shortcoming. Namely, majority of European produces have developed capacities for technical development and preparation of production (transformation from the designer drawing to complete technical documentation ready for production). Our companies still lack this capacity.

It is the same thing with the design. Majority of European companies either have their own design or they hire specialized designing companies. Our companies do not even have this function. Surveyed companies believe that it makes no sense to develop this function within individual producers, as one designer or a designing company can serve the whole sector in the region.

Supply of raw materials

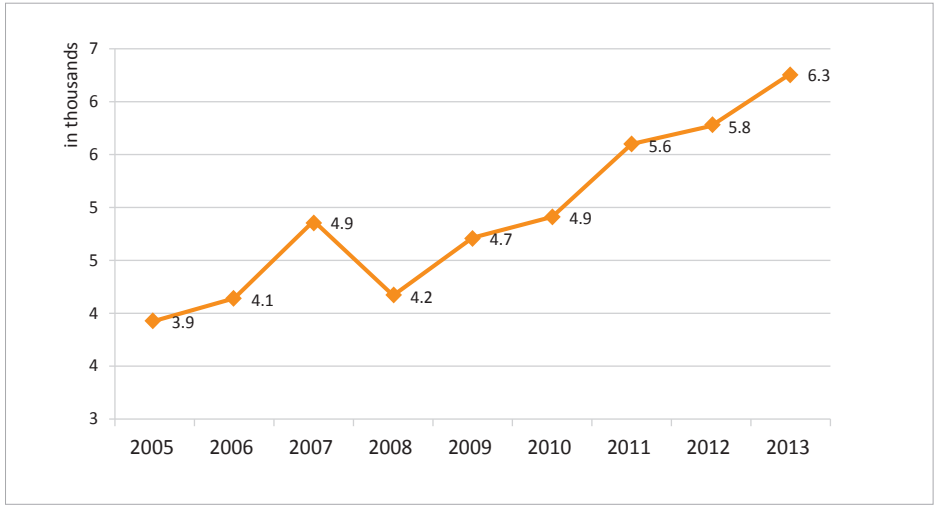
What is obvious, in terms of raw materials, is that almost 100% of input materials are being imported. A chronic problem, which occurs from one year to the next, is the lack of leather production, as the main raw material. During the SFRY times, this area accommodated some very successful plants for leather production, but they got closed after the war. Currently, there is only one factory which, nominally, exists, but there is no production in it. This is rather negative, as one of the most significant determinants for competitiveness and creation of added value in the shoe production is precisely the leather production. This is particularly unfavorable, bearing in mind the quantity of raw, untreated leather that is exported from BiH. In 2013, the value

of about KM 125 million of leather was exported from Bosnia and Herzegovina, while our processing companies, from the area covered by the CREDO Project, exported the value of shoes of about KM 60 millions. What is even worse, according to information from shoe producers, a part of raw leather is even thrown away. Namely, this is a huge shortcoming, which, if resolved, could significantly increase the potential of this industry.

The work force

Present labor force in the footwear sector is qualified and well trained; however, the problem here is that the age structure of workers in this industry is disadvantageous. The biggest part of well qualified workers consists of the ones who used to perform this job in the previous system, they are relatively older and they may be expected to retire in a while. The biggest problem here is the lack of new qualified workers, who could replace the ones who are about to retire and respond to the needs of production increase.

Graph 12 – Number of employees in footwear production in the Republic of Srpska (in thousands)



Source: Statistical Institute of the RS

As we can see in Graph 12, the number of employees in this sector has increased a lot in the last nine years. In 2013, the number of employees increased by 494 employees. However, in 2013/2014 school year,

only 144 secondary school students specialized in footwear production. This is very little compared to the needs. Producers, in this situation, tend to have change of qualifications of people with other secondary education, which creates additional costs to companies. Such people get employed and receive their salaries while being trained and, also, those who train them work less in production, etc. and all this costs. Even though increasing of employment is one of the most discussed themes in the society, when it comes to change of qualifications, majority of companies have no support. An exception is the company Sanino, which, supported by the project "Prilika Plus" by the SME Development Agency of the Republic of Srpska, created a Training Center for footwear workers, which has already trained 65 people. It should be noted that it is expected that the Faculty of Technology in Banja Luka will open a department for specializing in footwear production, so, in 4-5 years we could expect to have educated engineers and designers in this area.

Cooperation between the companies

Currently, the cooperation happens at an ad hoc level, depending on individual initiatives between individual companies. Generally speaking, cooperation between companies is at a low level, unlike in the EU and developed world, where the companies often intensively cooperate. The producers often perform similar activities, but all do it separately for themselves, even though they could have a joint approach to achieve better results. This is also related to small companies that produce its finished goods, which mainly operate as independent.

In the previous system, all the producers of leather and footwear were organized in the so-called complex organizations of associated labor (SOUR), which have mostly encompassed one whole value chain, from production of raw materials to final products. In our area, SOUR Krajišnik has encompassed all the leather and footwear producers in the municipalities of Banja Luka, Kotor Varoš and Laktaši. As we have said already, the owners and directors of the present companies in this area come from the previous system and have the knowledge and experience in connection and joint work of several connected companies.

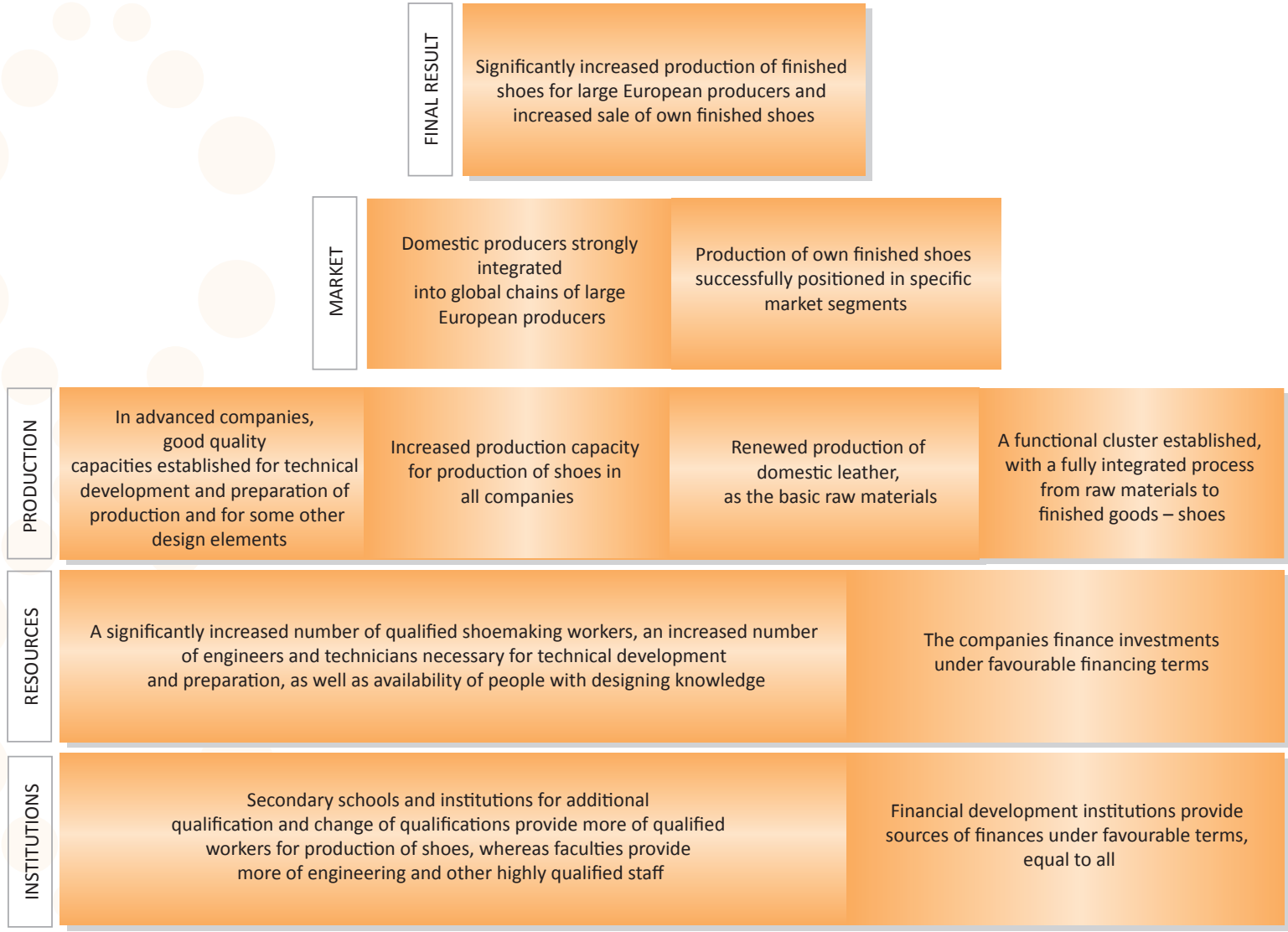
Support and development institutions for footwear industry

Except for the Chambers of Commerce, the leather and footwear industry companies are rarely members of some other business associations. The RS Chamber of Commerce is an institution, which is a main RS Government partner in terms of representing the private sector in defining different public policies. Leather and Footwear Department, within the Chamber, was very active in the area of advocating for and lobbying for different initiatives, with more or less of success. In principle, the initiatives towards the state institutions at the BiH level for a change of certain customs regulations had no results. At the same time, the entity level had more of an understanding for these initiatives, including the subsidies by workers or financial support for competitiveness and export.

SME Development Agency of the RS and their most significant project for the footwear sector, the project "Prilika Plus", financed by the Swiss Government, has supported establishing of a Training Center at the company Sanino. Until now, this Center has trained 65 workers, which later got employed at the Sanino company.

Generally, no cooperation exists between the sectors and education institutions (secondary schools or faculties). The Faculty of Technology of Banja Luka has no programs that deal with the production of footwear or design of these products. Even though the production of shoes generates constant growth and increase of employment, there are very few secondary schools that educate shoemakers and other relevant profiles. The reason for this is the lack of measures of public policies that would connect the education system with businesses. The first specific activity between the faculty and footwear producers is expected to happen to the end of this year. Namely, Faculty of Technology of Banja Luka is planning to introduce a new study program related to the production of footwear and design. Currently, the program has not been accredited yet and this will be done to the end of the year.

4.2. Where do we want to get to?



4.3. Which are the most significant gaps to be overcome?

On the basis of the so-far performed analysis of the existing situation and projections of a desirable future state, it results that the most significant gaps, to be overcome between these two positions, are as follows:

- Qualified labor force
- Technological aspect of production and business processes
- Cooperation between the companies
- Lack of domestic raw materials

Qualified labor force

Footwear production sector has been on a strong and continuous growth, with an increasing need for qualified shoemakers. The biggest problem here is the lack of new qualified workers, who could replace the ones getting retired and respond to the needs of production increase. This presents a significant problem for further growth of this sector.

What the education system produces is insufficient. As we have stated already in the analysis of the current situation, during the last year, the number of employees increased by 494 employees, while, at the same time, only 144 secondary school pupils got enrolled into the shoe-making department. This is very little compared to the needs. Producers, in such a situation, over bridge the issue by doing re-qualification of people with other occupations, which creates additional costs to companies. Those people get employed and get their salaries while being trained and, also, those who train them work less in production, etc. all of which creates costs. Even though the increase of employment is one of the most mentioned topics in the society, in the area of re-qualification, the majority of companies do not receive any support. An exception is the company Sanino, which was supported by the project “Prilika Plus” (Opportunity Plus) of the Agency for SME Development of the Republic of Srpska and it created a Center for Training of Shoe-Makers, where 65 persons were trained already. Such initiatives could be larger if we want to have undisturbed growth of this sector.

Also, it is expected that opening of a department for production and design of shoes at the Faculty of Technology in Banja Luka, therefore it is expected to have educated engineers and shoe designers in this area in the next 4-5 years.

The aspect	Why is it important?	Found weaknesses	Main actors	Area of activity and potential interventions
GAP – LACK OF QUALIFIED LABOR FORCE				
• Key skills - • shoemakers	• It presents a factor without which there would be no growth of this sector	• Secondary school occupational education does not produce shoemakers with practical skills • Little transfer of know-how from experienced shoemakers to the young • No continuous practical training for shoemakers	• Secondary School centers • Sanino/Prilika Plus • Companies interested to organize training	• Support to building partnership relations between the project/centers for requalification of the adults (Sanino, Prilika Plus, etc.) and companies • Support to building partnership relations between the secondary schools and companies
• Key skills - Technologists / Engineers / Designers	• It presents competitive advantage – Technologists / Engineers / Designers	• Faculty (or faculties) do not produce sufficient Technologists / Engineers for the industry	• Faculty of Technology • Owners /SME Directors	• Support to transfer of know-how and skills from experienced technologists and shoemakers to the young (eg. 6-months' programs, etc.) • Building of partnership relations between the Faculty of Technology and companies

Technological aspect of production and business processes

The key advantage of our footwear industry is technological and organizational ability to have a reliable and fast delivery, within 15 days, of high-quality products to European customers, unlike Asian competition, which can hardly deliver the goods below 45 days. This advantage should be further developed, as the relation with the European partners should be based on it.

In the footwear industry, all the producers follow developmental route of the three leading companies, Sportek, Sanino and Bema. Namely, this is the route from the production of simple parts, towards integrating several parts into finished goods. However, the process of integration of production process has not been completed for these three leading companies. Namely, only Sportek owns technical development, that is, technical preparation of production, while these two companies lack these functions, as the first step in further integrating of the production process, while all, as the final step, lack designing of new products. These functions are also significant for those companies, focusing on the sale of own models.

Technical preparation, which presents production in a small scale, implies preparation of prototypes based on obtained design, as well as making of technical drawings and technical documentation, so the production could be fully prepared. In present times, this is the first step for the leading companies in further integration of production. The further step is design. However, only the famous international producers have their capacities in this area, whereas the most often practice is to hire external designers or designing companies. Regardless to that, the companies must be ready and have qualified staff to be able to communicate, in a high-quality manner, to designers.

In addition to this, it would also take changes of the key business processes. In our companies with strong growth, this growth is not supported by adequate management and organizational transformation. Many owners/directors are aware that they are becoming bottle necks for their company's development and that it would take a transformation in management. Also, in some of them there is an intention of the successors to seriously get into management of the company, while in some others, there is either no successors or they are not interested.

The aspect	Why is it important?	Found weaknesses	Main actors	Area of activity and potential interventions
GAP – TECHNOLOGICAL ASPECTS OF PRODUCTION AND BUSINESS PROCESSES				
• Investment capital for purchasing of new equipment and introduction of new technologies	• Companies have the need for investment into better equipment and technology • Introduction of new products and technologies	• Expensive loans • Access to the IRB funds more difficult and conditioned • No more subsidies for increasing competitiveness (for export)? • Owners not ready to try new ways of obtaining capital (equity…) • There are still no risk capital funds	• Banks, • IRB, • Loans and Guarantee Fund • Western Balkans Innovation Fund? • Companies with positive experience • Stock market	• Support to purchasing of key equipment through the project's development fund • Training and consulting on obtaining investment capital
• Key processes – technical preparation of development and design	• Increase of productivity and speed of reaction to customers' orders through: • Decrease of the time necessary for the preparation and execution of production • Simulation and removal of possible problems/mistakes • Flexibility to changes in customers' requirements	• Except in Sportek, there is no technical preparation of production • The companies are aware of the need for support in this area • Very few companies have their products (a part of companies' strategy is: own product vs. service production)	• Successful companies (eg. Sportek) • Faculty of Technology • Individuals/ • companies offering these services	• Checking of possibilities of cooperation in this area (joint capacity for technical preparation, development and design) • Support to strengthening cooperation between the faculties and companies in technical preparation of development and design • Support to training of key staff • Support to companies doing integrated lohn production (finished shoes) to start producing own products

The aspect	Why is it important?	Found weaknesses	Main actors	Area of activity and potential interventions
GAP – TECHNOLOGICAL ASPECTS OF PRODUCTION AND BUSINESS PROCESSES				
• Key processes – organization of production	• Increase of productivity and speed of reaction to customer orders through increasing efficiency and decreasing production costs (lower prices and/or higher profit)	• There is interest of companies for this area • Few experts in this area are in this region	• Companies and experts from the neighboring countries with good experience in this area • Faculty of Technology	• Training and consulting in the organization of production • Connect the work of students (exercises) with problem-solving in specific companies
• Management and organization	• Directors are decision-makers, as all operational activities and organizational culture depend on them, especially having in mind (an assumption) that they delegate very little… • Entrepreneurial manner of companies' management by the founders when there are limitations in the company growth	• Directors in search of practical solutions, experiences and their exchange • Some owners are aware that they have become bottle necks for their companies' development and that transformation in management is necessary • Some intend to have their successors get seriously involved in running the company, some do not, as they do not have them or these are not interested	• Companies, which have successfully resolved a problem, • Organizations having experience in training of directors (eg. Adizes) • Organizations having experience in "tacit" transfer of knowledge (*Eda*) • Sectoral experts	• Organization of events for the exchange of experience and knowledge for Directors • Training and consulting about selected topics (preparation according to the companies' requirements)
• Introduction of quality standards and certification	• ISO standards are preconditions for cooperation with foreign partners • There will be no growth and development without foreign markets	• A great number of small companies has a possibility to export, but their standards (CE, ISO) are an obstacle	• Companies and experts from the neighboring countries with good experience in this area • Faculty of Mechanical Engineering in BL	• Support to companies in introducing of the standards and certification of the products

Cooperation between the companies

Unlike the other sectors, which have been in the focus of the CREDO Project, the footwear industry companies are exceptionally well geographically concentrated in the area of the municipalities of Prnjavor, Derventa, Kotor Varoš and other municipalities in this area. Also, the owners and directors of the present companies in this area come from the previous system, where all the leather and footwear producers were associated and they have the knowledge and experience in connecting and joint work of several connected companies.

Which is why these companies are perfect for stronger mutual cooperation. However, the initiative started by the GTZ a while ago, was not successful for a number of reasons. It seems now that such an initiative was more successful, as the shoemakers have, in the meantime, ended up with the need to join up, because they see that further development of the sector depends on their ability to cooperate more strongly. The approach here is to build trust and initiate individual possibilities of mutual cooperation, however, if this proves to work, then the formalizing this cooperation would be in the form of a cluster.

The aspect	Why is it important?	Found weaknesses	Main actors	Area of activity and potential interventions
GAP – COOPERATION BETWEEN THE COMPANIES				
• Establishing Of a better cooperation between domestic companies	• Important for the increase of capacities of the sector for cooperation with foreign producers • Significant increase of the sector's capacity for the production of own products	• Key problem is the lack of trust amongst the companies • Domestic companies are geographically concentrated, though the cooperation is still at a low level	• Domestic footwear companies, particularly those with positive cooperation experience	• Organize events for the exchange of experience and knowledge for directors • Organize joint training in individual areas • Support in identification of possibilities for cooperation of domestic companies • Support to the initiatives for formalizing the clusters
• Establishing of a better cooperation with foreign partners (bigger and better export contracts)	• The most significant factor for increasing the scope of production	• There are market possibilities, which domestic companies may face on their own	• Foreign partner companies • Domestic companies	• Support in strengthening and expansion of cooperation with foreign partners • Support in the identification of market possibilities requiring bigger cooperation of domestic companies

Lack of domestic raw materials

What is obvious in terms of raw materials is that almost 100% of input material is being imported. A chronic problem, occurring from one year to the next, is a constant lack of leather production, as the basic raw material. At the time of the SFRY, there were several successful leather production facilities; however, they got closed after the war. Currently, there is only one factory which, in principle, exists, but there is also no production in it.

This is a rather unfavorable issue, as one of the most significant determinants for competitiveness and creation of added value in the production of footwear is precisely the production of leather. This is particularly unfavorable having in mind the quantity of raw, untreated leather, which is exported from BiH. In 2013, the value of KM 125 millions of raw leather was exported from Bosnia and Herzegovina, and, as a reminder, our processing factories, from the area covered by CREDO, export the value of shoes of about KM 60 millions. Even worse, according to information of leather producers, a part of raw leathers is also disposed of. Namely, this is a huge shortcoming, which, if resolved, could significantly increase the potential of this industry.

The aspect	Why is it important?	Found weaknesses	Main actors	Area of activity and potential interventions
GAP – LACK OF DOMESTIC RAW MATERIALS				
• Investing into capacities for raw leather processing	• Better possibilities for creation of higher added value in the sector	• Domestic companies import all the production materials • KM 125 millions of raw leather is exported from BiH	• Foreign partner companies • Domestic companies	• Support in the examination of possibilities to have joint investments of domestic companies and foreign partners in processing of raw leather

5. Non-specific problems in the economy

5.1. Institutions for support and development

Companies generally consider to have almost no support from the institutions. They say that, when they need such a help, organizations and individuals who can help them are very rare. Generally, our institutions are not included in economic life and are not interested in economic development. Public policies for the development of industrial sectors are mostly based on empty phrases and those documents are mainly a "dead letter". Those policies are also brought without significant consultations with business companies, they are often not developed into specific activities and project tasks, no financial constructions for realization of priority projects are done and no reports on realization of these projects are done at all, either in public or in professional circles.

Different institutions are trying to provide some help to the economy, but mostly on short-term basis and with limited horizon. Ministry of Foreign Trade and Economic Relations (MoFTER) of Bosnia and Herzegovina is responsible for foreign trade and economic development, including the development of SMEs. It is necessary to say that companies rarely get the right support from this institution, although there are initiatives to change certain regulations.

RS Ministry of Industry, Energy and Mining is responsible for industrial policy and improving the competitiveness of enterprises in the Republic of Serbska. The most recognizable of their activities is the allocation of subsidies for development projects of enterprises, i to improve competitiveness. However, this type of assistance as of 2014 no longer exists.

Chambers of Commerce are institutions that are the main partner of the government, and represent the private sector in defining various policies. The chambers are non-governmental, independent, professional and business organizations, independent and non-profit public-legal association of business entities and business associations. Members of the Chambers are: companies, banks, insurance companies and other financial institutions that perform economic activities in the Republic of Serbska. However, of the total number of companies surveyed, only 20% are satisfied with the support provided by chambers economy. This support is mainly reflected in specific training, support in the preparation of standards, etc.

The RS Republic Agency for Development of Small and Medium Enterprises has started its operations in 2004 and operates as a legal entity and non-profit organizations. The main objective is the promotion and advancement in the area of small and medium enterprises. The Agency is responsible for the provision of professional services to encourage the establishment, operation and development of SMEs, encouraging investment in SMEs, as well as to support the establishment of entrepreneurial infrastructure. According to the interviewed companies, RARS RS did not support their work sufficiently.

Export Promotion Agency of Bosnia and Herzegovina - BHEPA, which operates within the Foreign Trade Chamber of Bosnia and Herzegovina, is established in 2008 with the aim of strengthening the capacity of the country for the promotion and expansion of exports by promoting products on the international level (Foreign Trade Chamber of Bosnia and Herzegovina, 2014). Based on data obtained during the interview, only a small number of companies are familiar with the activities and services provided by BHEPA.

As far as educational institutions, the quality of the knowledge and practical skills of students in particular are very limited. Companies are willing to work closely with these schools, so that students would be allowed for practice to get right skills from which students and companies can benefit . However, such cooperation does not exist. In addition, motivation and work habits of those who complete these schools are often a problem, because today in B&H there is a different value system relative to that which would be desirable from the standpoint of the industry .

A very similar situation is with the universities and faculties . There is an overproduction of personnel in occupations for which there is no market demand, and the number of students in lacking professions such as engineers and technologists is not enough in comparison with the demand in the economy. Also here there is insufficient cooperation between the universities and the economy, although the big role of individuals from certain faculties must be stressed, and some companies see this as the only support that exists in this region.

5.2. The financing of investments

One of the big problems that companies are currently facing are unfavorable lending conditions. Banks are “very expensive”. Commercial lending rates are much higher in comparison to the EU . Thus, for example, for loan in Slovenia and the same amount and the same purpose, the interest rate is 3.9 % and 6.62 % in B&H .

The positive thing mentioned by businessmen themselves in financing investments are subsidies given by certain ministries. As for the industry, the most common form of subsidy is the one for increasing competitiveness given by RS Ministry of Industry, Energy and Mining. The aim of subsidy is supporting the implementation of development projects of economic entities , in order to improve their development , improving competitiveness , establishing quality systems as well as increasing employment . The maximum amount is 200.000 KM. In 2013, the Ministry has spent 19.6 million KM to support export-oriented companies from different sectors. However, as we said, this kind of assistance as of 2014 no longer exists.

In addition to the grants that are awarded , it is certainly important to mention the assistance to the sector through credit lines of Investment-Development Bank of the Republic of Serbska. The amounts range from KM 30.000 to KM 5,000,000, depending on the purpose and form of organization of users, the payback period is 1-15 years, grace period ranges from 12 to 24 months , with interest rates ranging from 4 % to 4.9 %. However , some business respondents complain that these loans can be obtained only by political affiliation and that they are not equally available to all .

5.3. Business environment and business framework conditions

From interviews with companies, the following gaps that burden company operations in relation to the state administration at all levels are identified, as follows:

- Complicated and unclear procedures for the resolution of administrative tasks,
- Too long waiting time for obtaining certain licenses, permits, etc.,
- Poor communication of institutions with enterprises,
- Poor relationship of administrative workers to enterprises,
- High prices paid for various fees, building permits,
- High prices for Tender Documentation,
- Lack of incentives for production activities when it comes to the cost of administrative fees.

Our companies are in a disadvantage in terms of the environment in which they operate, in relation to European competition. Unlike us, cities, regions and countries in EU are fighting to attract firms, in order to employ people and pay taxes on their territories. Therefore, the conditions in which firms operate in the EU are much more favorable.

We have a completely opposite situation. Existing tax legislation indicates that the real economy is burdened with many tangible and intangible liabilities. For example, in the RS tax rates are formally low (profit tax 10% and VAT 17%), but the legislative is very complicated, so the company is obliged to adhere to over 20 laws related to fiscal and parafiscal charges, and about 30 laws that talk about the penalty provisions. The firms submit more than 100 different applications and forms in the course of the year. In the Federation, the situation is similar for many things, except for one, significant, positive exception. Export-oriented firms in Federation are supported by fiscal stimulus measures. Namely, all companies that export more than 30% of total sales, do not pay profit tax. This is a significant incentive and positive move of decision-makers in the area of fiscal policy.

This is an exception, but generally most of procedures are harder and more complicated for firms, because these procedures are a source of "institutional rent." For example, process of issuing building permits and other permits is very complicated and laborious task, and requires a significant financial effort and a large number of administrative procedures. There are also some incongruities that make life difficult for firms. State or entity may be delayed in payment to firms (public procurement, VAT, etc.), but the

reverse is not possible. It often happens that the state has debt to particular company, but the company still has to pay its debts to state. Also, B&H as a state has not adopted the regulations and directives of the EU in terms of technical requirements and characteristics that products must meet, so it is necessary to meet the criteria and procedures specifically designed in Bosnia and Herzegovina.

These are just examples, there are more of them and we are not going to state all of them here but it can be concluded that the legal and institutional framework in which the economy operates is very complicated, there are intricate and lengthy procedures that require a lot of costs, formal and informal, and that those who make decision on this framework often do not understand the conditions under which the economy functions.

5.4 The culture and values in the society

Modern approach to economic growth and development means that the productivity and competitiveness of a country are not conditioned by its material assets - natural resources , physical and financial capital, but by “intangible” characteristics of the population - the quality and quantity of knowledge, entrepreneurship, creativity, innovation, work ethic. Only societies that value highest civilizational characteristics such as creativity , knowledge and work can, in modern conditions, count on greater prosperity . In such societies , these values play a major role not only in the economy but also in the building of social structures , in general change in education, culture, mentality and quality of life.

However, characteristics valued in B&H, unfortunately, are not these. Neither RS , nor FB&H are a society that creates fertile ground for creativity , knowledge and work. In our society , instead of knowledge and ideas there is more focus on party and family ties, instead of hard work, ability to accomplish things without work, usually to own advantage and to the detriment of others, is valued more. In our system of values least valued are those that create most of new, added value , which is not possible without creativity , knowledge and work . It is well known that the business people from the real sector are often on the margins of society by reputation. Even the common name for the business people - “privatnik” has negative connotations and bad reputation.

This is supported by scientific research in this field . Lack of confidence among the people of Bosnia and Herzegovina recorded in these studies , is a direct result of poor system of values . According to these studies (eg, Salaj 2008 , the European Values Studies) , measured general level of confidence shows that only 16 % of inhabitants believe that most people can be trusted. Let us remind that in countries where the creativity , knowledge and work are highly valued, such as the Scandinavian countries, according to the same research, 60-65 % of people trust other people.

Having this in mind , it becomes clear why are institution uninterested in economic development , why “privatniks” have a bad reputation, why business associations are weak , why there is no real dialogue between business and government , and why , at the end , there is no compelling vision and development strategy. Because of this value system we have fallen into the trap from which it is difficult to get out. Our society does not value creativity, knowledge and work sufficiently, and the result is current situation - low creation of new, added value, low productivity and slow development. It is therefore important to support the producers in the metal, wood, food and footwear industry, because they are the exception to the rule and a positive example of how creativity , knowledge and work can create good results .

Concluding remarks

The analysis presented in this document is not an ordinary analysis. The usual approach to analyses, especially in B&H, is to collect, process and analyze available statistical data and, on the basis of data, come up with certain conclusions. However, this analysis and "Value Chain Analysis of Key Industry Sectors", within the CREDO Project, were created somewhat differently. Even though we have used available statistical data, the main focus was on the interaction of companies and their evaluation of the industry situation and its potentials. We may freely say that these analyses are the result of work not only of their authors, but, also, of all people from more than 160 companies participating in this process. We would hereby like to express our deepest gratitude to them for having the time and will to see us during our visits, put up with our, at times, 'stupid' questions, share with us their views on the key issues and challenges and actively participate in the process.

This analysis is different in something else as well. A classical analysis mainly uses some averages of some indicators, in order to bring conclusions about a certain phenomenon. In addition to the average, we got focused onto performances of the best and most successful ones. The reason is simple. They have managed to overcome the main difficulties the majority of them are faced with, hence, it is them who present possibilities and route to be used by the less successful ones. Even though there is very few of them, they serve as a good signpost for the resolution of problems that most of others find irresolvable. They are an obvious proof that quite a lot is possible after all. Defining of such activities and measures, which may improve the current situation, is maybe the most significant part of this analysis. It does not end with a simple establishing of the situation. In line with the principles of gap analysis, for each of the sectors, the proposed measures are aimed at overcoming of the problems and utilization of potentials that each of the sectors have.

The results of this analysis are somewhat surprising. Above all, a surprising conclusion from the "Baseline Business Sectors Study" of the CREDO Project was reconfirmed, which is that the industry relatively successfully operates despite difficult market conditions, however, it is too small for some significant influence over the living standard of people. What is an additional surprise related to this conclusion is the fact there here there are some top companies, with top staff, the most modern technologies and excellent and competitive products. However, the number of these is very small.

The majority of other companies are faced with significant problems, out of which many are common problems. When we look at all the analyzed sectors, we see that there are several common issues for all

the companies. The first thing is the question of the market. The majority of our companies have a problem with launching their products on the market. This is particularly related to the EU market, at which there is fierce competition, the market which has proved to be the key for the progress of our economy. Above all, our businessmen often do not know this market well to be able to adapt their production to it and, even more, potential customers on those markets have either insufficient or no knowledge about the products and production possibilities of our companies. If we want to have dynamic progress, we cannot rely, then, on having the customers appear on their own. Here we would have to have a proactive approach. Further, the supply and demand in the EU market and other international markets is constantly changing, the old products are being improved and the new ones are being introduced. If our companies can follow those technological and marketing trends, they cannot be competitive. Development of products is not simple and it requires great knowledge and big investments, but without that, there will be no survival.

The second common thing leaning onto the previous one is the issue of people and knowledge. Under our conditions, qualified staff at all levels of production is lacking: from qualified workers, technicians to managers of production, and, especially, engineers. When it comes to the existing engineering staff, the knowledge and skills are often based on the knowledge of the older, experienced engineers, out of which many are competent in the production and technological part. However, the problem with this staff is knowledge about new technologies. European competition uses new technologies for designing and this is what they base their advantage on. Also, one of the most significant issues with human resources at these companies is the lack of people and capacities for a high-quality market approach. European competition pays much attention to this area and it invests into monitoring of changes on the existing market, finding new markets, monitoring of competition, foreseeing of future market trends, etc. When it comes to the majority of our companies, this function has been neglected and there is very few people dealing with the market in such a way. This profile of people would have to be educated from both technological and market and economical aspect.

The third issue, also, leaning onto the previous two, is the issue of technology. About two thirds of producers have either completely obsolete equipment, which must be replaced as soon as possible, or equipment which is obsolete, but may still be used for a while. Such equipment increases the maintenance costs, thus increasing the costs of production. In addition to that, utilization of obsolete equipment in production requires a great deal of manual work. Except in the cases when the companies are focused on individual market segments (niche markets), where there is no production in large series (individual and small-series production), such a production most frequently is not competitive at the domestic and, especially not, at European and other markets.

The fourth issue, which is a huge problem for everyone, is business environment and general business conditions. Our companies are in quite an unfavorable position in terms of the market conditions, which they operate on, compared to the European competition. Unlike here, the cities, regions and states of the EU struggle a lot to attract companies, which would employ people on their territory and pay taxes. This is why the conditions in which the companies do business in the EU are much more favorable. The situation here is totally opposite. Legal regulations dealing with the industry businesses is rather complicated, so the companies are obliged to adhere to more than 20 laws related to a great number of fiscal and parafiscal duties, as well as about 30 laws with penal provisions, with the companies being obliged to, during the year, submit more than 100 different applications and forms.

There are also other problems, which significantly affect the work of the companies (financing of investments, infrastructure, especially energy infrastructure, cooperation between the companies is at a low level, etc.), however, we have focused here on these four being the most significant ones and carrying the biggest "specific weight".

Unfortunately, it seems that it is not clear in our society that the level of our living standard depends on our ability to create value. The economy is fully left on its own and we are not doing anything to change this situation for the better. Even though we do have elements significant for the development of economy, good private sector, scientific and technological institutions (universities, faculties, institutes, etc.), educational institutions, governmental institutions for the development of economy and others, we do not use them sufficiently. Until now, we have not managed to ensure successful and systematic interaction of these different elements into one connected and coordinated framework, known in theory and practice as innovation system. In this way, a significant potential for the creation of value is being missed, i.e. embodiment of knowledge into products and services, as the most important way of wealth creation in times of globalization.

As we have said already, our society insufficiently values creativity, knowledge and work, thus the result is the way it is – too little creation of new, added value, low productivity and slow development. This is why it is important to support producers in the sectors of metal industry, wood-processing industry, food industry and footwear industry, as they are an exception to the rule and a positive example of how creativity, knowledge and work may create good results.

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Annex

List of Companies in questionnaire based survey (July - September 2013)

No.	Company name	Municipality/ City	Economic sector
1	Elas komerc d.o.o.	Banja Luka	Metal industry
2	Mon Amie d.o.o.	Banja Luka	Metal industry
3	Procesna oprema d.o.o.	Laktaši	Metal industry
4	Tri Best d.o.o.	Banja Luka	Metal industry
5	Bira d.d.	Bihać	Metal industry
6	Fiko commerce SF d.o.o.	Cazin	Metal industry
7	Gat d.o.o.	Sanski Most	Metal industry
8	Čekić d.o.o.	Gradiška	Metal industry
9	Ewes d.o.o.	Gradiška	Metal industry
10	KGS d.o.o.	Derventa	Metal industry
11	Maxmara d.o.o.	Banja Luka	Metal industry
12	Metal-prom MB d.o.o.	Derventa	Metal industry
13	PMP Jelšingra.d. - Fabrika Mašina a.d.	Gradiška	Metal industry
14	Vigmelt d.o.o.	Banja Luka	Metal industry
15	Mehanizmi B d.o.o.	Gradiška	Metal industry
16	Metal a.d.	Gradiška	Metal industry
17	Metalac MBM d.o.o.	Derventa	Metal industry
18	Metaloprom Kovačević d.o.o.	Gradiška	Metal industry
19	Mreža Network d.o.o.	Derventa	Metal industry
20	Nivex d.o.o.	Derventa	Metal industry
21	Krupa kabine d.o.o.	Bosanska Krupa	Metal industry
22	Limometal d.o.o.	Cazin	Metal industry

No.	Company name	Municipality/ City	Economic sector
23	Livnica Tešić d.o.o.	Gradiška	Metal industry
24	Novi most d.o.o.	Bosanska Krupa	Metal industry
25	Protherm d.o.o.	Kostajnica	Metal industry
26	Remus Innovation d.o.o.	Sanski Most	Metal industry
27	Stampress d.o.o.	Cazin	Metal industry
28	Unametal a.d.	Novi Grad	Metal industry
29	ZAH d.o.o.	Bosanska Krupa	Metal industry
30	Č.J. d.o.o.	Bihać	Metal industry
31	Bosnamontaža a.d.	Prijedor	Metal industry
32	Adria MM d.o.o.	Banja Luka	Food industry
33	Babić s.p.	Laktaši	Food industry
34	Beladona z.o.p.r.	Laktaši	Food industry
35	BIOPLOD d.o.o.	Kozarska Dubica	Food industry
36	Digesta s.p.	Kotor Varoš	Food industry
37	EKO-BeL d.o.o., P.J. Agrocentar	Kozarska Dubica	Food industry
38	Fratello Trade a.d.	Banja Luka	Food industry
39	Fructa-trade d.o.o.	Derventa	Food industry
40	Grabovac-Pekara Sunce d.o.o.	Srbac	Food industry
41	HPK Draksenić a.d.	Kozarska Dubica	Food industry
42	Krajina klas d.o.o.	Banja Luka	Food industry
43	MI-TRIVAS d.o.o.	Prnjavor	Food industry
44	MladegsPak d.o.o.	Prnjavor	Food industry
45	Mushroom d.o.o.	Čelinac	Food industry
46	Perutnina Ptuj S d.o.o.	Srbac	Food industry
47	Prirodno bilje d.o.o.	Banja Luka	Food industry
48	Unaplod a.d.	Kozarska Dubica	Food industry
49	Veleprehrana a.d.	Banja Luka	Food industry
50	Vitaminka a.d.	Banja Luka	Food industry

No.	Company name	Municipality/ City	Economic sector
51	Voda Kruna d.o.o.	Mrkonjić Grad	Food industry
52	ZD.I.-Produkt d.o.o, P.J. Laktaši	Laktaši	Food industry
53	ŽITOPEKA s.p.	Banja Luka	Food industry
54	Živanić DS d.o.o.	Prnjavor	Food industry
55	Jaja Tomić s.p.	Bihać	Food industry
56	Mehlem trade d.o.o.	Bihać	Food industry
57	Čapljanka d.o.o., P.J. Milk san	Sanski Most	Food industry
58	Opšta zadruga Vrtoče	Bosanski Petrovac	Food industry
59	Tehno-pek d.o.o.	Bihać	Food industry
60	WES-trade d.o.o.	Cazin	Food industry
61	Prijedorčanka a.d.	Prijedor	Food industry
62	Mira Prijedor a.d.	Prijedor	Food industry
63	Vigan PD d.o.o.	Prijedor	Food industry
64	Urban Namjestaj-Scontoprom d.o.o.	Prijedor	Wood processing industry
65	Javor Masiv d.o.o.	Prijedor	Wood processing industry
66	Masterwood d.o.o.	Prijedor	Wood processing industry
67	Gavranović d.o.o.	Prijedor	Wood processing industry
68	Robustox d.o.o.	Prijedor	Wood processing industry
69	Brzi d.o.o.	Bihać	Wood processing industry
70	D.I. Vrbas d.o.o.	Banja Luka	Wood processing industry
71	Drvoprodex d.o.o.	Banja Luka	Wood processing industry
72	Jerić kompani d.o.o.	Banja Luka	Wood processing industry
73	Nova DIPO d.o.o.	Gradiška	Wood processing industry
74	D.I. Bor d.o.o.	Gradiška	Wood processing industry
75	D.I. Vukelić d.o.o.	Laktaši	Wood processing industry
76	McMillan d.o.o.	Banja Luka	Wood processing industry
77	Prima ISG d.o.o.	Gradiška	Wood processing industry
78	Naš dom MB d.o.o.	Gradiška	Wood processing industry

No.	Company name	Municipality/ City	Economic sector
79	Reflex d.o.o.	Gradiška	Wood processing industry
80	K-ASA d.o.o.	Ključ	Wood processing industry
81	Pogy d.o.o.	Bihać	Wood processing industry
82	Tehnik drvo Kapić d.o.o.	Cazin	Wood processing industry
83	Bema d.o.o.	Banja Luka	Footwear industry
84	Dermal d.o.o.	Kotor Varoš	Footwear industry
85	Sportek d.o.o.	Kotor Varoš	Footwear industry
86	Veneto shoes d.o.o.	Derventa	Footwear industry
87	Baja Shoes d.o.o.	Derventa	Footwear industry
88	Bross Trade d.o.o.	Laktaši	Footwear industry
89	KLM d.o.o.	Prnjavor	Footwear industry
90	Sanino d.o.o.	Derventa	Footwear industry
91	Obuća Branko s.z.r.	Derventa	Footwear industry
92	The Welly d.o.o.	Prnjavor	Footwear industry
93	Viale d.o.o.	Prnjavor	Footwear industry
94	Vodex d.o.o.	Prnjavor	Footwear industry
95	Com Soft d.o.o.	Cazin	IT industry
96	CPU d.o.o.	Cazin	IT industry
97	Telemax d.o.o.	Banja Luka	IT industry
98	Mikroelektronika d.o.o.	Banja Luka	IT industry
99	Koming-Pro d.o.o.	Gradiška	IT industry
100	Elpin d.o.o	Prijedor	IT industry
101	AlfaNet informatika d.o.o Prijedor	Prijedor	IT industry
102	Beoplast d.o.o.	Laktaši	Plastics industry
103	Nora Plast d.o.o.	Banja Luka	Plastics industry
104	Omorika PET d.o.o.	Doboj	Plastics industry
105	Bosnaplast d.d.	Bosanski Petrovac	Plastics industry

List of Interviewed Companies (December 2013 - February 2014)

No.	Company name	Municipality/City	Economic sector
1	EKO Bosanska posavina	Derventa	Input-agricultural products
2	Super premix	Banja Luka	Production of feed
3	Comp Astor	Novi Grad	Production of feed
4	Agromix	Doboj	Production of feed
5	Dim-Dim d.o.o.	Laktaši	Slaughtering, meat processing, distribution of meat and meat products
6	Slaughterhouse Laza and son	Banja Luka	Meat processing, distribution of meat and meat products
7	MI Trivas	Prnjavor	Meat processing, distribution of meat and meat products
8	ZDI Produkt	Laktaši	Slaughtering, meat processing, distribution of meat and meat products
9	Perutnina Ptuj S	Srbac	Production of on-day chicken, fattening of broilers, slaughtering, distribution of meat and meat products
10	Živanić DS	Prnjavor	Input-agricultural products, production of feed, production on-day chicken, fattening of broilers, slaughtering, meat processing, distribution of meat and meat products
11	OZ Vrtoče	Bosanski Petrovac	Input-agricultural products, production of feed, fattening of broilers, slaughtering, meat processing, distribution of meat and meat products
12	Leburić komerc	Prnjavor	Distribution of meat and meat products
13	Fortuna	Prnjavor	Supermarket
14	Laza's butcher shop	Banja Luka	Butcheris

No.	Company name	Municipality/City	Economic sector
15	Obelix	Banja Luka	HoReCa
16	Žitopeka	Banja Luka	HoReCa
17	Ministry of Agriculture, Forestry and Water Management of R. Srpska	Banja Luka	Supporting institution
18	Veterinary institute Vaso Butozan	Banja Luka	Supporting institution
19	Faculty of technology	Banja Luka	Supporting institution
20	Agricultural institute	Banja Luka	Supporting institution
21	Bussines association "Zajednica Živinara"	Srbac	Supporting institution
22	Drvorez doo	Banja Luka	Producer
23	Edra doo	Bosanski Petrovac	Producer
24	Nova DIPO d.o.o.	Gradiška	Producer
25	D.I. Vrbas d.o.o.	Banja Luka	Producer
26	Smrča d.o.o.	Bosanska Krupa	Producer
27	Masterwood d.o.o.	Prijedor	Producer
28	D.I. Bor d.o.o.	Gradiška	Producer
29	Javor d.o.o.	Prijedor	Producer
30	Drvo klaster	Banja Luka	Producers' cluster
31	GMP Kompani d.o.o.	Banja Luka	Producer and distributor
32	Ardor doo	Banja Luka	Distributor
33	Topling doo	Prnjavor	Producer

No.	Company name	Municipal-ity/City	Economic sector
34	Termoflux doo	Jajce	Producer
35	Termoklima doo	Laktaši	Producer
36	Procesna oprema doo	Laktaši	Producer
37	Tehsan doo	Banja Luka	Distributor
38	Vokel doo	Banja Luka	Distributor
39	Termotehna doo	Banja Luka	Distributor
40	Centrum trade doo	Banja Luka	Distributor
41	Milco doo	Laktaši	Supplier
42	Fit doo	Banja Luka	Supplier
43	Bob doo	Laktaši	Supplier
44	Faculty of Mechanical Engineering, Banja Luka	Banja Luka	Supporting institution
45	Italy Leather	Banja Luka	Supplier (leather production)
46	Sanino d.o.o	Derventa	Producer
47	Baja Company d.o.o	Derventa	Producer
48	Skrebic company d.o.o	Teslic	Producer
49	Bema d.o.o	Banja Luka	Producer
50	KLM d.o.o	Prnjavor	Producer
51	Vodex d.o.o	Prnjavor	Producer
52	Kogoderm	Prnjavor	Distributor

No.	Company name	Municipality/City	Economic sector
53	Chamber of Commerce of Republika Srpska	Banja Luka	Supporting institution
54	Agency for development of small and medium-sized enterprises of Republika Srpska	Banja Luka	Supporting institution
55	Skills for Jobs / PrilikaPlus project	Banja Luka	Supporting institution
56	Ministry of Industry, Energy and Mining of Republika Srpska	Banja Luka	Supporting institution

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