



**GOVERNMENT OF MONTENEGRO  
MINISTRY OF ECONOMY**

**INDUSTRIAL POLICY OF MONTENEGRO UNTIL 2020**

**June 2016**

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## ACRONYMS

AMECO	European Commission Annual macro-economic database
BDP	Gross Domestic Product
CCEQ	EU Candidate and Potential Candidate Countries' Economic Quarterly
CEFTA	Central European Free Trade Agreement
COSME	EU programme for the Competitiveness of Enterprises and Small and Medium-sized Enterprises
COST	European cooperation in science and technology
EaSI	Programme for Employment and Social Innovation
EBRD	European Bank for reconstruction and development
EDIF	Western Balkans Enterprise Development & Innovation Facility
EEN	Enterprise Europe Network
EIA	Environmental Impact Assessment
EIB	European Investment Bank
EIF	European Investment Fund
EK	European Commission
EMAS	Eco-Management and Audit Scheme
ENEF	WB EDIF Enterprise expansion fund
ENIF	WB EDIF Enterprise innovation fund
Erasmus+	EU programme for education, training, youth and sport
EU	European Union
Eureka	Intergovernmental organisation for market-driven industrial R&D
EUROSTAT	EU statistical office
FP7	Framework Programme 7
GMP	World Health Organisation Good Manufacturing Practice
H2020	Horizon 2020 EU Research and Innovation programme
ICT	Information and communication technology
IFI	International Financial Institutions
IPA	Instrument for pre-accession
IPARD	Rural Development component of the Instrument for Pre-accession Assistance
IRF CG	Investment and Development Fund of Montenegro
ISSP	Institute for Strategic Studies and Prognoses
KET	Key enabling technologies
LEIT	H2020 Leadership in Enabling and Industrial Technologies
MIDAS	Montenegro Institutional Development and Agriculture Strengthening
MIPA	Montenegrin investment promotion agency
MMSP	Micro, small and medium enterprises
MONSTAT	Montenegrin statistical office
MSP	Small and medium sized enterprises
NACE	Nomenclature generale des Activites economiques
NIPAC	National IPA Coordinator
OECD	Organisation for economic cooperation and development
PC	Sub-goal
R&D	Research and development
RCA	Revealed comparative advantage
RIS <sup>3</sup>	Research and Innovation Strategies for Smart Specialisation
S <sup>3</sup> P	S3 smart specialisation platform

SBA	Small Business Act
SC	Strategic goal
SDI	Foreign direct investment
SEE 2020	South East Europe 2020
SNA	System of National Accounts
SPIRE	Sustainable Process Industries
SWOT	Strengths weaknesses, opportunities, threats
WB	World Bank
WBIF	Western Balkans Investment Framework
WEF	World Economic Forum
WTTC	World Travel & Tourism Council

## EXECUTIVE SUMMARY

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**Taking into consideration the importance of the industry as essential assumption for the economic development of every modern country, this document creates a framework for increasing the gross value added, employment, export, resolving the issue of regional development as well as structural alignment of the economy.**

**Purpose:** To establish integration potential, and to determine a strategic framework and priorities for industrial development, which are realistic and achievable, taking into account the available natural, human and financial resources, which can generate increased employment, accelerated innovative development of all regions as well as overall economic growth.

**Vision:** The Industrial Policy for Montenegro will create conditions for modernization of industry based on knowledge and innovation and it will provide better integration into international market, through further improving the business environment, supporting enterprises and entrepreneurship, and stimulating the use of modern technologies with a view to creating new, and better quality jobs.

**Strategic Objectives:** In order to create conditions for increasing the competitiveness of Montenegro's economy, the Industrial Policy aims at removing structural and sectoral imbalances, as well as overcoming the problem of a narrow production base. Taking due account of the fact that Montenegro's economy is based primarily on services, a policy for modern industrial development is needed that will take advantage of new sources of economic growth, encourage resource efficiency, and guide industry towards higher value-added production.

The priorities for the Industrial Policy include:

- Boosting development and growth of enterprises, particularly in priority sectors, based on efficiency, productivity and innovation,
- Establishing pre-conditions for a more efficient use of available resources and development of required infrastructure to reduce input costs.

On the basis of this, the following strategic objectives have been formulated:

- **Competitiveness of industry**, which refers to better business environment and pre-conditions for the competitiveness and sustainability of industry, including tourism and other sectors with high value added. Because of the relatively capital-intensive nature of the industry it is considered that improvement in terms of the competitiveness of this sector is necessary in order to ensure balanced economic development.
- **Investment and finance for industrial modernization**, which implies Improved investment framework for industrial modernization through better affordability, availability and access to finance. Considering that investments are necessary for long-term sustainable growth, there is a need for greater investments into the industry aiming at the modernization and mitigation of deindustrialization.
- **Innovation and entrepreneurship**, as very important goal includes promotion of entrepreneurship and entrepreneurial culture for innovation and sustainable economic growth, and increased productivity and employment. Innovations are considered as a basic for economic transformation and modernization and in this sense it is necessary to diversify the production base and development of new sources of comparative advantages.
- **Market access**, refers to simplification of procedures for trade and business access to domestic and international markets. It is most important to make an effort in to improve the production and geographical diversification and specialization (expanding and deepening) as well as to increase export competitiveness through the extension of the value chain, in order to generate higher value of export products and better integration into global value chains.

The realization of planned policy objectives creates preconditions that, on the one hand, should contribute to more efficient use of physical and human capital, establishment of better business environment and access to finance, and on the other hand, have the effect of improving business performance at the enterprise level, increasing competitiveness and providing easier access to domestic and international market. Through these main policy directions, the Industrial policy of Montenegro is designed as the “main direction” of relevant policies aimed towards "reindustrialization" i.e. the establishment of modern industry, as a driver of overall economic development.

The Industrial policy is largely a horizontal policy and it provides opportunities for encouragement of sectors which have potential for growth, and which can contribute to rapid industrial development:

Priority sectors with potential for growth	Sectors Supporting Industrial Development
Sectors identified with potential for growth, which constitute drivers for industrial development possessing strong export potential, include:	Sectors that have growth potential that should contribute to modern industrial development include:
<ul style="list-style-type: none"> <li>• Manufacturing industry – agro-food, wood processing, metal and pharmaceuticals</li> <li>• Energy</li> <li>• Tourism</li> </ul>	<ul style="list-style-type: none"> <li>• Transport</li> <li>• ICT and creative industries</li> <li>• Business services sector</li> <li>• Construction</li> </ul>

Modernization of the sectors with potential for growth and development by taking into account principles of smart specialization aiming to support the most promising industrial sectors, development of new emerging industries and their grouping into clusters as well as involvement in industrial value chains presents key elements that have a significant role in the process of development and adoption of new technologies, creation of new industrial products, improvement of export potential and thus contributes to the strengthening of industrial competitiveness. At the same time, modernisation of industry must be based on more efficient linking of traditional industrial sectors and industries that supports industrial development through the business services and minimizing the risk from the industrial influence on environment.

**Implementation of Industrial Policy:** This will be based on a multi-annual framework Action Plan that is a constituent part of this document and will serve as a guide for annual action plans, which will be made and realized every year. Based on the established institutional framework for efficient realization of the implementation process, through cooperation and coordination of activities of different institutions and actors of the private and public sectors, measures for implementation will be created in close cooperation with economy and other key partners important for the continuous implementation of the policy.

# INTRODUCTION

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The Industrial Policy for Montenegro until 2020 represents an important strategic document for development of competitiveness of the Montenegrin economy - a key basis for changes that will create new jobs, and raise incomes and standards of living, as well as creating development opportunities for future generations. As the real agents of change and development are recognized the enterprises, which with adequate support, in the future should maximise their potential for growth, development and competitiveness.

The main **purpose** of the Industrial Policy is to set the priorities for the development of industry and the economy for the period from 2016-2020<sup>1</sup>:

*Establish integration potential, and determine a strategic framework and priorities for industrial development, which are realistic and achievable, taking into account the available natural, human and financial resources, which can generate increased employment, accelerated innovative development of all regions and overall economic growth.*

Industry is of significant long-term strategic importance to Montenegro, not least because every 100 jobs created in industry are likely to create 60 to 200 new jobs in industry related activities, according to European Commission analysis.

At the beginning of 1990s, the share of Montenegrin industry was estimated for more than 35% of GDP with around 56,000 employees. Due to the effect of global changes, economic crisis, and deindustrialisation in 2014 the share was accounted approximately 11% with approximately 24,000 employees. These changes are not unique to Montenegro. In other small European economies with strong strategic focus on tourism development, such as Cyprus and Malta, the most important component of industry – manufacturing – also accounts for an increasingly small share of the economy. Nevertheless, Montenegro's current share of GDP for manufacturing (3.9%) is low even by European standards.

In order to strengthen the economy, the need for the reindustrialisation is recognised as a primary objective, which in the coming period should allow production processes based on modern technical and technological achievements, where the structure, quality and design are constantly adapting to market demands. Through the linkage with the accompanying industry sectors, with the support of scientific institutions, etc. strengthening links between the economy and research community will enable the diversification of the production base in industry and development of new sources of comparative advantage as a basis for sustainable economic development.

In the coming period, Montenegro aims to become a country with a competitive economy, and a strong industrial base. The core challenges that Montenegro needs to address to improve industrial competitiveness can be divided into two components:

- more efficient utilization of “input” factors and improvement of basic development preconditions;
- provision for better “output” performances at the level of enterprises.

In terms of **prerequisites/inputs factors**, it could be identified the following challenges in the area of **physical capital** (development of the road network, better use of abundant raw/natural resources,

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<sup>1</sup>This is aligned with Article 173 of the Treaty on the Functioning of the European Union (TFEU) on principles of industrial policy for competitiveness, and the associated Article 94 on Industrial Cooperation within the Stabilisation and Association Agreement

application of information/communication technologies and implementation of new) and **human capital** (education and Vocational training). Additional improvements are needed in the area of **improving business environment** (establishing a clear/predictable regulatory framework and on-line access to public services) as well as in the field of **finance and investments** (improved access to finance, improving the capital market).

**Challenges having an impact on output performances of companies** are related to **trade integration** (reduction of the foreign trade deficit and stronger promotion of exports, **productivity** (resource efficiency) and **innovation** (strengthening of linkages between science and industry aiming to create and implement innovation). Additionally, better exploitation of available resources, and development of high value added new products within **industrial sectors** is needed (energy, manufacturing, tourism), as well as improvement of institutional infrastructure and better connections and organization within **SME**.

The modern global business requires interconnectivity of strategic sectors (sectors with potential for growth) with better use of information and communication technologies, improved transport connectivity, well planned construction, and increased use of business services for entrepreneurs. These strategic sectors and supporting industries are the priority development areas that the industrial policy targets, which needs to be interconnected with many other relevant policies, in order to achieve efficient realization of its main goals. The analyses carried out in preparing the Industrial Policy show that the two industry sections of manufacturing, and energy, together with tourism represent the key strategic sectors for long term development of competitiveness.

In order to optimise the impacts of industrial policy, the strategic objectives are grouped into two, corresponding with the identified key challenges for Montenegrin competitiveness.

In the first group are strategic objectives that have an indirect impact and concern the development of input factors, in order to establish a better business environment and creation of preconditions for raising the level of industrial competitiveness as well as providing better access and availability of finance.

In the second group are objectives having a direct impact on output performance through industrial policy, which relates to the promotion of entrepreneurship and innovation aimed to sustainable economic growth as well as simplifying procedures for trade and better access to domestic and foreign markets.

In order to achieve identified objectives, industrial policy requires a focus on raised efficiency and productivity, alongside more efficient sustainable use of the available natural resources; moving towards higher value-added production processes; and identification of sectoral priorities that have potential for growth as well as on needs of enterprises that will have the greatest impact on international competitiveness of Montenegro's economy. Only in this way, through the support of companies and increasing their competitiveness, enabling better access to financial resources, improving the business environment and better compliance of the education system with labor market needs, it is possible to achieve long-term sustainable growth.

Through this, strategic objectives are conceived that set out the industrial policy of Montenegro for alignment with smart and sustainable growth, in line with principles and recommendations from the EU.

Successful implementation of the policy implies growth of the following economic indicators:

- *increase in the share of industry in GDP,*
- *increase in the number of employees in the industrial sector,*
- *increase in the share of industry in total exports,*
- *better ranking in the WEF (World Economic Forum) Global Competitiveness Report,*
- *better ranking in the World Bank Doing Business Report,*
- *better ranking in the Global Entrepreneurship & Development Index.*



Whilst the strategy covers the period until 2020, the real impact will be on long-term development through planned support and implementation of measures in order to promote internationalisation and benefitting from the effects of globalisation, implementation of innovation within industry, promotion of resource efficiency and better environmental management, encouragement of the restructuring of enterprises through all stages of development towards the creation of higher value added and internationally competitive industry.

Modern industrial policy is mainly horizontal and provides a **framework of general conditions for industrial competitiveness**. Implementation of Industrial policy creates a framework for industrial development with following characteristics:

- **Competitive** – a diversified industrial base, oriented towards efficiency and productivity;
- **Modern** – efficient use of new technologies and development of the knowledge-based economy, whilst stimulating smart specialization;
- **Dynamic** – strengthening entrepreneurship and SMEs and their potential for innovation;
- **Attractive** – a business environment attracting diversified investments in sectors and regions;
- **Sustainable** – improved utilisation of available resources in line with green economy and environmental protection principles;
- **Integrating** – connecting and encouraging the development of priority sectors, and other sectors that support industrial development.

#### Defining Industry

There is no harmonised definition for the term 'Industry' due to its wide usage in different circumstances. 'Industry' is often used as a synonym for 'activity', for the 'industrial sector' and for 'industrial activity'. However it is broader than the industrial sector. An industry by definition consists of a group of local Kind of Activity Unit engaged in the same type of productive activity. For Montenegro's industrial policy, we refer to what Eurostat includes in the non-financial 'business economy'. This includes sections B to J and L to N including S95 of NACE Rev. 2, with particular emphasis on development of industry (NACE B-E), namely: B: Mining and quarrying, C: Manufacturing, D: Electricity, gas, steam and air-conditioning supply, E: Water supply; sewerage, waste management and remediation activities, F: Construction, G: Wholesale and retail trade; repair of motor vehicles and motorcycles, H: Transportation and storage, I: Accommodation and food service activities, J: Information and communication, L: Real estate activities, M: Professional, scientific and technical activities, N: Administrative and support service activities, and repair of computers, personal and household goods (S95).

During the preparation of this document the Coordination Team for the preparation and implementation of Industrial policy until 2020 has been involved, consisting from the representatives of all relevant ministries, including the Cabinet of Deputy Prime Minister of Montenegro. In order to achieve full implementation of this policy, it is planned redefinition of this team and its expansion with inclusion of the private sector representatives in order to ensure a good basis for improving the existing dialogue and partnership between the private and public sector.

The implementation of various national support programs for development of entrepreneurship, SMEs and industry in all segments, direct investment incentives, development of business zones (national and local), facilitations in the field of agro-industry, tax incentives in tourism, energy and others in combination with measures and programs in the field of labour market, education, science supported by the available funds from the EU, IPA funds and other donor programs, the expectations are that it will create conditions for the realization of the strategic objectives of Industrial Policy until 2020, i.e. an increase the competitiveness of the Montenegrin economy.

Beside the funds allocated from the national budget, the efficient withdrawal of European funds is needed for acquiring the further development. In line with this, after the assessment of the total funds allocated for industrial development from the national budget, the important sources of funding from the EU, IPA funds, other donors and international financial institutions and contributors from the private sector were defined.

# 1. COMPETITIVENESS OF MONTENEGRIN ECONOMY

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The ongoing de-industrialisation of the Montenegrin economy over the past few decades, towards an economy dominated by services, creates significant risks that the economy is becoming sectorally unbalanced, insufficiently diversified, and vulnerable to external economic shocks. Counteracting these risks requires a carefully planned process of re-industrialisation.

Low labour productivity within industry<sup>2</sup>, an export structure concentrated on exports to a small number of traditional markets, and in relatively declining world markets, as well as insufficient growth of industry within sectors characterised by technological intensity or use of modern, advanced manufacturing methods<sup>3</sup> present main structural weaknesses of Montenegrin economy.

Main obstacles for increasing the competitiveness of the Montenegrin economy are following:

- **Ongoing De-Industrialisation:** The share of total employment in the non-financial business economy in manufacturing (at 11.6%) is considerably lower than the average for EU-27 members (22.4%, 2012), with service employment growing more rapidly, reflecting the increasing 'servitization' of the economy;
- **Traditional sectors still dominate exports of goods:** basic metals remaining amongst the most important export goods, alongside the wood processing and agro-food industries;
- **Unrealised innovation potential:** despite to the results achieved in the field of research, that is not yet translating into corresponding increases in use of specialised knowledge for innovation performance within the enterprise sector;
- **Regional Inequalities:** The different regions of Montenegro have very different patterns of industry development, such that northern region is lagging behind with its development;
- **Insufficient investments in development of Small and Medium Enterprises:** Across the whole of the business economy, small and medium sized enterprises (and entrepreneurs) provide the major proportion of turnover.

The current situation in the Montenegrin industry indicates the necessity of its reorientation towards more efficient use of resources in priority sectors, increasing the level of competition at the level of enterprises through investments, aimed at introducing new technologies, innovation, increasing capacities as well as meeting standards and certification.

## SWOT ANALYSIS

Based on identified main structural and specific weaknesses of the Montenegrin economy, relative strengths amongst international competitiveness indicators, and sectors identified with potential for long-term growth, the following provides a synthesized review of the basic constraints alongside opportunities for development of industry.

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<sup>2</sup>Whilst neither Eurostat nor Monstat publish labour productivity data suitable for international comparison, recent OECD estimates highlight a large labour productivity growth gap between Montenegro and better performing Central European countries for both industry and services

<sup>3</sup>There are very few industry sectors in Montenegro with a share of high tech products greater than 25% - we identified only four such sectors, of which pharmaceuticals has the highest value of exports.

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>• Abundance of natural resources</li> <li>• Cheap and good-quality domestic raw materials</li> <li>• Relatively cheap and high-quality work force</li> <li>• Investment-friendly environment</li> <li>• Favourable geographical position, with proximity to the EU market</li> <li>• Good maritime transport connectivity and importance of the location of the port of Bar</li> <li>• Stabilisation and Association Agreement with the EU as well as CEFTA agreement</li> </ul>	<ul style="list-style-type: none"> <li>• Obsolete technologies for manufacturing processes</li> <li>• High share of primary and low technology products in exports</li> <li>• Insufficient linkages between industrial sectors and science and research institutions</li> <li>• Insufficient linkages between industry and other sectors of economy</li> <li>• Low rate of start-ups, small number of innovative SMEs</li> <li>• High dependence on imports</li> <li>• Insufficiently developed road and railway transport and public utility infrastructure</li> <li>• Poor offer in special financial instruments and venture capital</li> <li>• Fragmented production in certain sectors</li> </ul>
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>• EU integration and use of pre-accession instruments for industrial development (e.g. Horizon 2020, IPA)</li> <li>• Efficient use of public-private partnership</li> <li>• Development of medium and high technology sub-sectors and products and services with higher value added</li> <li>• Increased linkages between businesses and the research sector for development, exchange and introduction of innovations</li> <li>• Introduction of new production technologies</li> <li>• Development of financial markets and opportunities for access to capital for medium and high technology sub-sectors</li> <li>• Introduction and application of EU norms and standards</li> <li>• Higher inflow of FDI</li> </ul>	<ul style="list-style-type: none"> <li>• Limited funds for investments into infrastructure</li> <li>• Slow recovery of world economy and decline in aluminium prices</li> <li>• The structural reform process slowing down</li> <li>• Lack of capital for development of the industrial sector</li> <li>• Labour market and education system reforms slowing down</li> <li>• Poor administrative capacity to absorb available pre-accession instruments</li> <li>• Strong foreign competition present on the local market</li> </ul>

The analysis presented above points to a conclusion that the major strengths of Montenegro comprise offerings due to its nature, position and size. Basic weaknesses are reflected in technology being underdeveloped and obsolete, through which industrial production is characterised by a low level of manufacturing, high dependence on imports and fragmented production.

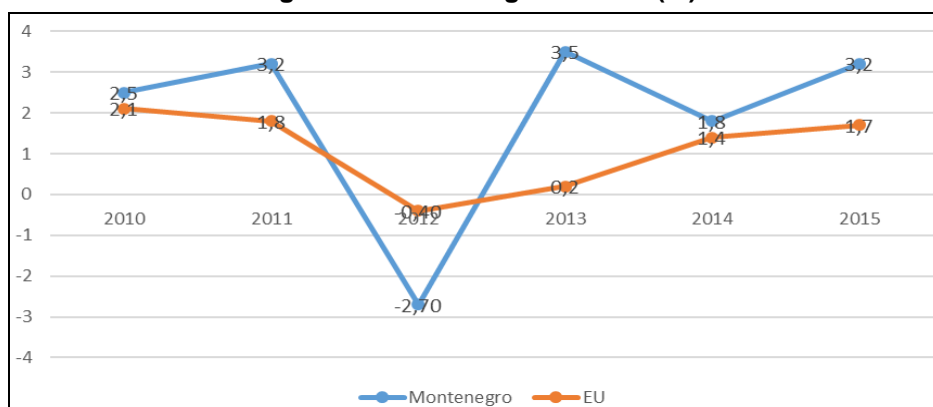
The opportunities for overcoming these weaknesses include: developing innovation and introduction of new technologies through cooperation between industry and research community; and through improving cooperation among sectors, and in particular by intensifying international cooperation via EU integration, but also through investment flows with other countries. The threats to the realisation of these opportunities, aside from those relating to global and regional trends in economy, which Montenegro may not have an impact on, include slowing processes of structural reforms, in particular of those relating to the labour market, as well as to the lack of capital.

## 1.1. DEVELOPMENT OF THE MONTENEGRIN ECONOMY AND PROJECTIONS UNTIL 2020

A trend of significant economic prosperity was present in Montenegro from the early 2000s. In fact, during these years, positive recorded growth rates for GDP amounted to more than 6% in 2006, 2007 and 2008. These positive trends were interrupted suddenly by the strong negative impact of the financial crisis in Montenegro, which began to take hold at the end of 2008, but became evident in 2009 when GDP declined by 5.7%. Despite this considerable decrease in economic activity that took place, in the last three years Montenegro's economy has since been showing the signs of recovery. Thus, in 2014, there was a GDP real growth rate of 1.8%, resulting in per capita GDP of €5356.7. Expressed in terms of purchasing power parity, per capita GDP stood at 42% of the EU average, but 3% above the average for Western Balkan countries.

Based on the preliminary projections from Monstat, in 2015 there was an increase of the Montenegrin economy in the amount of 3.2%.

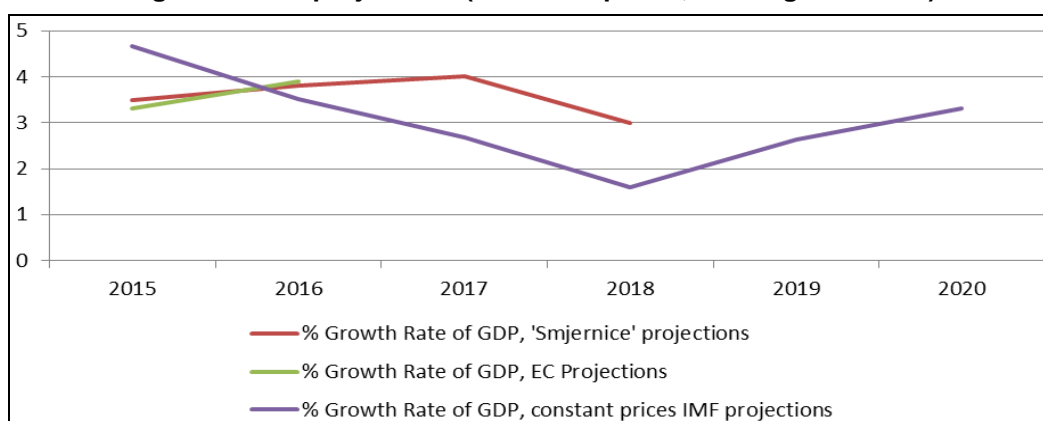
**Figure 1: Real GDP growth rate (%)**



Source: MONSTAT

A trend of further positive growth in GDP is forecast in the period to 2020, with average growth of around 3% per annum, as shown in the figure below, based on growth projections from the Ministry of Finance, EC and IMF.

**Figure 2: GDP projections (at current prices, and % growth rate)**



Source: Ministry of Finance, EC, IMF

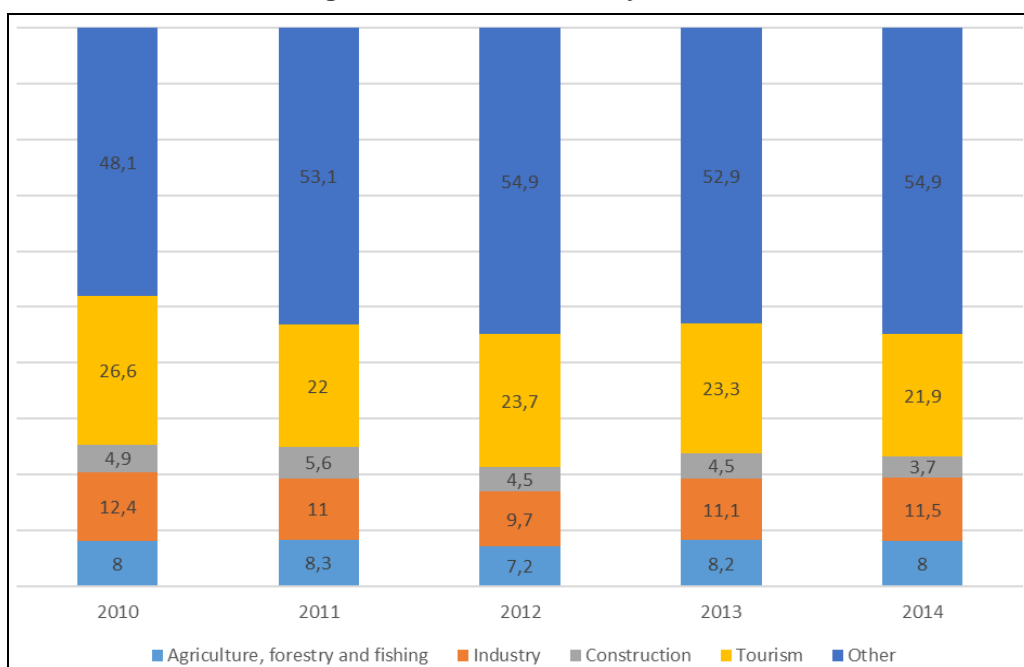
This projected growth is primarily a result of the growth of investment activity and the activation of domestic resources, particularly in the construction sector where there is a projected increase of an

average of 13.5% in the period. Lower growth rates are anticipated for the industrial sector (3.4%), as well as in the agricultural sector (2.5%).

## 1.2. STRUCTURE OF THE ECONOMY

The structure of the Montenegrin economy has changed significantly in the last 15 years. This change is reflected in the increasing share of services at the expense of a reduced share of industry and agriculture within overall economic activity. In the period from 2000 to 2014 the share of agriculture in GDP declined from 11% to 8%, while the share of industry decreased from 17% to 11.5%, which results in the level of economic activity that depends mainly on the service sector, while the industrial sector has a significantly lower contribution in the creation of Value Added. In this context, industrial policy can not have focus exclusively on the industrial sector in the narrow sense (mining and quarrying, manufacturing industry and supply of electricity), but also on linkage of this sector with other relevant sectors, such as services and construction.

Figure 3: GDP Structure by sectors



Source: MONSTAT

### THE CONTRIBUTION OF INDUSTRY TO GDP, EMPLOYMENT, INVESTMENTS AND EXPORT

The industry sector (sectors B, C, D and E)<sup>4</sup> contributes 11.5% of Gross Value Added, of which the contribution of Manufacturing (NACE C) is 3.9%, whilst the largest share (at 4.5%) is contributed by energy supply (D). In terms of employment, manufacturing employs 6.6% of the total number of employees in Montenegro for 2014, whilst the share of sectors B, D and E is 4.5%.<sup>5</sup>

<sup>4</sup>B: Mining and quarrying, C: Manufacturing, D: Electricity, gas, steam and air-conditioning supply, E: Water supply; sewerage, waste management and remediation activities – Monstat 2014

<sup>5</sup>Monstat, Labour Force Survey 2014

The share of the **tourism sector (G, H and I)<sup>6</sup>** in gross added value stood at around 21.9% in 2014, whilst the share of these sectors in total employment in 2014 was 37.73%. It should be noted that this sector is perhaps the most interesting sector for foreign investment. In line with this and due to the announcements further growth of this parameters is expected in the future.

The highest non-financial business economy sector growth rate from 2011 until 2014 was in Administrative and Support Services (NACE N), reflecting a European trend of increasing use of business services in support of industry.

**Table 1: Gross Value Added by Sectors and real growth rate (constant prices)**

NACE rev. 2	Gross value added 2014, constant prices, share in %	Average real growth rate 2011-2014
<b>Industry</b>	<b>11.5</b>	<b>0.2</b>
<i>B Mining and quarrying</i>	1.1	-0.1
<i>C Manufacturing</i>	3.9	-2.1
<i>D Electricity, gas, steam and air conditioning supply</i>	4.5	-2.4
<i>E Water supply; sewerage, waste management and remediation activities</i>	2	4.4
<b>Other sectors of the business economy (excluding S95)</b>	<b>38.9</b>	<b>2.7</b>
<b>All other sectors</b>	<b>51.6</b>	<b>1.8</b>

Source: Monstat

Within manufacturing (according to MONSTAT data for 2015), the most significant share of production has sub-sector production of pharmaceutical products and preparations 25.5%, followed by production of basic metals and production of metal products 22.9%, and production of food products, beverages and tobacco products 18.2%. Significant sub-sectors are wood and cork products (4.5%) as well as production of other non-metallic mineral products (14.7%) and production of machines and equipment (10.8%).

Changing markets, continue to have a dramatic impact on the labour market and employment, with mining and quarrying and manufacturing employment falling by a dramatic 26% in the last 6 years. Without specific support to industry it is difficult to see how this trend can be reversed.

**Table 2: Employment Change by Sector, 2010-2015 in thousands**

	2010	2015	Change	% Change 2010-2015
<b>Total</b>	209.4	221.7	12.3	5.87
<b>Agriculture</b>	12.9	17.1	4.2	32.55
<b>Industry</b>	41.8	38.7	-3.1	-7.42
Mining and quarrying, and ,manufacturing	23.5	16.5	-7	-29.79
Electricity, gas, steam and air conditioning, Water supply, and waste water management	5.6	7.6	2	35.71
Construction	12.7	14.6	1.9	14.96
<b>Services</b>	154.7	165.9	11.2	7.24

Source: Monstat

<sup>6</sup>G: Wholesale and retail trade; repair of motor vehicles and motorcycles, H: Transportation and storage, I: Accommodation and food service activities

The changing structure of the economy has significant implications for occupational and skills requirements, and that raise the need for adapting education and training in order to obtain new skills for a modernized industry.

In terms of investment structure, industry in the narrow sense, attracted only 22.5% of fixed capital investment in Montenegro during 2014, with manufacturing accounting for only 7.9%. The greatest share of investment into fixed assets was into other parts of the non-financial business sector, especially in retail related activities (NACE G – 15.6% of total investments, 2014).

**Table 3: Investment into Fixed Assets by Sector**

Gross capital investment in fixed assets by sector	000' €		%	
	2013	2014	2013	2014
<b>Industry (NACE B-E)</b>	102,772	114,443	21.1	22.5
B Mining and Quarrying	15,509	13,357	3.2	2.6
C Manufacturing	40,110	40,075	8.2	7.9
D Electricity, gas, steam and air conditioning supply	35,797	41,764	7.4	8.2
E Water supply; sewerage, waste management and remediation activities	11,356	19,247	2.3	3.8
<b>Other sectors of the business economy (NACE F-J, L-N)</b>	240,383	229,985	49.6	45
<b>Other Sectors (NACE A, K, O-S)</b>	142,448	165,602	29.3	32.5
<b>TOTAL</b>	485,603	510,029	100.0	100.0

Source: Monstat (short term indicators, investment)

In terms of export, agro-food products, raw materials and processed wood and metal products remain amongst the most important export sectors. A general export weakness within industry is a lack of diversification in terms of both numbers of products exported, and numbers of countries exported to.

Most export growth was a result of exporting to growing world markets (48.8% increase in export in the period 2009-2013), rather than increases in competitiveness (-13.5%), or improved geographic (-7.4%) or product specialisation (-0.3%) according to International Trade Centre analysis and assessment<sup>7</sup> of the 6 main components contributing to overall export growth (see Annex 2).

CEFTA countries remain the largest export trading partners for Montenegro (CEFTA 43.3% of total exports by value in 2015, EU 35.7%, other countries 21%), whilst EU countries account for the greatest value of imports (41.3% in 2015), with the overall pattern of trade leading to a significant overall trade deficit.

**Table 4. External Trade – EU28 and CEFTA**

Trade Partners	EXPORT				IMPORT				Trade Balance	
	%	000' EUR	%	000' EUR	%	000' EUR	%	000' EUR	000' EUR	
		2014		2015		2014		2015	2014	2015
<b>World</b>	<b>100</b>	<b>333,166</b>	<b>100</b>	<b>317,172</b>	<b>100</b>	<b>1,784,214</b>	<b>100</b>	<b>1,841,524</b>	<b>-1,451,048</b>	<b>-1,524,352</b>
EU-28	35.8	119,215	35.7	113,177	45.8	816,623	41.3	759,771	-697,407	-646,594
CEFTA	45.5	151,754	43.3	137,483	37.5	669,580	37.9	698,476	-517,826	-560,994
Other countries	18.7	62,196	21.0	66,513	16.7	298,011	20.8	383,277	-235,815	-316,764

Source: Monstat (foreign trade)

<sup>7</sup><http://www.intracen.org/country/montenegro/> - estimates based on relative levels of performance against other countries, and export growth worldwide in different markets

## THE IMPORTANCE OF MANUFACTURING WITHIN INDUSTRY TURNOVER

According to its volume, manufacturing industry is the most important and the biggest industry in Montenegro and as such has a big influence on the employment, GDP and the export of the overall economy.

Within the 'non-financial business economy', industry accounts for 18.2% of Turnover by value, whilst more than 81.8% was generated by other sectors. In terms of contribution to the business economy, manufacturing industry is the second largest contributor after wholesale and retail. This highlights that within the business economy manufacturing remains a very important strategic sector for support.

**Table 5: Proportion of Turnover by Value in the 'Non-Financial Business Sector'**

<b>Industry</b>	<b>18.2</b>
B Mining and quarrying	1.1
C Manufacturing	10.7
D Electricity, gas, steam and air conditioning supply	4.5
E Water supply; sewerage, waste management and remediation activities	1.9
<b>Other sectors of the business economy (excluding NACE S95)</b>	<b>81.8</b>
<b>Total Non-financial business economy (excluding NACE S95)</b>	<b>100.0</b>

Source: Monstat (2015) Enterprise Operations in 2014

Latest Monstat data on industry turnover (NACE B-D), for the period 2012-2015 (see Annex 2), demonstrates the considerable variability in performance in the period since 2012, consistent with the effects of earlier economic crisis and delayed investments.

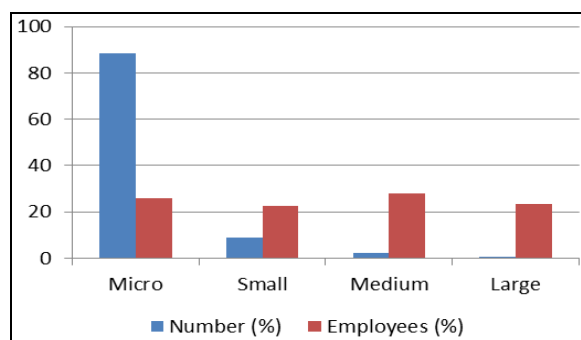
In 2015, the manufacturing sector employed 6.7% from the total number of employed persons, which represents an increase of around 3,5% comparing to the 2014 and its share of 6.6% of employed persons.

As in the case of employment, the manufacturing industry achieves the largest share in the total export of industry, but also in total export of the country, with the share of from 75.1% in 2015, 73.4% in 2014 and in 60.4% in 2013.

## BUSINESS DYNAMICS AND THE SIZE DISTRIBUTION OF MONTENEGRIN INDUSTRY

Analysis of the structure of Montenegro's economy by size of enterprise, is consistent with the pattern found in other European economies, with 99% being micro or small sized. Despite this numerical concentration of micro and small-enterprises, the greatest share in employment is generated by medium-sized enterprises.

**Figure 4: Size distribution of business entities in Montenegro, 2014**

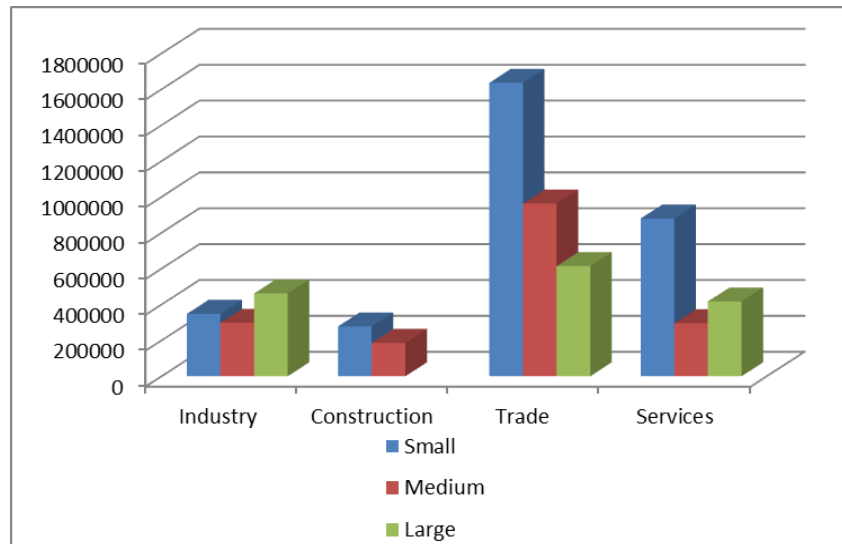


Source: Tax administration data for 2014



The overall importance of SMEs to the Montenegrin economy by sector is well illustrated by data on their turnover and value added, according to which SMEs contribute 76% of the gross value of production and 67% of the total gross value added. Based on the sectoral analysis on size distribution of enterprises by turnover, it is evident that SMEs does not have a particular impact on the industry (in the narrow sense), but they contributes to the overall business sector, which is dominated by trade and services.

**Figure 5: Size Distribution of Enterprises by Turnover, 2014**



Source: Monstat

There are also notable variations at regional level in terms of the main components of business dynamics (overall enterprise density, entry rates, exit rates, and business ‘churn’ - see annex 2). There are relatively few enterprises per head of population, and lower entry rates into enterprise in the Northern region, compared with the more dynamic coastal region.

## **MONTENEGRO'S RESEARCH AND INNOVATION PERFORMANCE**

Research output has been increasing in recent years, with an increasing specialisation in key areas of science, engineering, mathematics and technology (STEM).

Research and development in Montenegro is performed within 58 scientific research institutions, of which 22% belong to the business sector. From more than €12.55 million total expenditure on R&D in 2014, the business enterprise sector contributed €4.8 million, i.e. 38.5% from total investments in R&D.

Despite the growth in research, this hasn't yet translated into results within industry. In particular, high technology industry is currently underdeveloped in Montenegro. There are few sectors with a high share of high-tech products, of which only two (pharmaceuticals; electrical and electronic equipment) are significant exporters.

In the process of developing the basis for competitiveness through innovation, there is also insufficient use of intellectual property protection instruments by Montenegrin business and researchers, where the majority of applications for intellectual property protection in Montenegro comes from non-residents (see Annex 2).

### 1.3. COMPETITIVENESS INDICATORS FOR THE MONTENEGRIN ECONOMY

Competitiveness Indicators, based on international research that measure a range of development factors affecting competitiveness, are useful because they allow monitoring of the results of implementation of different policies. Therefore, analysis has been carried out of trends within the indicators and their components for Montenegro, and comparison made with the EU, the Western Balkans countries and small countries with a well-developed tourism sector.

The table below provides an overview of the progress of Montenegro towards achieving Europe 2020 competitiveness and development goals, based on assessment by the World Economic Forum.

**Table 6: EU2020 indicators**

Country	Overall Score	Smart growth	Inclusive growth	Sustainable growth
Montenegro	<b>4.07</b>	<b>3.85</b>	<b>4.16</b>	<b>4.76</b>
<i>Difference in scores between EU28 and Montenegro</i>	<b>-0.49</b>	<b>-0.68</b>	<b>-0.41</b>	<b>0.08</b>
EU28	<b>4.56</b>	<b>4.53</b>	<b>4.57</b>	<b>4.68</b>
<b>Scores 1-7 (1 – lowest; 7 – highest)</b>				
	<i>Relatively weak performance</i>	Source: <a href="http://reports.weforum.org/europe-2020-competitiveness-report-2014/">http://reports.weforum.org/europe-2020-competitiveness-report-2014/</a>		
	<i>Relatively strong performance</i>			

The results shown in the table clearly emphasize the importance of industrial policy in Montenegro focusing on the concept of "smart growth", as defined within Europe 2020.

The relative weakness of Montenegro's development of 'smart growth', compared with other countries, emphasises a need for further development of structural framework preconditions for international competitiveness related to education (in order to acquire and improve knowledge), research/innovation (in order to generate growth) and more effective use of information and communication technologies to bring Montenegro fully into the digital society of the 21st century.

This conclusion is further confirmed by the detailed analysis of the different respective international comparative indicators and reports, which cover all main topics of international competitiveness. The following table provides an overview of the key benchmark indicators of international competitiveness of Montenegro:

**Table 7: Competitiveness indicators<sup>8</sup>**

<i>Key Issues:</i>	Baseline Benchmark		<i>Source</i>
<b>Competitiveness</b>	Rank (out of 140 countries)	<b>70</b>	WEF Global Competitiveness Report 2015-2016
<b>Business Environment</b>	Rank (out of 189)	<b>46</b>	World Bank Doing Business 2016
<b>Market Access</b>	Rank (out of 138)	<b>49</b>	Global Enabling Trade Report 2014 - World Economic Forum
<b>Trade Logistics</b>	Rank (out of 160)	<b>67</b>	World Bank Trade Logistics Index 2014
<b>Entrepreneurship</b>	Rank (out of 132)	<b>54</b>	Global Entrepreneurship & Development Index – GEDI 2016
<b>Innovation</b>	Rank (out of 141)	<b>41</b>	Global Innovation Index 2015
<b>Finance</b>	Rank (out of 120)	<b>91</b>	IESE Venture Capital & Private Equity Country Attractiveness Index 2015

<sup>8</sup>More detailed benchmark comparison with a set of relevant groups of countries is presented in appendix 4.

<b>Skills</b>	Rank (out of 103)	<b>26</b>	The Global Talent Competitiveness Index 2013
<b>Information Society</b>	Rank (out of 166)	<b>58</b>	ICT Development Index (IDI) 2014
<b>ICT Communications Networks</b>	Rank (out of 143)	<b>56</b>	Global Information Technology Report 2015 - Networked Readiness Index
<b>Gender Gap</b>	Rank (out of 145)	<b>79</b>	Global Gender Gap 2015 – WEF
<b>Corruption</b>	Rank (out of 174)	<b>76</b>	Transparency International Corruption Perceptions Index 2014
<b>Environment</b>	Rank (out of 178)	<b>62</b>	YCELP, CIESIN, WEF Environmental Performance Index 2014

Skills are identified in several competitiveness indicators as an area of relative strength compared with other benchmark economies (e.g. Global Talent Competitiveness Index, Network Readiness Index), while education and training is identified as an area of relative weakness by the Global Competitiveness Report. The changing labour market means that this remains an important area to improve. Inputs to innovation are relatively better than the outputs from the innovation process, compared with other countries, indicating a need for better connection between science and research and business. Transport and ICT infrastructure is identified as a relative weakness for market access.

Based on analysed indicators it has been recognized a need for improving: regulation and the overall business environment; workforce skills and match with labour market needs; business-research linkages for innovation outputs; affordability of ICT use; infrastructure and trade facilitation for market access; and the financial situation of enterprises.

## SECTOR NEEDS AND ANALYSIS OF DEVELOPMENT POTENTIAL

On the basis of contribution to the economy (especially in terms of export), potential for future growth and development as well as strategic contribution to the diversification of Montenegro's economy there has been identified sectors with growth potential as drivers of economic development and there supported sectors:

<b>Growth Potential</b>	
<b>ENERGY AND RENEWABLE SOURCES OF ENERGY</b>	
<ul style="list-style-type: none"> <li>- Significant energy potential and renewable sources of energy, exploitation of which could fully accommodate domestic needs for energy and increase energy efficiency;</li> <li>- Utilization of available energy hydropower potential in Montenegro is only 17%</li> <li>- Coal is, besides hydro-power, the most significant resource</li> <li>- A large stock of non-utilised renewable sources of energy through sun, wind and biomass</li> </ul>	
<b>MANUFACTURING INDUSTRY</b>	
<ul style="list-style-type: none"> <li>- Necessity of restructuring industrial companies processing bauxite, aluminium and steel</li> <li>- The wood-processing industry possesses extremely high potential for growth with high value added and comparative advantages due to good-quality, and inexpensive wood resources</li> <li>- Significant potential for increasing value added through development of the food processing industry</li> <li>- Required orientation towards replacement of current technologies and introduction and utilisation of modern ones</li> <li>- The pharmaceutical industry uses modern technologies and possesses export potential</li> </ul>	
<b>ICT AND CREATIVE INDUSTRIES</b>	<b>SME AND BUSINESS SERVICES</b>
<ul style="list-style-type: none"> <li>- The ICT sector has significant potential for growth, through implementation of projects relating to</li> </ul>	<ul style="list-style-type: none"> <li>- Potential for development of the SMEs through the creation of a favourable business environment,</li> </ul>

<p>information-based society, electronic communications and broadband infrastructure, which would consequently have a further impact on the development of other sectors of strategic importance for the development of Montenegro;</p> <ul style="list-style-type: none"> <li>- Development of education of human resources within the ICT sector is at a high level whilst there is still significant space for improvement in formal and non-formal ICT education</li> </ul>	<p>enhancement of the institutional framework and provision of information and counselling services for enterprises that wish to operate within the region and in the EU (e.g. through EEN network);</p> <ul style="list-style-type: none"> <li>- Significant space for further development of competitiveness, innovation and exports of the private sector.</li> </ul>
<p><b>TOURISM</b></p> <ul style="list-style-type: none"> <li>- According to the WTCC, Montenegro is ranked in 3rd place in terms of long term growth projection (period 2015-2025);</li> <li>- It possesses all the prerequisites for growing into a top tourist destination: exquisite natural resources, good geographical position, diversified offer within a small space, improved environment for foreign investors, etc.</li> <li>- The forecast for the future is an increase in the number of tourists, direct and indirect contributions to economic development, and implementation of planned Greenfield investments</li> </ul>	
<p><b>CONSTRUCTION</b></p> <ul style="list-style-type: none"> <li>- The available natural potential (volume of wood, mineral resources, stone) is not capitalised on to a sufficient extent, and there are also possibilities for improvement of building quality</li> <li>- Development of tourism may have a large impact on construction development</li> </ul>	<p><b>TRANSPORT</b></p> <ul style="list-style-type: none"> <li>- Development of an efficient transport system is an important prerequisite for value creation related to tourist, agro and industrial potential and for further overall economic development</li> <li>- Distinct potential and capacity for development of maritime transport</li> <li>- Favourable geostrategic position for transit transport</li> </ul>

Taking into account performance in the previous period, contribution to GDP, as well as available resources that could be more efficiently used, **the key sectors/areas in which Montenegro has comparative advantages, with strong potential for an increase in exports, are: energy, agri-food industry, metal industry, wood industry and tourism.** In addition to these, it is important to emphasize **construction, transport, ICT and business services, as sectors that can provide required support to strategic sectors/areas.**

## 2. INDUSTRIAL POLICY, VISION, PRIORITIES AND OBJECTIVES

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### 2.1. INDUSTRIAL POLICY, CURRENT FRAMEWORK AND LINK WITH OTHER STRATEGIC DOCUMENTS

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Understanding the current status of overall economic development, based on information on the achieved level of implementation of relevant policies, constitutes one of the key prerequisites for establishing a framework for well-functioning Industrial Policy. Along these lines, policies and strategic documents that constitute a national level strategic framework have been identified and analysed, forming the basic prerequisites for development potential, as they are set out in horizontal and thematic policies.

In defining the framework for development of the Industrial Policy for Montenegro, the following set of strategic documents are key:

- Montenegro Development Directions 2015-2018
- Guidelines for Macroeconomic and Fiscal Policy for the period 2015-2018
- Economic Reform Programme 2016-2018
- Draft National Strategy for Sustainable Development of Montenegro for the period until 2030<sup>9</sup>

In addition to these, Montenegro has created several strategic documents of relevance to the development of industry and SMEs, which take into account EU principles, including the Strategy for the Development of Manufacturing Industries 2014-2018.

In addition to the national umbrella documents, the framework for industrial policy for Montenegro has taken into account of EU policy principles<sup>10</sup> within Europe 2020 and further recommendations for the Western Balkan region, established in the 2020 Strategy for South Eastern Europe.

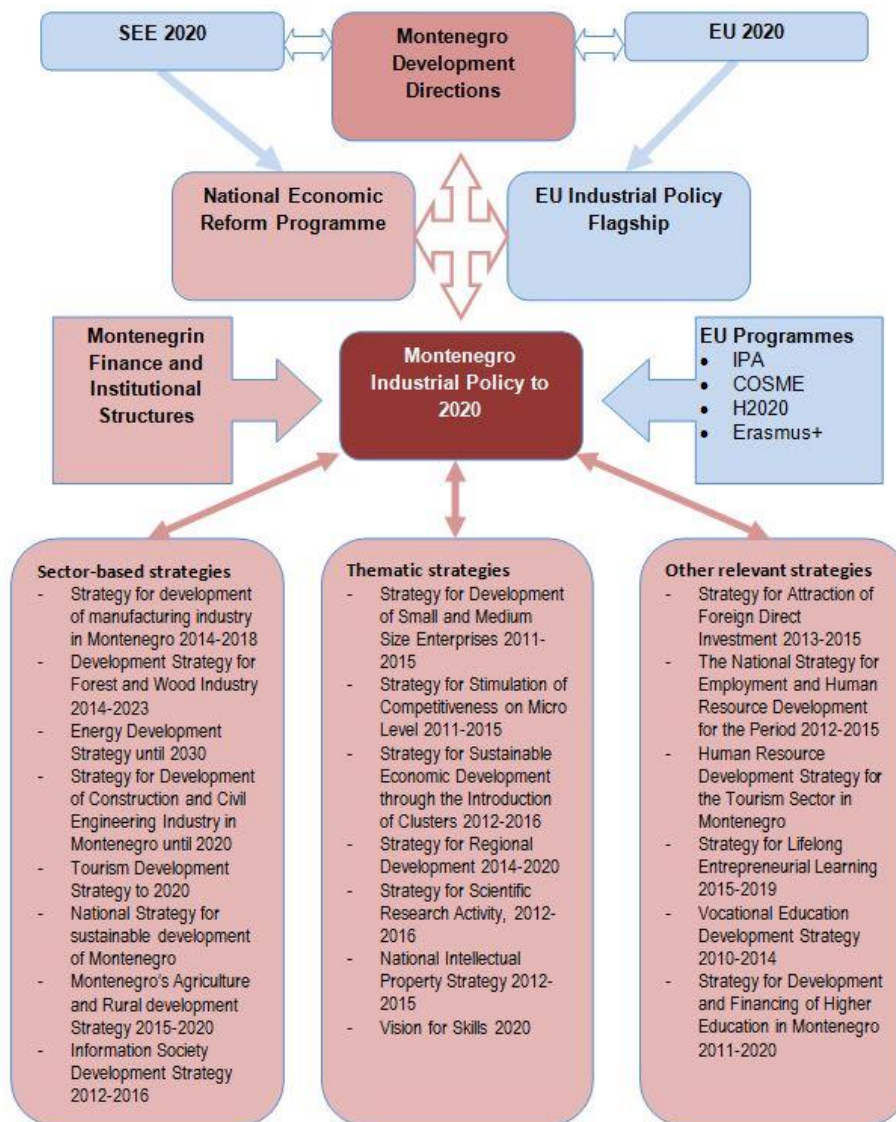
Key recommendations for formulation of Industrial policy, resulting from the process of harmonising with EU policy principles, relate to the selection of effective measures that will have impacts on increasing the international competitiveness of Montenegro.

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<sup>9</sup>The National Strategy for Sustainable Development of Montenegro until 2030 with Action plan is in the final stage of drafting.

<sup>10</sup>Harmonisation of industrial policy of Montenegro with EU industrial policy principles is also needed, as they are defined in the following strategic documents: "An industrial policy for the globalisation era" (COM (2010) 614), "Industrial Policy: Reinforcing Competitiveness" (COM(2011) 642), "A stronger European industry for Growth and Economic Recovery - Industrial Policy communication update" (COM/2012/582 final) and "For a European Industrial Renaissance" (COM/2014/014 final). In the Position Paper for industrial policy principles and key recommendations from EU industrial policy for competitiveness were analysed, as defined in the documents above.

**Picture 1: Overview of Strategic Policy Linkages**



## 2.2. VISION OF INDUSTRIAL POLICY FOR MONTENEGRO UNTIL 2020

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Activities aimed at increasing the competitiveness of the economy, which were undertaken in the previous period in Montenegro, were mostly focused on improving the regulatory framework and the business environment. Although significant results have been achieved in these areas, there is now a need to create an appropriate model of comprehensive industrial policy, which will enable a basis for further accelerating the overall economic development i.e. competitiveness of Montenegrin economy.

In terms of creating a new approach to industrial policy, aiming to increase industrial productivity, stimulate entrepreneurship and encourage innovation, the following VISION can be formulated:

**The Industrial Policy for Montenegro will create conditions for modernization of industry based on knowledge and innovation and it will provide better integration into international market, through further improving the business environment, supporting enterprises and entrepreneurship, and stimulating the use of modern technologies with a view to creating new, and better quality jobs.**

## 2.3. PRIORITIES AND STRATEGIC OBJECTIVES FOR INDUSTRIAL POLICY

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In order to create the conditions for increasing the competitiveness of Montenegro's economy, the Industrial Policy aims at removing structural and sectoral disbalances, as well as overcoming the problem of the narrow production base. Taking due account of the service-based nature of Montenegro's economy, a policy for modern industrial development is needed for industry's orientation towards higher value added production, resource efficiency and creation of new sources of economic growth.

In this sense, the priorities for Industrial Policy include:

- Boosting development and growth of enterprises, particularly in priority sectors, based on efficiency, productivity and innovation,
- Establishing preconditions for a more efficient use of available resources, and development of needed infrastructure to reduce input costs.

Previously, on the basis of the analysis carried out, the following priority growth sectors have been identified:

- Manufacturing industry – food, wood processing, metal and pharmaceuticals
- Energy
- Tourism,

as well as sectors which, to a large extent, should contribute towards modern industrial development:

- Transport
- ICT and creative industries
- Business services sector
- Construction.

In order to achieve the targets, in the long term, industrial development should be oriented towards smart specialization, i.e. innovation-led development.

## STRATEGIC OBJECTIVES OF INDUSTRIAL POLICY

Based on the quantitative and qualitative analyses carried out, as well as the consultations held with stakeholders, the following priorities and specific objectives for Industrial Policy have been identified.

<p><b>SO1: Competitiveness of industry:</b> Better business environment and conditions for the competitiveness and sustainability of industry, including tourism and other sectors with high value added</p> <p><b>SO2: Investment and finance for industrial modernisation:</b> Improved investment framework for industrial modernization through better affordability, availability and access to finance</p> <p><b>SO3: Innovation and entrepreneurship:</b> Promotion of entrepreneurship and entrepreneurial culture for innovation and stable economic growth, increased productivity and employment</p> <p><b>SO4: Market access:</b> Simplification of procedures for trade and business access to domestic and international markets</p>
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The following table provides an overview of the key thematic areas classified by strategic objectives and expected results. The table shows the relationship between the strategic objectives defined, the type of challenge identified, and the thematic type of intervention measure required to achieve the objectives, and the expected results. In addition, these results have been linked with key indicators used within EU industrial policy, in order to ensure that results can be measured and benchmarked to demonstrate progress in alignment with other European economies:

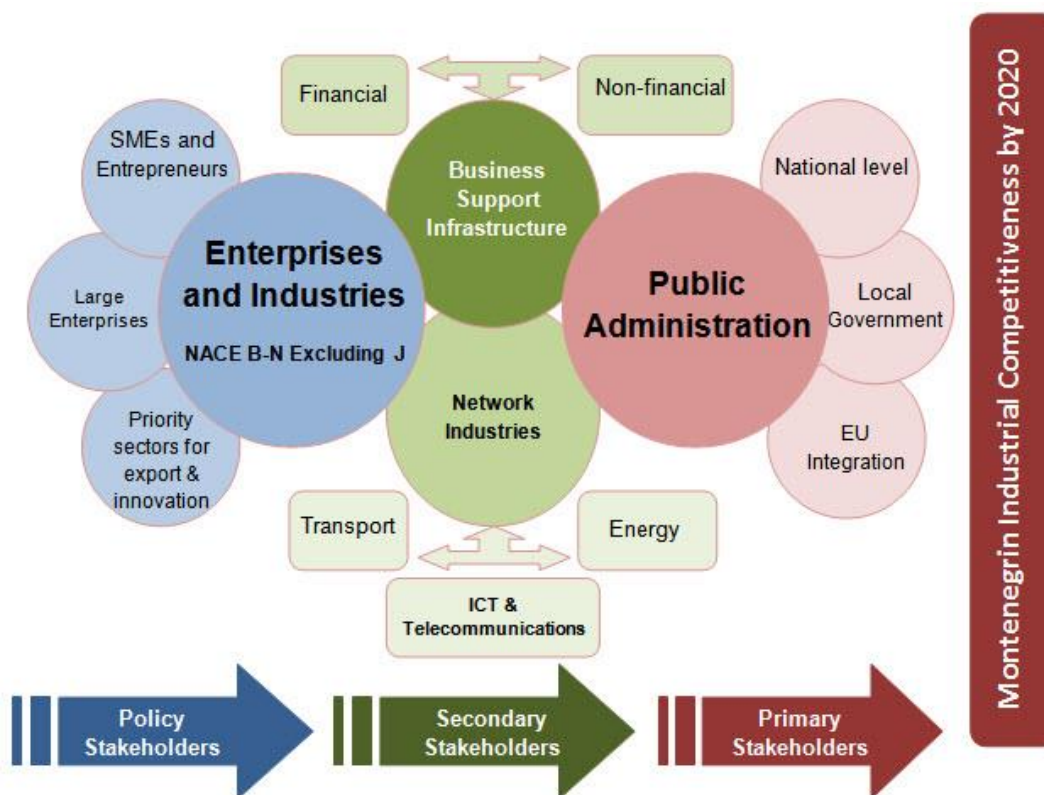
Strategic Objective	Inputs & Outputs	Thematic Areas	Expected results	Links to EU Industrial Policy Indicators
<b>Inputs</b>				
<b>SO1a. (Input) Competitiveness of industry (input)</b>	Physical capital (I)	Energy	Decreased costs Better security of supply	Energy, raw materials and sustainability (I)
		Raw materials	More efficient use of domestic resources	
		Transport	Better transport networks	Access to markets, infrastructure and services (I)
		ICT	Development of broadband internet Automation	
		Technology	Application of new technologies and modernisation of industry	
	Human Capital (I)	Education	Flexible programmes of non-formal education Improved professional training and development offer of programmes Initial teacher education in line with requirements of modern education; Established conditions for valuation of the previous learning Development of new skills and knowledge	Investment and skills (I)
			Employment	



			Increased employment, particularly amongst highly educated, professional staff, and a reduction in structural unemployment		
	Good business environment (I)	Regulatory environment and public administration	Simplified and predictable environment	Public administration and business environment (I)	
		Business Support Infrastructure	Establishment and promotion of business zones, technological parks, non-financial infrastructure, etc.		
<b>SC2.</b> Investment and finance for modernisation of industry (input)	Finance and investment into priority sectors (I)	Access to finance	Easier access to the banking sector; new financial instruments developed	Access to finance (I)	
		Investment into capital and infrastructure	Increased FDI in priority sectors		
<b>Outputs</b>					
<b>SC3.</b> Innovation and entrepreneurship (output)	Innovation (O)	Innovation results	Increased innovation output efficiency	Innovation (O)	
	Industry (O)	Priority sectors	Increased development performance of sectors and overall economy	Industry (O)	
		SMEs and entrepreneurship (O)	Institutional infrastructure		Improved model of non-financial support
			Development of enterprise networks		Improved SME business organizations
Competitiveness at enterprise level	Improved SME performance				
<b>SC4.</b> Market access (output)	Trade integration (O)	Export	Decreased balance of payments deficit	Exports (O)	
<b>SC1 (b).</b> Competitiveness of industry (output)	Productivity (O)	Technology	Use of new technologies	Labour productivity (O)	
		Processing	More stages of processing and value added		

## 2.4. TARGET GROUPS

In order to effectively meet the challenges of industrial policy outlined above, there needs to be clear definition of the target groups that will participate through each stage of the policy cycle, and the end beneficiaries of measures to support industrial policy, as illustrated in the following figure.



We define three main groups of stakeholders as well as key partners for industrial policy delivery:

- **Primary stakeholders** – these are the main beneficiaries of policy measures and actions (enterprises from the priority industry sectors that will directly improve Montenegro’s short - and long-term competitiveness);
- **Secondary stakeholders** – these are the network and supporting industries (energy, transport, ICT), as well as financial and non-financial business support structures that will indirectly improve competitiveness by helping to deliver improvements in innovation, modernisation and financial conditions;
- **Policy stakeholders** – policy makers at both national and local levels, with a role in management of implementation and policy monitoring, delivering improvements in the interaction between business and the state (e.g. through procurement, e-government etc.) and financial and logistical support to secondary and primary stakeholders in implementing industrial policy measures.

### 3. STRATEGIC OBJECTIVE 1 – COMPETITIVENESS OF INDUSTRY

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Establishment of a better business environment and conditions for increasing the level of competitiveness of industry

Activities aimed at improving the physical capital segment mainly encompass the use of national financial instruments, both from public and private sources of funding that will enable the revitalization of energy capacities, the establishment of adequate ICT infrastructure support and the provision of electronic services for businesses, better valorization of available wood and minerals. Also, through the available national funds from the agriculture budget, combined with the IPA funds, Ministry of Agriculture and Rural Development will provide encouraging investments through grants in the area of food industry and also the Ministry of Economy and Ministry of Science through incentive grants for implementation of modern technologies in the industrial sector and national co-financing of scientific research activities in the development of projects in the field of new technologies and innovations, available from EU programs.

Also, in order to develop human capital and skills to the industrial competitiveness, the activities to be implemented under the coordination of the Ministry of Education as the leading institution in cooperation with other institutions and educational institutions, as well as the National Council for Qualifications, the National Partnership for Entrepreneurial Learning, rely on national funding and are directed towards the modernization of educational programs of vocational education and study programs and creation of the necessary knowledge and skills to meet the needs of the economy as well as promoting the concept of lifelong learning. In addition, by the Ministry of Labour and Social Welfare and Employment Office by granting loans it will be enabled increased self-employment and employment in the industry and the sectors that support industrial development and also committed funds to implement education and training programs for unemployed persons seeking employment in accordance with development needs of the industry.

Within the segment of improvement of business environment at the level of the Council for improvement business environment, regulatory and structural reforms, with activities of the Ministry of Finance in cooperation with other institutions involved shall be enabled further improvement in the areas of business registration, construction permits, registering real estate and others, which will lead to a reduction in operating costs, shortening deadlines and simplifying administrative procedures. In addition, in the area of development of business infrastructure, proclamation of business zones of national and local interest, the activities of the Ministry of Economy will facilitate business to local governments and potential investors through financial support for infrastructure equipment, improvement of promotion programmes, tax and administrative facilitation on the national and local level. Also, the implementation of activities of the Directorate for Development of Small and Medium Enterprises in cooperation with local governments will further enhance the capacities of business centers and incubators to provide non-financial business support services to enterprises. Also, with provided funding of Ministry of science in collaboration with other participating institutions, will be implemented the project of establishing the first Science and Technology Park in order to further strengthen the scientific and industrial capacity and links science and industry and improved commercialization of research.

Implementation of key measures within the framework of this strategic objective will contribute towards the achievement of the following results:

## Results and Indicators

Results	Result Indicators	Target Indicator	Benchmark	Impact
<b>R1.1:</b> Improved international economic competitiveness	Lowered costs to enterprises of ICT and network industry services; Higher turnover, value added, and labour productivity within the business economy Increase in industrial production index	10% Improvement in WEF Global Competitiveness Index Rank Baseline: 70 <sup>th</sup> out of 140 countries (2015-2016) Target 2020: 63 <sup>rd</sup>		
<b>R1.2:</b> Improved business environment for all enterprises and entrepreneurs	Lowered regulatory barriers to business development Improved interaction between state institutions and businesses Better availability and quality of business development services for enterprises that can be implemented through the e-Government portal	10% Improvement in World Bank Doing Business Rank Baseline: 46 <sup>th</sup> out of 189 countries (2016) Target 2020: 41 <sup>st</sup>		
<b>R1.3:</b> Increasing the share of industry in GDP	Increasing added value through the development of the manufacturing industry by introducing modern technologies Growth the share of manufacturing industry in total industrial production Implementation of continuous activities to stop the process of de-industrialization	Increasing share of industry in GDP Baseline: 11.5% (2014) Target 2020: Increased participation of industry in GDP of at least 20%		

### Key problems:

A high foreign trade deficit, indicating poor competitiveness of Montenegro's economy  
An export/import ratio suggestive of an inappropriate offer of domestic goods within the Montenegrin market, and prices on less favourable terms than the prices of imported goods  
The structure of foreign trade indicative of a low level of competitiveness of Montenegrin products, given that imports are dominated by products of higher value-added processing stages, while exports are dominated by products of lower processing stages, mainly in raw materials and semi-finished products

### Rationale:

International competition is significantly represented within the Montenegrin market. The first priority for local companies, and Montenegrin industry, is in striving to overcome domestic market competition, and then directing business operations towards regional and EU markets. Such an orientation should facilitate the creation of key economic prerequisites for producing goods and services compliant with world market requirements within Montenegrin industry, in accordance with international competitiveness principles and free and fair market conditions, whilst at the same time changing the nature of domestic markets, alongside changes in foreign trade balance, that will maintain or increase the real incomes of citizens.

In this regard, the key requirement is the need for product-diversification within Montenegro's economy, i.e. the necessity of systematic expansion of the production and export base of the economy. For such a step, a necessary pre-condition is the development of competitive abilities amongst individual businesses, branches of the economy, and the national economy as a whole.

The integrated Industrial Policy of Montenegro will increase the level of competitiveness and productivity of enterprises, and the overall economy, through a more efficient use of physical and human capital. By improving physical infrastructure, decreasing the costs of energy and transport, enhancing use of information and communication technologies, and also through more efficient use of available raw materials for production and stimulating investment into modernisation of industry, the

key prerequisites for increasing the level of competitiveness will be created. At the same time, effectively using human resource potential is needed, implying raising of required knowledge and skills' levels and matching these with labour market needs. All these factors will be addressed through further improvement of a stimulative business environment and provision of required business infrastructure for boosting the development potential of enterprises.

Based on the identified problems and needs, the following specific sub-objectives have been defined (SO):

**SO 1.1.:** Improvement of physical capital – energy, transport, ICT, raw materials and technology for competitive enterprises

**SO 1.2.:** Development of human capital and skills for industrial competitiveness

**SO 1.3.:** Improvement of the business environment

***SO 1.1.: Improvement of physical capital – energy, transport, ICT, raw materials and technology for competitive enterprises***

The priorities within the specific sub-objective include:

- Securing energy supply, development of a competitive energy market, and sustainable energy development;
- Stimulating economic growth through safer and cheaper transport;
- Establishing Montenegro as a digital state with recognition of the social and economic potential of ICT and broadband;
- Introduction of modern technologies and valorisation of available raw material in priority sectors through higher processing stages, in order to supply the market with high-quality products.

Montenegro has significant and insufficiently used hydro-power potential, coal reserves, as well as renewable sources of sun, wind and biomass. Creating value out of exploiting this potential could fully accommodate domestic needs for energy. Improving performance, and increasing production capacity of energy supply, along with achieved energy savings, would lead to a reduction in energy prices, which would lead to increased competitiveness of domestic enterprises.

Montenegro's transport sector is characterised by an under-developed road network, the poor state of the rail infrastructure, and low capacity utilisation of the airports and the Port of Bar, as well as insufficient connection with the wider region. Certain promising locations for attracting FDI have not been capitalised on, due to inadequate transport networks and difficult distribution of goods. Development of an efficient transport system is an important prerequisite for the industrial development of the country, and the most important economic activities – tourism, agriculture and wood-processing industry. Improvement of transport connectivity, necessarily imply investments in road, rail, air and maritime transport infrastructure, to provide secure, safe, efficient and well-maintained facilities and increased integration of Montenegro into trans-European transport network.

Development and implementation of ICT is crucial for economic development. Strengthening institutional and administrative capacity, reliant on information and communication technologies, and achieving a high level of automation of business processes, will contribute to strengthening competitiveness at enterprise level. The ICT sector has a significant potential for growth, through implementing projects relating to information society, electronic communication and broadband infrastructure, which would further facilitate development of other sectors of strategic importance.

Food and wood processing industries, in which Montenegro has comparative advantages, possess significant under-used resources (forest resources and agricultural land) with potential for sustainable economic growth and development. Around two thirds of agricultural land is not cultivated, with insufficient use and exploitation of existing natural resources and capacity particularly evident in the production and processing of vegetables, dairy and meat products, honey, medicinal herbs, forest berries and mushrooms. Aiming at increase competitiveness of the food processing industry it is necessary to improve encouragement of investments in higher-stage of processing food products and

quality of food products through implementation of standards of food safety, phytosanitary and sanitary standards.

Despite the comparative advantages in availability of wood raw material and export potential, the opportunities within the wood-processing industry have not been fully realised which refer to the need of full implementation of regulatory mechanisms in area of wood trade that will, eventually, contribute to increase the level of final stage of processing. Moreover, in the area of mining, realization of contracts of concession for exploitation of mineral raw material will enable further increase of volume of production and greater utilisation in industrial value chain.

Within the metal industry, the largest numbers of enterprises are engaged in metal processing, whilst a number of small companies are engaged in metal production and processing. Taking into account the problems faced by metal industry enterprises, allocating available resources towards technological modernisation and encouragement of energy efficiency and better performance in environmental protection.

The technologies used in Montenegro's industry are mainly obsolete, over-exploited, labour-intensive and oriented towards lower-level, low value-added processing stages. Based on identified potential, capacities, and available natural resources, defining priority areas and creating pre-conditions for introducing modern technologies and their application within priority sectors of industry is needed, which will increase efficiency of investments and stimulate movement of production towards higher value processing stages. Additionally, it is necessary to enhance cooperation between science and business and promote greater application of research and innovation aiming at creation of innovative environment favourable for development of new products and services and value added.

**Key measures within SO 1.1.:**

**1.1.1. Effective use of energy potential** and reduced operating costs, through development of infrastructure for sustainable energy supply and liberalized, competitive and open energy markets

**1.1.2. Use of ICT for the development of competitive industry**, by improving supply through the development of a national broadband network, increasing business skills, and developing the e-Government single contact point for information on services

**1.1.3. Better availability of raw materials for priority sectors**, through improvement in the offer of timber raw material in order to ensure better accessibility for wood processing business, further exploitation of mineral resources and greater use in the construction industry, encouragement of investments in higher-stage of processing food products and marketing through grants.

**1.1.4. Introduction of modern technologies in priority sectors**, through the development of programmes to encourage the introduction of modern technology in these sectors, and supporting enterprise cooperation with research institutions in developing and using new technologies through eligible EU grants.

Implementing these key measures is intended to achieve the following Sub-Objective 1.1 indicative results:

- Completed reconstruction and rehabilitation of existing and develop conditions for construction of new energy power capacity including the construction of small hydro and wind power plants and capacity to use solar energy
- Establishing infrastructure and conditions for enterprises and employees to improve standard operating conditions through increasing use of modern ICT across the whole of Montenegro
- Improved use of available raw materials within manufacturing industry through higher stage production processing
- Defined conditions for enterprises in priority sectors to introduce and apply technology for enabling value added creation.

## **SO 1.2.: Development of human capital and skills for industrial competitiveness**

Priorities within the specific sub-objective include:

- Linking higher education and economy, establishing lifelong learning, and raising the entrepreneurial and innovative character of education
- Improving knowledge, skills and competences to increase employment opportunities and increased competitiveness through formal, in-formal learning and training

In order to overcome a structural mismatch between the supply of, and demand for knowledge and skills, one of the key priorities is the need to implement education system reforms for alignment with modern industrial and economic development needs. One of the key priorities is modernisation of educational programmes in line with the needs of labour market with specific focus to industry, development the national qualifications framework, with development of vocational competencies for career planning, implementation of a scholarship programme for knowledge acquisition in industrial sector alongside implementing the concept of lifelong learning. During the implementation of education system reforms, involvement of key stakeholders is necessary, in order that implemented measures gives their full effect which will be reflected in the creation of conditions in which is possible to acquire knowledge and skills that are better aligned with the needs of businesses.

Overcoming the structural nature of unemployment in Montenegro constitutes one of the key development priorities. The labour market mismatch needs to be addressed through creating better conditions for new jobs, and through investments into human capital. Modern Industrial Policy needs tools for skills forecasting for developing priority sectors, and identification of needs for specific types of qualifications and knowledge. Creation of a strategic framework for the improvement and acquisition of required knowledge and skills should contribute towards development of a competitive and dynamic economy that generates new and high-quality jobs.

### **Key measures within SO 1.2.:**

**1.2.1. Education aligned to labour market needs** through modernization of educational programmes for vocational education in industry as well as study programmes, development of occupational and qualifications standards, continuous follow up the career of faculty and high school graduates and implementing the concept of lifelong learning, which will enable greater competitiveness and labour mobility, increased employment and productivity in the priority sectors

**1.2.2. Harmonization of the educational offer in line with labour market needs, as well as improving of availability of acquiring qualifications to different target groups**, through implementing active labour market policies, providing loans for self-employment in economy, and delivering retraining programmes aiming at training for purpose of employing in line with the needs of industrial sector development.

Implementing these key measures is intended to achieve the following Sub-Objective 1.2 indicative results:

- Created system for required knowledge and skills development to meet the needs of economy and promotion of the concept of lifelong learning
- Improved conditions in the labour market that strengthen capacities and skills, enabling greater labour mobility, employment and new job creation

## **SO 1.3.: Improvement of the business environment**

The priorities within the specific sub-objective include:

- Improvement of the existing regulatory framework and business environment
- Established and improved required core business infrastructure

A reliable, predictable and clear legal and administrative framework aims at establishing legal transparency and minimizing business obstacles facing enterprises in their business operations. Establishing such an environment is of paramount importance for economic development, due to its' direct impact on competitiveness, levels of investment, and economic dynamism. Despite continual

and ongoing reforms relating to business environment improvements, regulatory bodies and institutions still need to work, in future period, towards further eliminating administrative barriers and decreasing costs incurred by enterprises in their business activities as a result of the regulatory framework, specifically in full implementation of on line registration of companies and introduction of electronic signature in the process of issuing construction permits.

The existing policy of tax incentives provides significant incentives for the development of the tourist industry and energy (zero VAT rate for the supply of products and services for the construction and equipment for high quality hotel, an energy facility for electricity generation capacity exceeding 10 MW with investment value exceeding EUR 500,000) which is closely related to the achievement of the goals in the field of physical capital i.e. energy and encouraging investment in tourism and subsidizing investors in the field of hotels construction. Allowances against income tax, and income taxes on employment of new workers in underdeveloped municipalities have also been introduced. In the coming period, after adoption of the Law on Innovation, introducing tax incentive instruments for investment in research and innovation in enterprises are being considered in order to further encourage the growth of the company based on innovation (more detailed under the strategic objective 3).

A good environment for business operations and enterprise development needs appropriate business infrastructure including: business zones, science-technological parks, business incubators, business centers. Business zones should enable investor to use space eligible for building premises which are equipped with infrastructure and able to be used by the larger number of companies and producers, along with the set of business incentives defined by the local governments such as local communal charges, more favourable rental price within the zone, decrease of different types of tax rates etc. This will provide further development of micro and small enterprises and enhancement of employment in less developed municipalities. Additionally, the establishment of relevant institutional framework which will stimulate innovation and facilitate technology absorption such as technological parks, represents very important issue which will stimulate excellence in science in areas where the scientific and business potential is large, whilst on the other hand stimulates entrepreneurship potentials based on innovation which will directly contribute to strengthen the competitiveness of economy. Industrial Policy mechanisms should provide further improvement in the framework for development of business infrastructure and improvement of capacities of business centers and incubators to deliver business services.

**Key measures within SO 1.3.:**

**1.3.1. Improvement of the regulatory framework and business environment**, by further strengthening systematic use of regulatory impact assessment (RIA), implementing recommendations of the "regulatory guillotine" Action Plan related to industry, as well as through other actions to improve the business environment in all relevant areas of Doing Business Report with focus on company registration, issuing construction permits, registration of real estate and tax payment.

**1.3.2. Development of the business infrastructure aligned with enterprise needs**, through the development of business zones; establishment of a science and technology park; encouraging the development of incubators; further strengthening the institutional infrastructure at local and regional level to provide non-financial business support services to the companies.

Implementing all the key measures within this strategic objective, stated above, would contribute towards achieving the following results:

- Improved business environment through creating a clear and predictable regulatory framework, reducing operating costs, shortening of deadlines and simplification of administrative procedures
- Upgraded business activities of enterprises in priority sectors using enhanced services provided by the business zones, technology parks, incubators and business centres



## 4. STRATEGIC OBJECTIVE 2 – INVESTMENT AND FINANCE FOR THE MODERNISATION OF INDUSTRY

Improved investment framework for the modernization of industry through better affordability, availability and access to finance

In the area of access to finance for the enterprises from industrial sector, mechanisms of credit support and support for liquidity as factoring arrangements are provided at national level by IDF. Those favourable instruments will support creation of new enterprises, growth and development of existing and new job creation.

Moreover, offer of new financial instruments like credit guarantees and equity financing are available through COSME and WB EDIF programmes. Implementation of such programmes and participation of financial intermediaries should be improved in further period.

Support to direct investments in priority sectors is based on the national sources through incentive measures as grant support for new job creation, and is provided by relevant Ministry of Economy and Secretariat for Development Projects.

Implementation of key measures within the framework of this strategic objective will contribute towards the achievement of the following results:

### Results and indicators

Results	Result Indicators	Target Benchmark Impact Indicators
<b>R2.1:</b> Improved affordability, availability and access to finance for enterprises	<p>Increased availability of different forms of loan finance for investment and working capital;</p> <p>Improved skills of enterprises in accessing suitable finance for different development stages</p>	<p>50% increase in providing funds by FI from Montenegro from financial institutions supported by the EU, for placement in industry</p> <p>Baseline: €121 million value of EIB financial contracts for SMEs and priority projects (from 2011 to 2015), the EIB)</p> <p>40% increase in value of loans through non-financial institutions</p> <p>Baseline: €975 million (CBCG, 2014)</p> <p>Availability of investment readiness training for SMEs</p>
<b>R2.2:</b> Improved financing for innovative enterprises	<p>Better use of instruments for lending from COSME and H2020</p> <p>Introduction of business angel, venture capital, and other equity finance instruments;</p> <p>Increased use of innovation grants &amp; vouchers</p>	<p>10% Improvement IESE Venture Capital and Private Equity Index global rank</p> <p>Baseline: 91<sup>st</sup> out of 120 countries (2015)</p> <p>Target 2020: 82</p> <p>At least 5 enterprises secure equity investment for innovation through EDIF or other EU-financed sources</p>
<b>R2.3:</b> Increased direct investments into Industrial sector	<p>Increased level of investment into fixed capital within industry and network industries</p> <p>On time completion of planned tourism and industry infrastructure developments</p> <p>Project pipeline of approved projects for investment</p>	<p>10% increase in investment into fixed assets</p> <p>Baseline: € 114 million (2014, Monstat)</p> <p>The share in GDP of foreign direct investment at the level of 15%</p> <p>Baseline: net inflow of FDI - 10.4% of GDP (2014 CBM)</p> <p>Increasing the level of investment through project WBIF</p>

**Key problems:**

- Financial means and instruments currently available are not fully aligned with existing and potential demands of enterprises
- Inadequate level of direct investment within priority sectors

**Rationale:**

The development of modern industry in Montenegro requires the provision of funding from national, and various foreign sources. Aside from public sector incentives, specific EU programmes as well as private sector funds provide a significant source, supported through commercial arrangements within financial markets. The current financial market is characterized by a lack of funding opportunities for start-ups and business growth, due to adverse banking sector credit support.

In order to improve current finance supply, the Investment and Development Fund of Montenegro (IDF) product placement is on favourable terms compared with the market and provides additional funds by making financial arrangements with international institutions (EIB, EBRD, World Bank, etc.).

Equity-based financial instruments are of particular value to innovative and fast growing enterprises, either as investments based on equity ownership, or through mezzanine investments combining credit-based investments with owner's equity. Although these enterprises make up only a small share of the enterprise sector, they are of crucial significance in ensuring long-term competitiveness, especially within certain market segments (e.g. digital technology and ICT).

In this context, improvement of existing, and introduction of new financial instruments, should facilitate easier access to capital by enterprises, in a manner and under conditions appropriate to their stage of development and needs, and directed at liberating innovative potential and growing their competitiveness. Also required are further improvements in developing a competitive business environment that will create conditions to attract more foreign and domestic direct investment, particularly within priority sectors.

So far, foreign investments have mostly been related to the tourism and construction sector, and to a smaller extent into other sectors where Montenegro has comparative advantages. There have been recent delays in implementing some investments, although these are anticipated to be re-commenced in the coming period, especially with the further improvement of the regulatory framework and the creation of a favourable and safe business environment, alongside strengthening of institutional capacities and improvement of the necessary infrastructure.

Based on the identified problems and needs, the following specific sub-objectives (SO) are defined:

**SO 2.1.** Improving access to finance for competitive and innovative enterprises

**SO 2.2.** Encouraging direct investments in priority sectors

***SO 2.1.: Improving access to finance for competitive and innovative enterprises***

The priorities within the sub-objective are:

- Improving access to capital markets
- More dynamic banking sector activities
- Development of new financial instruments

The operations of commercial banks in Montenegro are characterized by annual growth of capital and deposits, with the trend of slight increase in recent years. Need for financial restructuring of economically viable businesses on an agreed basis is also significant, as it will contribute towards alleviating negative trends and improvement of banks' credit activities. In this sense, it is very important to enhance quality of credit risk management through enhancement of legislation which will contribute to improvement of business environment and encourage more dynamic and flexible credit activities of banks in financing entrepreneurship projects.

Activities of the Investment and Development Fund of Montenegro are directed at bridging the gap between supply and demand in financial markets. Given IDF's programme orientation, as well as potential participation in available EU financial instruments for enterprise support (HORIZON 2020, COSME), IDF can improve on the current credit guarantee scheme, or consider opportunities for developing a new programme related to equity-based investment financing. This would represent significant financial support to growing innovative and competitive SMEs. Also identified as needs are development and improvements of instruments for export readiness and export insurance.

Given that some of these financial instruments are not sufficiently developed in Montenegro, there is a need to strengthen cooperation with available regional programmes such as WB EDIF, ENIF fund. Moreover, it is needed to encourage investments within WBIF in area of technical support, implementation and enhancement of institutional capacity. At the same time, preparing entrepreneurs and business people, financial brokers and counsellors for more extensive use of alternative sources of financing is needed, through intensifying training in the area of enterprise investment readiness, as well as learning related to equity-based investment. Enhanced cooperation between existing microfinance institutions and industry sector is also needed, through implementing activities related to possibilities through EU programmes.

**Key measures within SO 2.1.:**

**2.1.1. Involvement of IDF in EU financial programmes which will enable development of new financial instruments** aimed at strengthening capacity and industry modernisation in priority sectors, and improving enterprise liquidity

**2.1.2. Creation of new financial instruments for investment in equity for innovative-fast growing enterprises and guarantee schemes that can be used by the banks, based on current EU programs for the Western Balkans, as well as preparation of infrastructure investment projects** for implementing and strengthening institutional capacity for realisation of arrangements and participation in programs that enable increase of investment in energy, transport, infrastructure and environmental protection

Implementation of the key measures within this strategic sub-objective would contribute towards achieving the following results:

- Expanded overall offer of IDF, as well as the use of available EU programmes
- Establishment of new financial instruments, in particular aimed at innovative and fast-growing enterprises and implementation of infrastructure projects

**SO 2.2.: Encouraging direct investments in industrial sectors**

The priorities of this sub-goal are as follows:

- Provide an appropriate framework and conditions for attracting new investments

Success in attracting foreign direct investments (FDI) should be based on activities primarily directed at completing a favourable regulatory framework, and creating a competitive business climate. Institutional development capacity is needed to fully monitor FDI processes, from attraction of foreign investment through to full implementation. Additionally, developing human resources for commencement and implementation of the overall investment is one of the key elements of success.

In order to maximize impact of foreign direct investments, focus should be on available capacities in sectors and areas which possess comparative advantages. In this respect, aside from tourism, interest of foreign investors should be in those sectors with available, yet under-utilised natural resources, as well as where production is currently primarily within lower value processing phases. These areas include: food processing, wood industry, metal processing and pharmaceuticals.

The Regulation to encourage investment should be highlighted, which is aimed at attracting investment projects with a minimum investment value of 250.000/500.000€ and at least 10/20 new jobs created, through investments in land, buildings, manufacturing plants, machinery and equipment, but also through intangible investments (patents and licenses). The Regulation makes basis for

financial incentives for attracting direct investments, especially in manufacturing industry aiming at creating new job positions and introducing new technologies and knowledge. Encourages investment projects that permit a dominant share of domestic suppliers, and development of services and products sold in international markets. Especially valued are investment projects implemented in less developed territories of Montenegro. Providing relevant incentives to the investors will directly contribute to increase industrial share in GDP through gained effects in employment increase, production and export.

**Key measures within SO 2.2.:**

**2.2.1. Promotion and communication for attracting investments into target sectors, as well as the application of the Regulation on encouraging direct investment promotion** through presentation of available investment potentials, establishing contacts and negotiations with potential partners and investors on use of available investment stimulation

Implementing all the key measures within this strategic sub-objective would contribute to the achievement of the following results:

- Increasing the level of direct investment in industrial sector,
- New jobs creation within industrial sector and less developed areas.

## 5. STRATEGIC OBJECTIVE 3 – INNOVATIONS AND ENTREPRENEURSHIP

Promotion of entrepreneurship & innovation for stable economic growth, raised productivity and employment

In the innovation area, more specifically in relation between science and research institutions and centers of knowledge with the enterprises, grants for R&D are provided by the Ministry of Science together with additional incentives in grants for innovation by the Ministry of Economy. Improvement of energy efficiency for enterprises in industrial sector, Ministry of Economy plans to establish as financial incentives within EU programmes. Business support services to enterprises is also provided by the Ministry of Economy with information, education, training, mentoring and promotional activities with additional support within international projects.

Enterprises can use stimulation measures in food processing area from Agro budget and IPARD programmes, from the Ministry of agriculture and rural development. For tourism improvement there are incentives in tax relief, subsidy of interest rate for construction and adaptation of hotel capacities and ski resort construction, provided by the Ministry for sustainable development and tourism in partnership with IDF.

Implementation of key measures within the framework of this strategic objective will contribute towards the achievement of the following results:

### Results and indicators

Results	Result Indicators	Target Benchmark Impact Indicators
<b>R3.1:</b> The growth of enterprises through innovation within the priority sectors	<p>Increased turnover and value added of enterprises in priority sectors</p> <p>Improved innovation performance of enterprises</p>	<p>Average 5% annual increase in turnover of enterprises until 2020</p> <p>Baseline: 103.3 in 2014 (index base 2012=100 Monstat turnover index for industry)</p> <p>Target 2020: 120</p> <p>10% increase of investments in research and development of business sector and higher education sector</p> <p>Baseline: business sector 6.2 mil €, higher education 3.4 mil € (2013, Monstat)</p> <p>10% average improvement in World Bank Enterprise Survey innovation indicators</p> <p>10% increase in use of ICT for e-commerce by business</p> <p>Baseline: 14.3% receiving orders via the Internet (2014 Monstat ICT report)</p>
<b>R3.2:</b> Better linkage between research and industry that increases innovation of enterprises	<p>Increased SME participation in H2020 projects</p> <p>Raised levels of grants for innovation</p>	<p>10% improvement in Global Innovation Index rank</p> <p>Baseline: 41st out of 141 countries (2015)</p> <p>Target 2020: 36<sup>th</sup></p> <p>Rise in annual funding from H2020 compared with average FP7 funding</p>

	<p>Increase in all types of intellectual property rights protection applications by Montenegrin organisations</p> <p>Increased focus on sustainable business development</p>	<p>Baseline: €3.5 million (FP7 2007-2013)</p> <p>Target 2020: € 5 million</p>
<p><b>R3.3:</b> Effective business support provided to all enterprises and entrepreneurs at all stages of business development</p>	<p>Better integration, networking and signposting of relevant services to SMEs</p> <p>Increased participation in EU community programme transnational measures to improve business support services</p>	<p>Increased score on all dimensions of SBA assessment through SME Policy Index</p> <p>Baseline: SME Index 2015 scores</p> <p>Ranked in top 50 in the world in the Global Entrepreneurship &amp; Development Index</p> <p>Baseline: 54<sup>th</sup> out of 132 countries (2016)</p> <p>Target 2020: &lt;50</p>

#### Key problems:

- Low level of enterprise productivity and competitiveness, and small numbers of enterprises basing development on innovation, knowledge
- Current cooperation between enterprises and science has not reached an appropriate level to facilitate significant results in the field of innovation
- Current non-financial institutional support is not fully developed and does not meet the development needs of SMEs

#### Rationale:

Boosting development of entrepreneurship, and technological and non-technological innovation potential, represents a key basis for raising enterprise and overall economic competitiveness of Montenegro, which should result in increased productivity and high-quality employment. To this end, horizontal measures related to networking of the enterprises with the research-development institutions and knowledge centres through grants for R&D and commercialisation of innovation and intellectual protection of innovation are important and can contribute to facilitation of the modern technologies implementation within enterprises and creation of conditions for the realization of the concept of smart specialization in the longer term.

Moreover, aiming at enhance efficiency of business, it is necessary to provide efficient management of energy within enterprises and use of renewable sources of energy. At the same time, for further industrial development it is important to steer the support to rural development, specifically with investments in capacities for food processing and new technologies. Further improvement of connection with agro and mountain tourism is at significance importance, as well as diversification of tourist offer and improvement of hotel and accommodation facilities and quality of services.

Based on the identified problems and needs the following sub-objectives (SO) are defined:

- **SO 3.1.:** Improving innovation efficiency of enterprises
- **SO 3.2.:** Promotion of entrepreneurship and development of SMEs

#### **SO 3.1.: Improving innovation efficiency of enterprises**

The priorities of this sub-objective are as follows:

- Creating conditions to stimulate innovative potential within enterprises

- Strengthening linkages between science and economy

In the context of strengthening science-industry linkages, and thus improving Montenegro's innovative capacity, current public sector support has primarily focused on the creation and development of an institutional framework for developing or building this cooperation. In 2014, the first Centre of Excellence was established in Montenegro, comprising a consortium of six research institutions and two enterprises. Development of the first Science and Technology Park also commenced, in the scope of which, work was started on the first innovation-entrepreneurship centre "Technopolis" in Nikšić. This is one of three innovation centres of the Science and Technology Park. Alongside other support instruments for entrepreneurship and development of high value products, the Science and Technology Park should provide a catalyst for innovative activities, to foster cooperation between academic institutions and business.

In addition to the establishment of an adequate institutional framework, strengthening science-economy linkages will be facilitated through competitive grants for research and development small-scale projects, programmes of support to innovation, promotion activities directed at SMEs, as well as awareness raising on the importance of innovation

In the forthcoming period, creating an integrative environment for enhancement of technological and non-technological innovation is needed that would help to raise the levels of innovation results in enterprises, as well as market commercialization. Effective public sector support should facilitate and enhance development of open innovations, networking of enterprises, and cooperation with key partners (universities, research institutions, business centres, consulting firms, suppliers, customers, competitors, etc.). Through this broad networking, enterprises will be assisted in overcoming obstacles related to: efficient use of available resources; technological capacities; implementation of modern management systems; commercialising innovation; access to markets; and rapid adaptation based on customer needs and development of competition.

#### **Key measures within SO 3.1.:**

**3.1.1. Providing grants for R&D and other incentives to enterprise engagement in research and innovation** through identification of enterprise needs from scientific research institution services, improving the operations of the centre of excellence that are aimed at raising innovative capacities, and implementing a programme of support for the introduction of innovations into business.

**3.1.2. Promotion of energy efficiency and energy management** through establishment of financial stimulation aimed at energy efficiency principles with the opportunities provided through EU programmes.

Implementing the key measures within this strategic sub-objective would contribute to the achievement of the following results:

- Operational institutional infrastructure facilitating science and economy linkage that realises the innovative potentials of enterprises
- Rational use of energy resources in business, based on principles of environmental protection, improving energy efficiency and greater use of renewable energy sources

#### **SO 3.2.: Promotion of entrepreneurship and development of SMEs**

The priorities of this sub-objective are as follows:

- Promoting a non-financial support for enterprise development
- Strengthening non-financial support aimed at improving innovative business performance and development of new businesses

The quality and coverage of existing non-financial enterprise support in Montenegro requires further improvement and capacity strengthening of service providers. This includes new models that will provide needed on-financial support to newly-established and existing enterprises, aligned with development needs and levels, and especially at the local and regional level.

The needs for modern enterprise development should be met and supported through specific types of non-financial support, provided in a manner and place fit for evolving enterprise capacities. To this

end, improvements in business support are required that provide services to: encourage development of existing and new enterprises; develop orientation towards priority sectors and support linkages between production companies in priority sectors with services activities, which would contribute to raising productivity and increasing product and service quality.

Moreover, it is necessary to encourage support to agro industry and tourism in rural areas as well as realize measures for improvement of tourism facilities, touristic offer and quality of services development.

**Key measures within SO 3.2.:**

**3.2.1 Improvement of the non-financial support model in line with development and innovation needs of enterprises**, through creating comprehensive electronic guide on available support for business services; providing business support services in different areas (intellectual property, energy efficiency), further implementation of mentoring programme, as well as capacity building for enterprise participation in special programmes of support by the EU, specifically H2020 and COSME

**3.2.2 Encouraging industrial development in rural areas** through implementing specific support programmes aimed at agro industry entrepreneurship development in rural areas, as well as rural, eco, agro and mountain tourism

**3.2.3 Encouraging improvement of existing and creation of new enterprises oriented towards priority sectors**, through: improvement of existing and development of new facilities; diversification of touristic offer and improvement of the touristic product.

Implementing the key measures within this strategic sub-objective would contribute to the achievement of the following results:

- Established an improved model that creates condition for integrated non-financial support established to meet the needs of enterprises from the local to the national level,
- Development of micro and small enterprises in rural communities in priority sectors.



## 6. STRATEGIC OBJECTIVE 4 – MARKET ACCESS

### Simplification of trade procedures and better business access to domestic and foreign markets

In terms of strengthening the export performance of companies, the Ministry of Economy implements continuous activities aimed at improving the organizational concept of clusters and strengthening the connection between enterprises through financial support for the implementation of a program encouraging the development of clusters and grants for capacity building for cluster management and the promotion of the development of new clusters. Additionally to the business entities it is available grant financial support for improvement the implementation of international business requirement standards of doing business in the industrial sector, as well as incentives from the Agro budget implemented by the Ministry of Agriculture and Rural Development in the field of introduction and certification of quality management systems and food safety, as well as the inclusion of agricultural producers in registered quality schemes.

Also, in order to achieve full harmonization of technical regulations and standards, in coordination of the Ministry of Economy will enable further strengthening of the quality infrastructure system and acceptance of harmonized EU standards and also the Ministry of Defence in terms of implementation of NATO standards, codification and certification according to NATO standards. In the area of support for the internationalization of enterprises and their business in foreign markets, Directorate for Development of Small and Medium enterprises through the activities of the Enterprise Europe Network with national financial support within COSME program will further contribute strengthening the export performance of enterprises and their greater inclusion within the region and the EU.

Implementation of key measures within the framework of this strategic objective will contribute towards the achievement of the following results:

#### Results and indicators

Results	Result Indicators	Target Benchmark Impact Indicators by 2020
<b>R4.1:</b> Reduced trade imbalance through increasing of export, and reducing of imports in the priority sectors in which Montenegro has a comparative advantage	<ul style="list-style-type: none"> <li>- Increase in export volume, number of products exported, and diversified export markets</li> <li>- Increased international competitiveness through clustering and integration into global value chains</li> <li>- Reduced imports due to increased competitiveness of domestic producers</li> </ul>	<ul style="list-style-type: none"> <li>- Increase in exports as share of GDP to 45% Baseline: 40.3% (2014, Monstat)</li> <li>- 10% increase in number of different products and services exported Baseline: 5,457 HS 6-digit export products with export value greater than €100k (2014, Intracen) Target 2020: 6,000</li> <li>- 10% increase in intra-EU and CEFTA trade Baseline: Exports – world, 2014: €333,166 thousand; CEFTA 46%; EU-28 36% (Monstat)</li> <li>- 10% increase in exporting enterprises within manufacturing (World Bank Enterprise Surveys) Baseline: 11.4% of manufacturing enterprises engaged in direct export (2013)</li> </ul>
<b>R4.2:</b> Better environment for trade facilitation through trade logistics that simplify and reduce the costs of international business for	<ul style="list-style-type: none"> <li>- Better market access</li> <li>- More efficient trade clearance processes</li> <li>- Improved quality of trade and transport related infrastructure</li> <li>- Competitively priced</li> </ul>	<ul style="list-style-type: none"> <li>- 10% improvement in WEF Global Enabling Trade index world rank Baseline: 49<sup>th</sup> out of 138 countries (2014) Target 2020: 45<sup>th</sup></li> <li>- 10% improvement in World Bank Trade Logistics Index global rank</li> </ul>

exporters	shipments and logistics services - Easy enterprise access to support and information on trade regulations through EU portals and the e-government portal	Baseline: 67 <sup>th</sup> out of 160 countries (2014) Target 2020: 60 <sup>th</sup>
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### Key problems:

- Low level of competitiveness in priority sectors due to focus on primary processing
- Insufficient production capacities that can meet needs of domestic and foreign markets
- Inadequate organization of enterprises in preparation and joint participation within foreign markets

### Rationale:

One of the key problems of Montenegrin economy is a high foreign trade deficit incurred as a result of low competitiveness of the Montenegrin economy and high dependence on import. The import ratio is around 21%. The structure of imports indicates weak diversification and dominance of primary processing products, raw materials, and intermediate goods. The import structure is dominated by consumer goods, primarily products from the food industry.

The current state of Montenegrin industry points at a need for transition towards more efficient use of all resource. This is especially true in the agro-food industry, which can significantly replace imports and satisfy the needs of the tourism sector, yet which is also endowed with significant development capacity geared towards export. The wood processing industry also has similar potential. In addition to these sectors, as already mentioned, there is significant potential in the energy sector and the metal industry.

An important component in re-orientation of Montenegrin industry is the development level of enterprises, alongside production potential, and a need to raise enterprise competitiveness. Given size and structure, a key challenge is the need for introduction of new technologies, increased capacities, and meeting standards and certification. This would result in long-term stabilisation of production quality, and would provide for greater participation in domestic and foreign markets. This is especially true in relation to the process of clustering, so that individual stages of business operations could be made more efficient and less costly, especially in preparing for production and foreign market penetration, as well as integration into global value chains.<sup>11</sup>

Based on the identified problems the following sub-objective is defined (SO):

**SO 4.1. Strengthening enterprise export performance in priority sectors**

### **SO 4.1.: Strengthening enterprise export performance in priority sectors**

The sub-objective priorities are as follows:

- Increasing the competitiveness of individual enterprises
- Improving the structure of export

Conducting business in modern conditions is mostly related to innovation, quality and business connections. Thus, clusters have significant role in innovation, introduction of high technologies and improvement of productivity whereby enhances their competitiveness.

Apart from it, domestic enterprises can significantly increase domestic market competitiveness as well as positioning within foreign markets with implementation of modern management systems, quality products which meet required standards, and information about other markets and demand

<sup>11</sup> An industrial value chain can be defined as the stages of value creation by enterprises and other organisations as part of the process of design and production of goods and services for intermediary and end users.

characteristics. These can serve to diversify production and extend the export base, which will fully realise Montenegro's comparative advantages.

Bearing these challenges in mind, the support should be aimed at measures which will assist companies through all phases of business and development, with a focus on: better enterprise organisation, development of modern production processes, new products, achievement of specific standards and promotion of businesses on foreign markets.

**Key measures within SO 4.1.:**

**4.1.1. Improvement of the concept of the enterprises' organization into clusters and strengthening of enterprise networks** through technical and financial support targeting enterprises with innovation and growth potential within priority sectors, improving production, developing new products, and entering into new markets

**4.1.2. Realization of support programme for enterprises' for implementation and certification based on standards**, through raising awareness of the importance of standardisation, harmonisation with international business standards in industry, and those related to agro-food processing, geographical indication of origin, control of forestry management

**4.1.3. Complete harmonization of technical regulations and standards through** further improvement of quality infrastructure aiming at enhancing competitiveness of companies and acceptance of harmonized EU standards

**4.1.4 Standardization of codification procedure and quality assurance of products for needs of defence purposes** with implementation of NATO standards and NATO certification

**4.1.3. Support to internationalization of the enterprises and their business within foreign markets** by: information provision and support aimed at developing business networks with foreign partners

Implementing the key measures within this strategic sub-objective would contribute to the achievement of the following results:

- Better informed and increase enterprises organization within clusters, particularly in priority sectors
- Increased number of enterprises with introduced required standards and certification
- Strengthened export performance of enterprises, and there larger inclusion into markets within the region and EU

## **7. MODERNISATION OF INDUSTRY IN LINE WITH THE EU INTERNAL MARKET REQUIREMENTS**

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Industrial modernisation through use of modern technologies and production facilities, skills upgrading, improvement of industrial value chains, and integration of Montenegro into global value chains, should link technology developers (universities, research and technology organisations), start-ups, enterprises and manufacturers within an integrated entrepreneurial eco-system.

Support to industrial modernisation combines national resources with available EU financial instruments in support to technological areas and sectors with growth potential and development of framework for support to industrial modernisation and innovation.

### **7.1. SUPPORT TO TECHNOLOGICAL AREAS AND SECTORS WITH GROWTH POTENTIAL**

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Modernisation of technological areas and sectors with growth potential envisage support from programmes implemented on national level like IPARD, IPARD like, credit lines of IDF, national projects for development of specific sectors with additional use of different EU programmes and instruments available to Montenegro through COSME, H2020, EUREKA, WB EDIF, EASI, ERASMUS, etc. Those instruments enable financing of projects, integration into European knowledge networks, creation of business cooperation and technology transfer and therefore represent elements which contribute to modernisation and industrial competitiveness.

#### **7.1.1. KEY SECTORAL CHALLENGES FACING MONTENEGRO**

Based on the analysis and identification of possible support instruments for industrial modernisation, this section summarises key sectoral challenges facing Montenegro. These are:

- Improving network connectivity to develop better industrial linkages and networks;
- Moving up the global value chain in the agro-food sector and wood processing;
- Improving long-term tourism potential by development of ‘experience industries’;
- Industrial modernisation through leveraging potential of ICT and key enabling technologies;
- Increasing industrial output and exports in R&D intensive industries;
- Reorientation and restructuring of the metal industry; and
- Supporting specialised industry sub-sectors with export potential and market specialisation.

For each of these, specific sectoral support recommendations and policy measures are proposed, which apart from national instruments, focus give use of most relevant EU instruments for financial and technical support (Annex: Modernisation of industry in line with the EU internal market requirements).

#### **THE CHALLENGE OF IMPROVING NETWORK CONNECTIVITY**

Network industries are important part of industrial competitiveness in sense of costs and efficiency of production and access to market. They are defined as industries which support the movement of people, products or information via a physical network of a certain kind, including:

- Transport networks (road, rail, air) - NACE 2 H;
- Information networks (mail, telecommunications) – NACE 2 J; and
- Utility networks (electricity, water, waste) NACE 2 D, E

Network connectivity requires significant capital investments which can be financed through Western Balkan Investment Framework (WBIF). Implementation of measures for financial and technical support to implementation of network infrastructural projects is provided partially from national level and in a large scale from international financial institutions and enables improvement of network connectivity, network quality and integrated network services (Annex 4. Table 1).

## **BETTER VALUE CHAINS IN THE AGRO-FOOD AND WOOD PROCESSING SECTORS**

Agro food processing and wood processing are two strategic sectors for Montenegro within manufacturing industry. Support to agricultural producers within agro and food processing industry is available through grants within IPARD II and IPARD like programmes, which are implemented from national level, as well as World Bank financed project “Montenegro Institutional Development and Agriculture Strengthening” (MIDAS Project). For further growth of international competitiveness of agro and food processing industry, use of relevant EU instruments such as H2020, COSME, EUREKA is envisaged in the area of food processing, improvement of productivity in food processing and transnational cooperation (Annex 4: Table 2).

The wood industry, which is presented in the most of strategic and planning documents as one of the strategic sectors and that along with tourism and agriculture presents the main backbone for development of Montenegro after a certain period of stagnation, this industry records a slight recovery trend. To achieve a goal of economically successful and profitable export sectors, there is a clear need for significant support through implementing measures, defined within sectorial policies in area of wood industry, biomass with emphasis on saw mills and related activities; wood-based panel plants; primary wood furniture manufacturing; and wood for energy production and biomass energy. Aiming at turning wood processing higher up into the value chains, together with skills development, innovation and cluster development, and aiming at use of more advanced wood processing processes, available credit support form IDF for wood processing and clusters can be additionally combined with available instruments H2020, COSME and ERASMUS +, etc. (Annex 4, Table 2).

## **DEVELOPMENT OF EXPERIENCE INDUSTRIES LINKED TO TOURISM**

“Experience industries” are based on development of business that provides customer ‘experience’ in the use of innovative products and services. In addition to planned development of new tourism infrastructure (building of hotel capacities, ski resorts, etc.), primarily through foreign direct investment, then incentive measures for diversification of tourism offer which are all implemented from national level, together with IDF credit lines for tourism, the industrial policy identifies specific EU instruments for support to experienced industries. In order to implement projects from tourism and experienced industries it is feasible to use EU programmes for financial support to sustainable tourist companies, development of agro-tourism, making cooperation in culture and creative sectors, etc. within H2020, COSME; EUREKA, EASI, ERASMUS +, Creative Europe Programme, IPARD II program (Annex 4: Table 3).

## **POTENTIAL OF ICT AND KEY ENABLING TECHNOLOGIES**

ICT technologies is an area where Montenegro has research potential that can also contribute towards industrial modernisation. On the other hand, development, use and introduction of Key Enabling Technologies (KET) and connection with ICT technologies is significant in reduction of costs of industrial production, enhancing business and labour productivity and development of new markets in emerging industries.

The introduction and use of key enabling technologies is enabled through development of technologies and applications within the Montenegrin research base, including the intellectual

property rights for the new technologies and adaptation based on technology transfer and licensing agreements.

Support to development of ICT infrastructure, new products and services, models of business based on ICT technology is nationally provided by IDF credit line together with availability of use of EU support instruments for development and adoption of new technologies, like H2020, EUREKA, Fund for innovative enterprises ENIF, COSME (Annex 4: Table 4).

### **FOCUS ON INCREASING OUTPUT IN R&D INTENSIVE INDUSTRIES**

Pharmaceutical industry as a priority high technology sector and leading example of a mature export industry should be targeted for specific sectoral assistance. The support measures should be targeted toward enhancing access to finance and providing investment capital for modernisation of production facilities, product diversification (only 4 products are currently exported) and attracting new export markets (more than 99% of exports are sold to only 3 export markets).

Further policy growth to support pharmaceutical industry should be based on guidelines of relevant EU documents from this area (Annex 4, Table 5).

### **REORIENTATION AND RESTRUCTURING OF THE METAL INDUSTRY**

Metal industry, i.e. aluminium sector, represents the largest export sector by value within Montenegro. Further growth of metal industry should be targeted to find a sustainable model for KAP, to invest in new production technologies through foreign direct investments following with the environmental impact of new investments in the metal sector.

Global trends within the aluminium industry suggest a need to re-orient focus towards re-processing and recycling of aluminium, and development of other metal working sub-sectors, based on existing workforce skills within the metal sector, and research capacity in materials science, as well as expansion of metal products for use in the construction industry

Creation of credit line for metal processing industry by IDF and use of EU programmes (H2020 industrial leadership), possibilities for further re-orientation and modernisation of metal industry in rising trend in the index of industrial production, metal industry share in export and diversification of metal products (Annex 4: Table 6).

### **SUPPORTING INDUSTRY SUB-SECTORS WITH EXPORT POTENTIAL AND MARKET SPECIALISATION**

The Enterprise Europe Network (EEN) within the COSME Programme should play a key role in supporting export development within the identified sub-sectors with significant export potential. Supporting export growth will be carried out mainly through EEN activities coordinated by the Directorate for Development of Small and Medium Sized Enterprises, as well as through targeted Chamber of Commerce support to exporters (Annex 4: Table 7).

## **7.2. DEVELOPMENT OF THE FRAMEWORK FOR SUPPORT TO MODERNISATION AND INNOVATION**

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An important element in longer term modernisation of industry is the development and adoption of new technologies that enable new goods and services to be developed and make the transition to a knowledge-based economy with efficient use of resources that respects environmental protection principles.

### **7.2.1. GUIDANCE FOR THE SUPPORT TO INDUSTRIAL AND TECHNOLOGICAL SECTORS WITH POTENTIAL FOR GROWTH**

Framework to support technological sectors with growth potential in further greater attention needs to be paid to four relevant and related issues:

- Introduction of smart specialisation to target support to most promising new industries;
- Developing new, “emerging industries” through clustering and new industrial value chains;
- Linking business services more effectively with industrial design and production.

### **DEVELOPMENT OF SMART SPECIALISATION AND CLUSTERS**

Smart specialisation’ approach is widely used across Europe as a tool and framework for identification and support to the sectors with the greatest innovative potential for future growth and development in order to use knowledge and unlock innovative potential with cooperation between research and industry.

In linking research and innovation with enterprise development and competitiveness using “smart specialisation” approach it is needed to improve research and innovation opportunities through strengthening of research communities and research outputs, through support to targeted research projects and research teams in areas especially linked with industry. Also, investments in research and innovation infrastructure, new facilities, laboratories and testing facilities for prototyping and commercialisation of innovation can be suitable for “smart specialisation” approach implementation.

Montenegro has a number of promising research and technological areas of specialisation that could be further exploited through systematic use of smart specialisation policy tools and approach like energy, ICT, science and education, science on material, sustainable development and tourism food processing industry, transport, biomedicine, etc. (Annex 4, Table 8 and Table 9).

Cluster development can play a significant role in industrial competitiveness and internationalisation of Montenegrin industry, through development of network linkages between research and industry, and improvement of Montenegro’s strategic position within value chains. Whilst clusters within Montenegro are at an early stage of development, further cluster development in new areas should be identified through future use of the smart specialisation platform, and should include clear focus on development of innovative clusters, internationalisation of clusters and creation of new industrial value chains.

In addition to support for R&D, research infrastructure available at national level through programmes of Ministry of Science, Ministry of Economy and the Investment and Development Fund of Montenegro, and existing and potential IPA and UNDP support, the relevant EU policy instruments have been identified that can be used in Montenegro for further supporting smart specialisation, and cluster development: JRC RIS3 Smart Specialisation Platform, European Cluster Collaboration Platform, Cluster Observatory, COSME (EU programme for the Competitiveness of Enterprises and Small and Medium-sized Enterprises), H2020, ERASMUS+, COST (European Cooperation in Science and Technology), Adriatic-Ionian programme 2014-2020, Strategy for Danube region (Annex 4, Table 10).

## **DEVELOPMENT OF EMERGING INDUSTRIES**

In addition to sectors where Montenegro already has some comparative advantage, it is important to identify the industry sectors of the future growth and those are “emerging industries”. Out of seven emerging industries within Europe, the total four of these in terms of their potential relevance for further development within Montenegro: experience industries (related to tourism, culture), maritime industry, creative industry (culture, art, design, architecture, TV, radio, etc) and eco industries. Those industries is characterised by high growth rates and market potential, and are usually based on new products, services, technologies or ideas.

By development of emerging industries the quality and experience of tourism visitors would be strengthened, the tourism offer and recreative activities would be enriched and also the access to financing projects which have positive impact on environment.

Support to emerging industries is provided through credits for entrepreneurship and tourism by IDF and activities implemented by relevant ministries. Available EU support for development of emerging industries are within COSME access to finance instrument, Creative Europe Programme for Employment and Social Innovation (EaSI) for culture programmes, micro financing and social entrepreneurship, EUREKA through development of innovation, ERASMUS+ through skills development, H2020 blue growth, environment, resource efficiency, etc (Annex 5 - Table 11).

## **DEVELOPMENT OF BUSINESS SERVICES**

For the development and modernisation of industry it is important also to highlight the significance of the business services for increase of employment and turnover, especially business services related to manufacturing. The role of business services is increasing and the evident is growth of manufacturing companies that sell more complex packages of combined services and solutions, rather than simpler standardised products and goods as well as relation between production and industrial design. Moreover, the number of enterprises “outsourcing” companies that provide business is rising. Also, the emerging industries combines both the production of goods and services, and the use of business services to provide additional value added outputs and enhanced access to markets, which also undisputably proves importance of business service sector.

Development of business services at national level is enabled by IDF support for projects for financing services.

### **7.2.1. THE ENVIRONMENTAL AND ENERGY CHALLENGE AND THE RATIONAL USE OF NATURAL RESOURCES**

For industrial modernisation it is important to ensure integrity of environmental issues relating to minimise environmental risk that can influence natural resources for energy production and to increase focus on use of renewable energy sources such as hydro-electric, solar, wind and biomass power generation. Moreover, modernisation of existing industrial facilities should be guided to meet requirements for environmental protection and eco innovation, especially in development and introduction of “clean technologies”. Resource efficiency and sustainability, with particular focus on promoting industrial energy efficiency and transition to a low carbon economy is not less important for environmental issues and industrial competitiveness.

The IDF programme for credit support to environmental protection, energy efficiency and renewable energy is the part of national support.

The following relevant policy instruments and proposed mode of implementation have been identified that Montenegro can use to support this process: Environmental Impact Assessment (EIA), EU Eco-Management and Audit Scheme (EMAS), COSME, Horizon 2020, WBIF (Annex 4, Table 12).



## 8. INDUSTRIAL POLICY IMPLEMENTATION

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Implementation of the Industrial Policy for Montenegro 2020 will be based on a multi-annual framework Action Plan that is a constituent part of this document, which will serve as a guide for annual action plans.

The Industrial Policy implementation is specific in its complex and multi-dimensional nature, which imposes a need for observing the principle of division of responsibilities amongst the competent sectoral institutions, and their coordination. The implementation process also implies the necessity of ongoing dialogue and cooperation between the public sector and representatives of the SME sector and experts in the field.

**Basic principles for efficient and effective implementation are:**

- **Importance of industry:** Industry must be the focus of relevant policy implementation
- **Industrial Policy direction:** Integrated Industrial Policy should be fully linked with the national policies and EU policies having an impact on competitiveness of industry
- **Need for coordination and cooperation:** The Industrial Policy implementation planning should be supported within the framework of coordination between Montenegro and the European Commission
- **Industrial modernisation:** Identification of sectors for policy measures be based on need for modernisation of industry and development of new sectors with growth potential, including areas such as eco-innovation and green economy
- **Linkages:** The Industrial Policy should support the development of interlinked economic sectors that have an impact on industrial competitiveness, such as financial market, energy, transport and communication

### 8.1. COORDINATION STRUCTURE FOR THE IMPLEMENTATION OF INDUSTRIAL POLICY

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The Industrial Policy implementation process requires cooperation and coordination of activities among various institutions and stakeholders from both public and private sectors, as well as establishment of the institutional basis and framework for efficient performance.

The Government of Montenegro formed the **Task Force to coordinate design and implementation of industrial policy until 2020**, including the Deputy Prime Minister's Office and the Ministry of Economy that is entrusted with both the coordination function and technical and administrative support to creation and implementation of industrial policy (see Annex 1).

In order to provide continuity and further improvement of the institutional infrastructure necessary for policy implementation, the Working Team will be extended /transformed into a **coordination body for monitoring the implementation of industrial policy** through:

- Involvement of the private sector in the membership and operation of the structure
- Institutional establishment of a two-level management and operational structure within the overall operation of the Coordinating Body
- Strengthening the capacity and role of the authority with mandate for the adoption of annual action plans, reporting to the Government on the monitoring of progress made in implementing industrial policy, and the basis for proposals on future evaluations.

During the whole process of implementation, monitoring and evaluation of industrial policy, it is particularly important coordinating role the Ministry of Economy on the implementation of industrial policy and cooperation with relevant ministries, institutions, and also establishing principles of mainstreaming industrial policy into other relevant policies. In this regard, the Ministry of Economy will coordinate the operational activities within Coordination Team that will provide establishment of new

and strengthening existing links between all relevant stakeholders responsible for the implementation of concrete measures and activities defined by action plans for the implementation of the industrial policy.

Additionally, Industrial policy establishes a basis for an efficient system of support for the development of industry and the economy, and guidelines for implementing the measures of the Government, ministries, government departments and executive institutions. Based on the orientation of IP, the implementing measures will be prepared in close cooperation with the economy and other key participants important for the continuous implementation of the Industrial policy.

## 8.2. INDUSTRIAL POLICY MONITORING AND EVALUATION

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The implementation of industrial policy is based on the following elements:

- **Action plans:** Overall (multiannual) and annual, as the basis for reporting on the implementation of policies
- **Management and leadership:** Management structures and roles defined and established
- **Responsible institutions:** Agreed clear division of responsibilities for implementation
- **Logical implementation sequence:** Being based on results and achievements
- **Realistic financing plans:** Assessment of the overall and annual budgets for the measures
- **Monitoring and evaluation:** Analysis of the results and effects achieved and creation of the basis for policy innovation and improvement.

The industrial policy implementation monitoring system should be based on objectively verifiable performance indicators. Action plans will determine expected results, indicators of achievement, responsible institutions, and timeframes for implementation. The Ministry of Economy develops the monitoring framework, in its function as coordinator for monitoring implementation. This will be used by the coordinating authority at an operational level, in order to regularly collect all required information related to Action Plan implementation. Based on this, the coordinating authority will assess annual progress reports on the implementation of the Action Plans for industrial policy, and required future implementation priorities and proposals.

Evaluation of the successes in implementing industrial policy will take account of official statistics and data from international reports, as well as annual implementation progress reports. Certain indicators, in particular at the sectoral level, need to be established in order to increase analytical capacity for policy implementation assessment, ensuring a basis for possible future revision of policy, and comparison with relevant results from other countries. Many of these indicators should be collected in compliance with the commitments arising from the EU Acquis principles related to Chapter 18: Statistics. Taking into account the various indicators needed for policy performance monitoring, ***improved statistics and their methodological basis for monitoring of industrial policy*** are required.

## 8.3. FINANCIAL FRAMEWORK FOR IMPLEMENTATION

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In order to implement the Industrial Policy, a distribution of funds across the measures needs to be defined for each specific objective between: national budget allocations, municipal budget allocations, IPA funds, other donor and IFI funds, EU programmes (e.g. COSME, Horizon 2020, Erasmus+), and private sector contributions is proposed.

The basis for estimation of overall national funding from state sources available for competitiveness-related industrial development can be derived on the basis of the Montenegro Development Directions 2015-18 calculations and assumptions, together with the Ministry of Finance monetary and

fiscal projections for 2015-2018. Whilst identified estimated investment needs exceed available funds from the state budget and other sources, they form a basis for annual budgeting for implementing industrial policy priorities, in accordance with current fiscal constraints. Mid-term review of the implementation of industrial policy will include revised estimates of actual real expenditures and available resources.

On the basis of this, we make the following estimates for investment needs for the period 2015-18. The mid-term revision to the industrial policy will provide revised estimates for the period 2018-2020:

Estimates for the period to 2018 – these will be revised in the mid-term assessment of industrial policy	<b>Total Identified Investment Needs €</b>	<b>% of Total</b>	<b>State Budget</b>	<b>EU Funds</b>	<b>Loans</b>	<b>Other Sources</b>
<b>TOTAL</b>	2,824,130,244	100.0				
<b>Horizontal Support</b>	<b>551,066,727</b>	<b>19.5</b>				
Business Environment	528,000	0.0	528,000			
SME	302,932,101	10.7	3,166,772	1,977,395	297,110,000	677,934
Competitiveness/FDI	1,190,000	0.0	1,180,000			10,000
Science, Research and Higher Education	14,568,233	0.5	4,415,734	2,799,311	6,324,218	
Environment	232,375,865	8.2	28,117,437	37,667,835	140,255,315	26,335,278
<b>Main Industry Sectors Supported</b>	<b>1,032,883,939</b>	<b>36.6</b>				
Manufacturing	2,294,341	0.1	100,000	194,341		2,000,000
Energy	263,777,474	9.3				263,777,474
Tourism (including cultural tourism)	766,812,124	27.2	23,846,915			742,965,209
<b>Sectors Supporting Industry Development</b>	<b>1,240,179,578</b>	<b>43.9</b>				
ICT	545,000	0.0	500,000			45,000
Transport	1,123,714,305	39.8	201,737,022	12,713,195	892,487,405	16,776,683
Construction	23,826,899	0.8	3,534,054		20,172,845	120,000
Agriculture and rural development	92,637,829	3.3	60,524,221	31,413,608	700,000	

In addition to Montenegrin funding, the implementation of industrial policy measures will also be supported through the use of IPA funds. In terms of the planned use of IPA funds, as set out within the Montenegro IPA strategy to 2020, we estimate the following requirements:

<b>IPA Allocation (€ million)</b>	<b>Indicative 2014-2017</b>	<b>2018-2020</b>	<b>Total</b>
Competitiveness and Innovation	12.3	8.9	21.2
Other relevant policy areas and sectors	Assumption: 5% allocation towards complementary actions in support of Industrial Policy		7.5
<b>Total</b>			<b>28.7</b>

As the chapter above on modernisation of industry highlighted, use of EU project funding through other EU financial instruments can also be used as an important source of financing for implementing the measures set out in the Action Plan. Our estimates of funding that can be realistically targeted through actions to increase the number of projects through EU programmes related to competitiveness are shown in the table below:

<b>Financing instrument</b>	<b>Total EU Budget 2014-2020</b>	<b>Target allocation 2014-2020</b>	<b>Montenegrin contribution (assumption: 40% share of total)</b>
Horizon 2020	€ 79 401,83 million	€ 5 million	€2 million
COSME	€ 2 298,24 million	€1.5 million	€0.6 million
Erasmus+	€ 14 774,52 million	Depending on projects identified under different Programme Calls	
Creative Europe	€ 1 462,72 million		
EaSI	€ 919,47 million		
<i>a – estimate based on total EC contribution to Montenegro from allocated Fp7 funds 2007-2013</i>			
<i>b – primarily from support to EEN</i>			

Information on the current situation relating to financial agreements signed between international financial institutions and Montenegro in the period 2011 and 2015, for relevant industrial sectors and sectors supporting the development of the industry, provides the basis for planning and forecasting of future investments within the Western Balkan Investment Framework through the National investment Commission.

<b>International Financing Institution</b>	<b>Value of contracts signed in the period 2011-15</b>
European Investment Bank total contract value (all sectors)	€194.99 million
<i>Of which:</i>	
Credit lines for SMEs and priority projects	€121 million
Energy	€1.25 million
Transport	€53 million
European Bank for Reconstruction and Development (transport and energy)	€139.1 million
World Bank (higher education and research)	€12 million

## 8.4. COMMUNICATION STRATEGY FOR MAINSTREAMING INDUSTRIAL POLICY

The emphasis on communication that is a key tool for mainstreaming Industrial Policy is a core prerequisite for effective Industrial Policy implementation. In this respect, developing an efficient communication system is needed, as the basis for establishing a system for information on, and monitoring of the policy implementation and evaluation of impacts during the period of industrial policy implementation.

The following table outlines the implementing plan for Industrial Policy until 2020:

Industrial Policy for Montenegro 2020 – Implementing and Monitoring Plan		
Year	Activities	Monitoring activities
2016	<ul style="list-style-type: none"> <li>- Adoption of Industrial Policy with multiannual Action Plan for the period until 2016-2020</li> <li>- Redefining of Task Force and composition extension with representatives from private sector</li> </ul>	<ul style="list-style-type: none"> <li>- Identified goals, priorities and responsible institutions at the level of departments covered by Industrial policy</li> <li>- Established communication and monitoring system</li> </ul>
2016	<ul style="list-style-type: none"> <li>- Preparation and adoption of Industrial policy Action plan for 2016</li> </ul>	<ul style="list-style-type: none"> <li>- Annual implementation report</li> </ul>
2017	<ul style="list-style-type: none"> <li>- Preparation and adoption of Industrial policy Action Plan for 2017</li> <li>- Analysis of policy revision needs</li> </ul>	<ul style="list-style-type: none"> <li>- Annual implementation report</li> <li>- Possible redefinition of the policy with determining corrective measures by monitoring indicators update</li> </ul>
2018	<ul style="list-style-type: none"> <li>- Revision of Industrial policy</li> <li>- Preparation and adoption of Industrial policy Action plan for 2018</li> </ul>	<ul style="list-style-type: none"> <li>- Annual implementation report</li> </ul>
2019	<ul style="list-style-type: none"> <li>- Preparation and adoption of Industrial policy Action plan for 2019</li> </ul>	<ul style="list-style-type: none"> <li>- Annual implementation report</li> </ul>
2020	<ul style="list-style-type: none"> <li>- Preparation and adoption of Industrial policy Action plan for 2020</li> <li>- Adoption of Industrial Policy and Action Plan for the period following 2020</li> </ul>	<ul style="list-style-type: none"> <li>- Annual implementation report</li> <li>- Analysis on the achievements of the policy</li> </ul>

## ANNEX 1: THE PROCESS OF CREATING INDUSTRIAL POLICY FOR MONTENEGRO

In November 2014 the Government of Montenegro formed an Interdepartmental Working Team, chaired by the Ministry of Economy, to develop the Industrial Policy of Montenegro to 2020. Through elaboration of this policy, this is the first time that such a comprehensive framework for the integration and coordination of many sectoral strategies will be established, also including high-level strategic documents such as Directions of Development of Montenegro 2015-2018 and the National Programme of Economic Reforms 2016-2018. In developing Industrial Policy for Montenegro, the following major activities were carried out, *inter alia*:

- Research and analysis to identify the main needs and challenges in increasing industrial competitiveness;
- Assessment of existing policies, strategies and measures in support of competitiveness, to ensure that the Industrial Policy builds on and extends the existing policy base;
- Consultation with the private sector, as well as education and innovation stakeholders, to provide an inclusive, transparent and participatory approach to developing Industrial Policy;
- Consultation with the European Commission to ensure alignment with EU Industrial Policy and the requirements for the closing benchmark of Chapter 20 of the Acquis in preparation for EU accession;
- Identification of the vision and objectives for industrial policy, based on the analysis and evidence, to create consensus on the required approach for developing industrial competitiveness;
- Joint agreement on proposed measures, results, and indicators to ensure that Industrial Policy is 'mainstreamed across all relevant Government Ministries and Agencies';
- Identification of the sources of finance required for implementation, to ensure that the plans are feasible and realistic;
- Development of the approach for managing implementation, to ensure the results are achieved and verified through monitoring and evaluation; and
- Preparation of the current document and associated action plan as the basis for implementation.

The preparation of the Industrial Policy has also taken full account of the following guidelines and recommendations of the European Commission<sup>12</sup>:

Taking into account the key principles of EU industrial policy and the ongoing processes of consultation between Montenegro and the European Commission, the following harmonised requirements for development of the Industrial Policy of Montenegro may be highlighted:

- **Policy making** should be focused on horizontal/special topics (skills, innovation, market access, finance) and sectoral support to the target priority sectors
- **Establishment of an efficient feedback policy mechanism** is highly important and implies involvement of all relevant stakeholders, whereby the EU2012 industrial policy consultation process represents a useful model to adopt and use
- **Industrial Policy Mainstreaming** – an important aspect is the “mainstreaming” of Industrial Policy, which basically highlights a need for Industrial Policy priorities to be included in planning processes of all relevant ministries and implementation institutions. The policy needs to address the existing lack of administrative capacity and fragmented strategies that impedes the effectiveness of the instruments that have been put in place.
- **Indicators** – monitoring and evaluation will require the formulation of a precise set of realistic indicators to measure impact, results and outputs of policy measures
- **Financial sources** – in order to provide a basis for efficient implementation, a realistic assessment of the funds and funding sources to be used for the implementation of the measures planned is necessary

<sup>12</sup>We have analysed all recommendations made by the European Commission that are relevant to industrial competitiveness. Main points are summarised below, and details are contained within the relevant European Commission Reports and an internal Ministry of Economy report

- **Key topics** – the main accent needs to be placed on the improvement of coordination and integration between ministries and different sectoral and thematic strategies contributing to industrial competitiveness
- **Link to EU Programmes** - administrative capacity and support measures need to be strengthened to make full use of EU programmes.

## ANNEX 2: COMPETITIVENESS OF MONTENEGRIN ECONOMY - ADDITIONAL INDICATORS

**Table 1: Industrial Turnover Index**

Title	2013 2012	2014 2013	2015 2014
<b>INDUSTRY Total</b>	<b>110.6</b>	<b>92.4</b>	<b>107,9</b>
<b>NACE</b>			
B Mining and quarrying	92.7	114.4	91,9
C Manufacturing	98.9	89.5	119,9
D Electricity, gas, steam and air cond. supply	121.8	91.0	94,1
<b>By main industrial groups (MIG)</b>			
Capital goods	87.8	96.1	98,8
Consumer durables	546.9	127.5	104,8
Intermediate goods	73.3	92.5	116,4
Consumer non-durables	87.0	103.0	98,9
Energy	106.0	96.2	99,6
<b>Internationalisation</b>			
Domestic turnover	n/a	n/a	96,2
Non-domestic turnover	n/a	n/a	99,4

Source: Monstat (industrial turnover index)

**Table 2: Exports of goods classified by SITC and region, 2014, 2014**

SITC Classification	World		EU-28		CEFTA	
	000' EUR	%	000' EUR	%	000' EUR	%
<b>World</b>	<b>333,166</b>	<b>100</b>	<b>119,215</b>	<b>36</b>	<b>151,754</b>	<b>46</b>
<b>0-9 TOTAL</b>	333,166	100	119,215	36	151,754	46
0+1 Food, beverages and tobacco	85,271	26	7,853	2	36,527	11
2+4 Raw materials	69,598	21	24,945	7	33,379	10
3 Mineral fuels, lubricants & related materials	48,443	15	4,561	1	41,182	12
5 Chemicals	12,764	4	3,821	1	7,345	2
7 Machinery and transport equipment	22,859	7	13,433	4	6,667	2
6+8 Other manufactured goods	93,745	28	64,135	19	26,654	8

Source: Monstat (foreign trade)

**Table 3: Estimates of the main sources of growth of Montenegrin exports, 2009-2013**

Source of export growth	% Change 2009-2013
Growth of world trade	48.8
Product specialisation	-0.3
Geographical specialisation	-7.4
Competitiveness	-13.5

Source: International Trade Centre

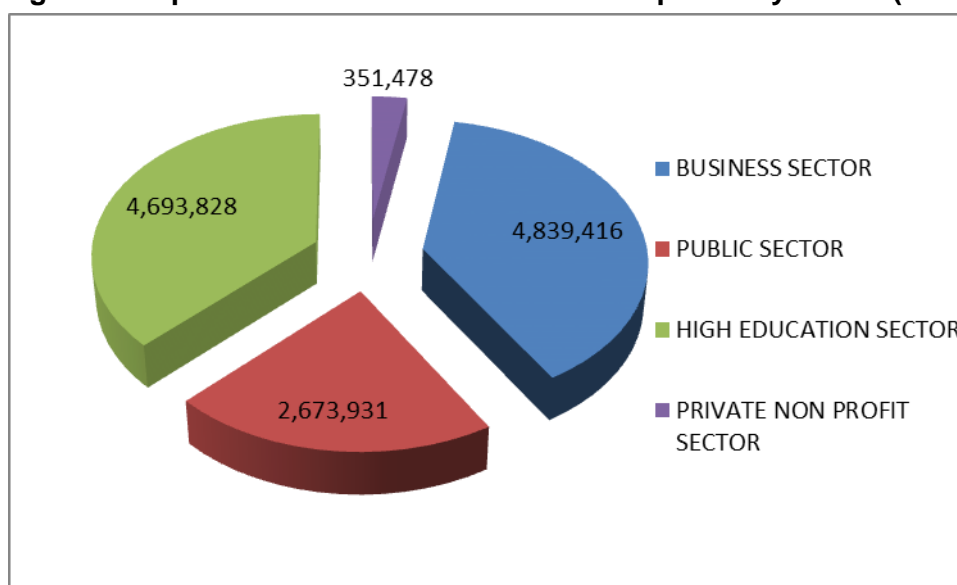


**Table 4: Growth in research publications in STEM subjects**

Montenegrin research publications in Scopus indexed journals	2004-2008	2009-2013	2014	Total since 2004	% of total
Engineering	99	353	102	554	22.0
Computer science	56	281	58	395	15.7
Agriculture and biological sciences	40	194	48	282	11.2
Medicine	35	192	51	278	11.1
Physics and astronomy	60	144	23	227	9.0
Other	112	521	145	778	30.9

Source: Scopus database

**Figure 1: Expenditures on research and development by sector (2014)**



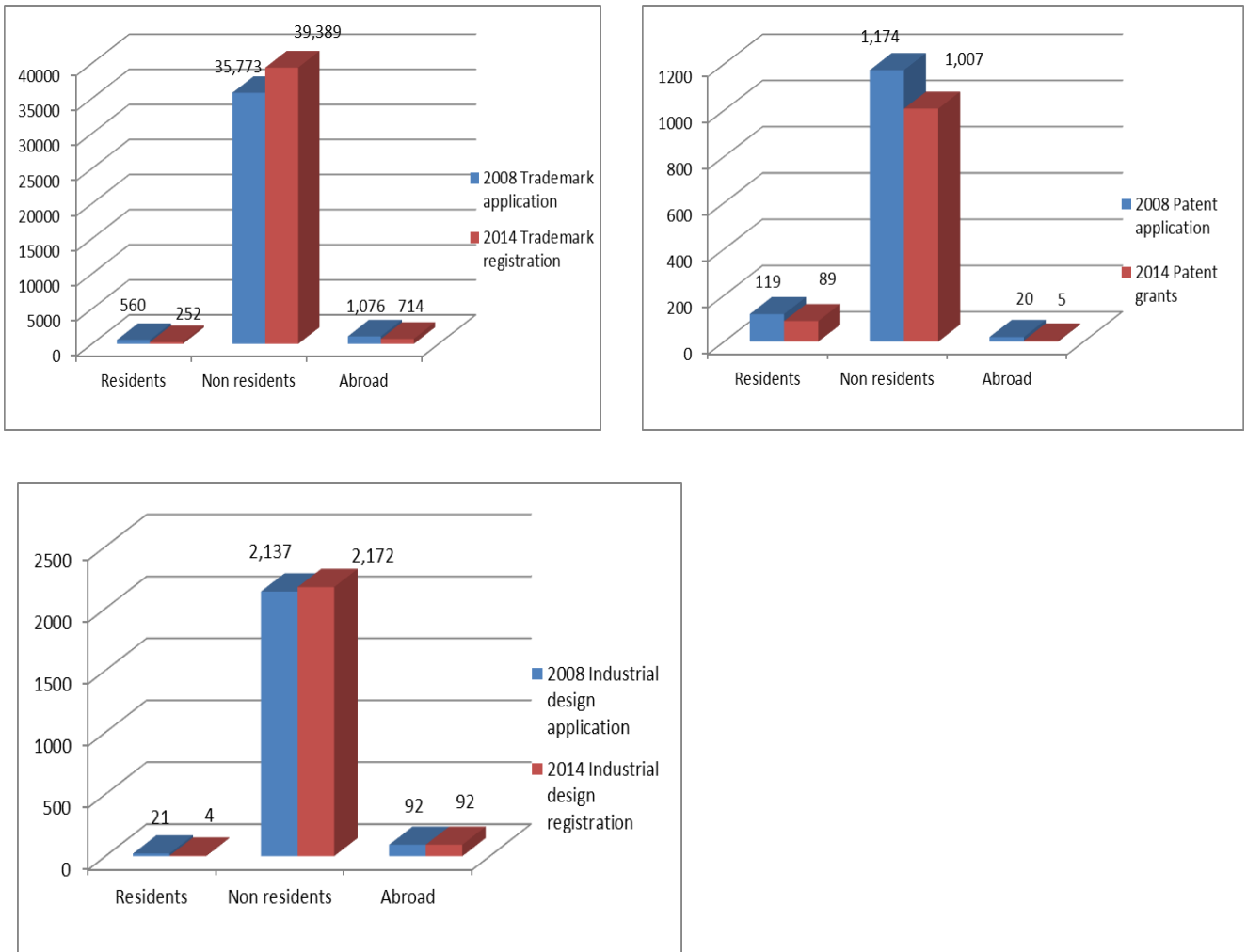
Source: Monstat (science)

**Table 5: Export by High Technology Sectors, 2014.**

Industry (harmonised system, HS)	Exports in value	Share of high-tech products (%)
00 All industries	387,216	2.4
84 Boilers, machinery; nuclear reactors, etc.	17,017	2.6
30 Pharmaceutical products	6,494	71.9
85 Electrical, electronic equipment	3,972	35.3
93 Arms and ammunition, parts and accessories thereof	2,546	100
90 Optical, photo, technical, medical, etc apparatus	543	24.9
29 Organic chemicals	60	68.1
32 Tanning, dyeing extracts, tannins, derivs, pigments etc.	78	2.3

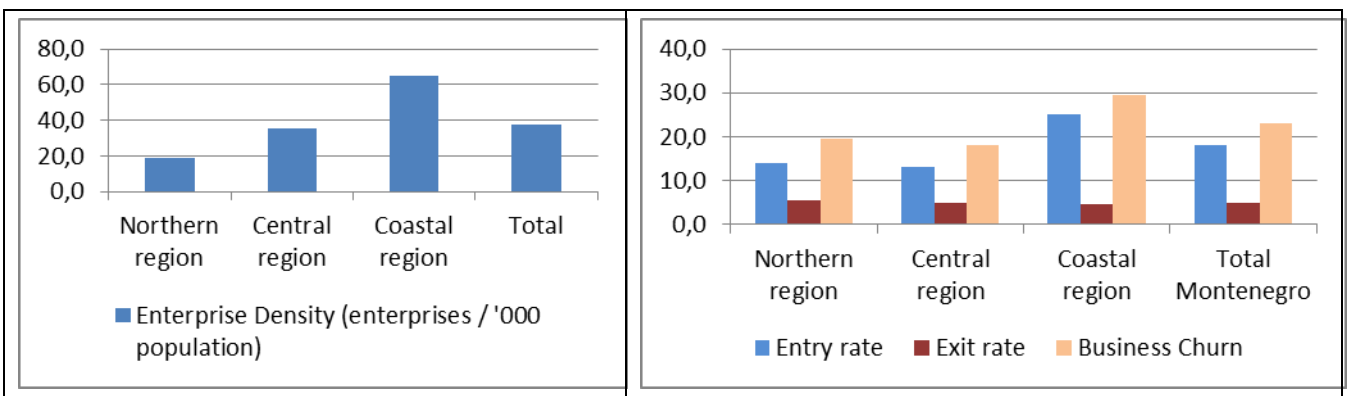
Source: [http://legacy.intracen.org/appli1/tradecom/TP\\_EP\\_CI\\_StageP.aspx?RP=499&YR=2014](http://legacy.intracen.org/appli1/tradecom/TP_EP_CI_StageP.aspx?RP=499&YR=2014)

**Figure 2: Intellectual property rights protection in Montenegro, by type, 2008-2014 (number)**



Source: WIPO database

**Figure 3: Regional enterprise dynamics<sup>13</sup>**



Source: Monstat

<sup>13</sup>Data is from 2013. Enterprise density is calculated as the number of enterprises per '000 of population; Entry rate is the number of newly started enterprises / total enterprises in t-1; Exit rate is the number of enterprises per '000 of population; Exit rate is the number of closed enterprises / total enterprises in t-1; Business churn is the sum of entries and exits / total enterprises in t-1

## ANNEX 3: BENCHMARK COMPARISON OF INDUSTRIAL COMPETITIVENESS INDICATORS

Key Issues:	Competitiveness	Business Environment	Market Access	Entrepreneurship	Innovation	Finance	Skills	Information Society	ICT Communications Networks	Gender Gap	Corruption
Country	Rank (out of 140 countries)	Rank (out of 189)	Rank (out of 138)	Rank (out of 132)	Rank (out of 141)	Rank (out of 120)	Rank (out of 109)	Rank (out of 167)	Rank (out of 143)	Rank (out of 145)	Rank (out of 168)
<b>Montenegro</b>	70	46	49	54	41	91	45	65	56	79	61
Other former Yugoslav countries											
Bosnia and Hercegovina	111	79	78	82	79	85	55	77	n/a	n/a	76
Croatia	77	40	56	51	40	69	43	42	54	59	50
Macedonia, FYR	60	12	63	57	56	76	46	60	47	69	66
Serbia	94	59	89	74	63	81	50	51	77	45	71
Slovenia	59	29	38	31	28	55	26	33	37	9	35
Other small countries with strong tourism profile											
Cyprus	65	47	37	49	34	65	32	53	36	100	32
Iceland	29	19	22	7	13	47	17	3	19	1	13
Malta	48	80	34	n/a	26	66	28	30	29	104	37
Other Balkan countries											
Bulgaria	54	38	70	46	39	54	44	50	73	43	69
Greece	81	60	67	45	45	63	49	39	66	87	58
Albania	93	97	69	76	87	105	85	94	95	70	88
<b>Source:</b>	WEF Global Competitiveness Report 2015-2016	World Bank Doing Business 2016	Global Enabling Trade Report 2014 - World Economic Forum	The Global Entrepreneurship & Development Index - GEDI 2016	Global Innovation Index 2015	The Venture Capital & Private Equity Country Attractiveness Index - IESE	The Global Talent Competitiveness Index 2015-2016	ICT Development Index (IDI) 2015	Global Information Technology Report 2015 - Networked Readiness Index	Global Gender Gap 2015 - WEF	Transparency International Corruption Perceptions Index 2015

## ANNEX 4: MODERNISATION OF INDUSTRY IN LINE WITH THE EU INTERNAL MARKET REQUIREMENTS

**Table 1: The challenge of improving network connectivity**

<b>Strategic sector for support</b>
Network Industries
<b>Key support instruments</b>
<b>WBIF Joint Grant Facility</b> – including technical assistance; Project Preparation Facility; Joint Lending Facility
<b>Policy measures and key support instruments to infrastructure development support in Network industries</b>
Preparation of new infrastructure investment projects through the National Investment Commission for application via WBIF-Joint Grant Facility
<b>Result indicators</b>
<ul style="list-style-type: none"> <li>- Number of new network infrastructure projects proposed through the National Investment Commission</li> <li>- Number of projects approved for financing</li> <li>- Volume of financial disbursements</li> <li>- Number of completed infrastructure projects</li> </ul>

**Table 2: Better value chains in the agro-food and wood processing sectors**

<b>Strategic sector for development of higher value added within global value chains</b>
Agro-Food Processing Industry
<b>Policy measures and key support instruments to support the development of agro-food industry</b>
Use of EU programmes (HORIZON 2020, COSME; EUREKA, etc) and other support projects within IPARD II programme and IPARD like
<b>Key support instruments agro-food</b>
<ul style="list-style-type: none"> <li>- <b>IPARD II programme</b> – Programme for development of agriculture and rural development under the IPARD II 2014-2020</li> <li>- <b>IPARD like</b> – EU/IPA project on institution building in agriculture and rural development in Montenegro</li> <li>- <b>Horizon 2020</b> – encouraging innovation in food processing, project support through: Societal Challenges: Food Security, Sustainable Agriculture and Forestry, Marine, Maritime and Inland Water Research and the Bio economy; Industrial Leadership: Leadership in Enabling and Industrial Technologies (LEIT) – support advanced manufacturing and processing</li> <li>- <b>COSME</b> – transnational business cooperation, clustering and access to finance; EEN business cooperation database for better market access; Use of policy framework actions to improve the food supply chain; Participation in cluster excellence and internationalization projects; Use of COSME financial instruments for access to finance for industrial modernisation</li> <li>- <b>EUREKA</b> - Development of skills networks to enhance labour productivity in food processing</li> </ul>
<b>Result indicators</b>
<ul style="list-style-type: none"> <li>- Improved country rank for International Trade Centre Trade Performance Index indicator on export growth in value per annum for processed food Baseline (2013) 90th; Target: 80th</li> <li>- Number of EU projects related to the food industry that Montenegro successfully participates in Target: 5 project agreements</li> <li>- Number of agro food clusters achieving the Bronze Label of the European Cluster Excellence Initiative (ECEI) Baseline: 0; Target: 2</li> <li>- Number of food related EEN business cooperation profiles/agreements prepared/signed; Target: dependent on level of interest/readiness for business cooperation by agro-food enterprises</li> </ul>

<b>Strategic sector for development of higher value added within global value chains</b>
Wood Processing
<b>Policy measures and key support instruments for development of the wood processing industry</b>
Use of EU programmes (HORIZON 2020, COSME, ERASMUS +, EUREKA, etc)
<b>Key support instruments wood processing</b>
<ul style="list-style-type: none"> <li>- <b>Horizon 2020</b> – improvements in the wood value chain, and increased use of advanced manufacturing: Societal Challenge 5: "Climate action, environment, resource efficiency and raw materials" - wood processing; Industrial Leadership: Leadership in Enabling and Industrial Technologies (LEIT) – support advanced manufacturing and processing</li> <li>- <b>COSME and Erasmus+</b> - use of similar instruments to those specified for food processing, with focus on movement up the wood processing value chain</li> </ul>
<b>Result indicators</b>
<ul style="list-style-type: none"> <li>- Improved country rank for International Trade Centre Trade Performance Index indicator on export growth in value per annum for wood and wood products Baseline (2013): 53rd Target: 50th</li> <li>- Number of EU projects related to the wood industry that Montenegro successfully participates in Target: 5 project agreements</li> <li>- At least one wood cluster achieves the Bronze Label of the European Cluster Excellence Initiative (ECEI) Baseline: 0 Target: 1</li> <li>- Number of wood related EEN business cooperation profiles/agreements prepared/signed Target: dependent on level of interest readiness for business cooperation by agro-food enterprises</li> </ul>

**Table 3: Development of experience industries linked to tourism**

<b>Sector for support</b>
Tourism and associated experience industries
<b>Policy measures and key support instruments for development of Experience Industries</b>
Use of EU programmes (HORIZON 2020, COSME; EUREKA, EASI-Employment and Social Innovation, EURES, ERASMUS+, Creative Europe Programme, IPARD II programme)
<b>Key Support Instruments</b>
<ul style="list-style-type: none"> <li>- <b>IPARD II programme</b> - Programme for development of agriculture and rural development under the IPARD II 2014-2020</li> <li>- <b>H2020</b> - Marie Skłodowska-Curie - Career development and training of researchers - especially in the initial stages through Innovative Training Network / European Industrial PhD students; Leadership in emerging and industrial technologies; Leadership in Enabling and Industrial Technologies - Greater competitiveness of the European cultural and creative sectors by stimulating ICT innovation in SMEs Technologies; Europe in a changing world - Address issues of memories, identities, tolerance and cultural heritage; SME instrument - Technical and commercial feasibility of an innovative concept</li> <li>- <b>COSME</b> – access to finance - Investment for the development of SMEs activities; Tourism - Improving framework conditions for the competitiveness and sustainability of tourism enterprises; Erasmus for Young Entrepreneurs - Exchange scheme for promoting entrepreneurship and entrepreneurial culture</li> <li>- <b>Creative Europe Programme</b> – Transnational Cooperation Projects - Developing, creating, producing, disseminating and preserving goods and services which embody cultural, artistic or other creative expressions; European networks - Strengthen the capacity of the cultural and creative sectors to operate transnationally and internationally, adapt to change and promote innovation</li> <li>- <b>ERASMUS+</b> New EU programme in the area of education, trainings for youth and sport for period 2014-2020. Erasmus+ replaces seven programmes, and combines: the Lifelong Learning Programme (Erasmus, Leonardo da Vinci, Comenius and Grundtvig); Programme for Youth in Action; five international cooperation programs (Erasmus Mundus, Tempus, Alfa, Edulink, and programme for cooperation with industrialized countries); new actions for sports.</li> </ul>

<ul style="list-style-type: none"> <li>- <b>Erasmus+</b> provides grants for a broad framework of actions and activities in the field of education, training, youth and sport</li> <li>- <b>Employment and Social Innovation (EaSI)</b> – PROGRESS - Policy-making, social innovation and social policy experimentation; EURES - Support to workers' mobility; Microfinance - Supports the setting up or development of small businesses; Social Entrepreneurship - Supports the development of social enterprises, in particular by facilitating access to finance.</li> </ul>
<b>Result indicators</b>
<ul style="list-style-type: none"> <li>- Better world country rank in the Travel and Tourism Competitiveness Index (TTCI) Baseline (2015): 67th Target 2020: 50th</li> <li>- Number of project applications in the field of tourism through EU financed programmes Target: 10 projects</li> </ul>

**Table 4: Potential of ICT and key enabling technologies**

<b>Sector for support</b>	
ICT and „Key enabling technologies“	
<b>Policy measures and key support instruments for development of Experience Industries</b>	
Adoption and use of key enabling technologies and ICT for advanced manufacturing together with use of support instruments for development of new technologies (HORIZON, EUREKA, Enterprise Innovation Fund-ENIF) and instruments for applying new technologies within IDF and COSME-EEN	
<b>Key support instruments for development of new technologies</b>	<b>Key support instruments for adoption of new technologies</b>
<ul style="list-style-type: none"> <li>- <b>Horizon 2020</b> - Support to integration of Montenegrin research teams into international consortia for application through Horizon 2020</li> <li>- <b>EUREKA</b> - Support to Montenegrin SMEs applications to the Horizon 2020 SME Instrument</li> <li>- <b>Western Balkans Enterprise Innovation Fund (ENIF)</b> - Promotion and awareness raising on use of ENIF for commercialisation of new technologies</li> </ul>	<ul style="list-style-type: none"> <li>- <b>Investment and Development Fund of Montenegro (IDF)</b> - Priority support by IDF to enterprises adopting use of key enabling technologies for industrial modernisation</li> <li>- <b>COSME-Enterprise Europe Network (EEN)</b> - support to SMEs in preparation of business cooperation or technology profiles; support to participation of SMEs in business matchmaking and/or technology brokerage events; support to negotiation of international technology transfer agreements</li> </ul>
<b>Result indicators</b>	
<ul style="list-style-type: none"> <li>- Number of projects submitted under Horizon 2020</li> <li>- Number of successful Horizon 2020 applications</li> <li>- A level of funding higher than FP7 for the period 2017-2013</li> <li>- Better country rank in the Global Innovation Index Baseline: (2015) 41<sup>st</sup> Target: 36<sup>th</sup></li> </ul>	<ul style="list-style-type: none"> <li>- Number of credit lines extended by IDF that include use of key emerging technologies and ICT</li> <li>- Number of business and technology cooperation profiles prepared with EEN support</li> <li>- Number of technologies transferred</li> </ul>

**Table 5: Focus on increasing output in R&D intensive industries**

<b>Strategic high technology target sector for priority support</b>
<ul style="list-style-type: none"> <li>- Pharmaceuticals</li> </ul>
<b>Policy Recommendation</b>
<ul style="list-style-type: none"> <li>- Further development of policy to support the pharmaceutical industry should be based on relevant EC documents</li> </ul>

Result Indicator
- Higher export of pharmaceuticals (means of verification: Monstat, International Trade Centre)

**Table 6: Reorientation and restructuring of the metal industry**

Sector for support
Metal Industry
Policy measures and key instruments for supporting development of the metal industry
Use of EU (HORIZON-SPIRE Industrial Leadership and national Programmes i.e. IDF credit lines)
Key Support Instruments
<ul style="list-style-type: none"> <li>- <b>IDF</b> credit line for the metals industry</li> <li>- <b>EU H2020</b> Industrial Leadership: SPIRE Sustainable Process Industries</li> </ul>
Result indicators
<ul style="list-style-type: none"> <li>- A rising trend in the index of industrial production (means of verification: Monstat)</li> <li>- Sustaining current levels of export participation in world markets of the metal industry (means of verification: International Trade Centre)</li> <li>- Diversification of exported metal products in to meet new market demands (source verification: the International Trade Centre)</li> </ul>

**Table 7: Supporting industry sub-sectors with export potential and market specialisation**

Sector for support
Industrial sub-sectors demonstrating export growth
Policy measures and key instruments to support development of export growth
Use of EU Programme (COSME) with emphasize to Enterprise Europe Network-EEN
Key Support Instruments
<ul style="list-style-type: none"> <li>- <b>EEN</b> - Promoting use of EU tools to support exporters within specific sub-sectors, such as information support to exporters and use of databases relating to market access; Supporting direct market access to new markets through the Enterprise Europe Network databases, and other EEN actions</li> </ul>
Result indicators
<ul style="list-style-type: none"> <li>- Increase of average annual growth rate of export within identified sectors with export growth potential (Competitiveness map of International Trade Centre)</li> <li>- Better country rank within Index on trade opportunities Baseline: 49th (2014) Target: 40th (2020)</li> <li>- Better country rank within Index on quality of logistics services (Logistic Performance Index) Baseline: 67th (2014) Target: 60th (2020)</li> <li>- Number of exporters in the sectors with recorded growth and supported by Enterprise Europe Network</li> <li>- Number of exporters in the sectors with recorded growth and supported by Chamber of Commerce</li> </ul>

**Table 8: Framework for development of smart specialization - research opportunities and innovation**

Basis for development of smart specialisation			
Key sectoral strengths within Montenegrin research opportunities and innovation			
Description	Capability (and sub-capability)	Target Market (and sub-markets)	EU Priority (and sub-priorities)
Energy	Energy production & distribution - Power generation/renewable sources	Energy production & distribution - Energy distribution	Sustainable innovation - Sustainable energy & renewables
ICT	Information & communication technologies (ICT)	Information & communication technologies (ICT)	Digital Agenda
Medicine & health	Manufacturing & industry - Basic pharmaceutical products & pharmaceutical preparations	Human health & social work activities	Public health & security
Science education &	Services - Scientific research & development	Services - Education	Social innovation
New materials	Manufacturing & industry	Manufacturing & industry	KETs - Advanced materials
Products & services	Services	Manufacturing & industry	Service innovation
Sustainable development & tourism	Tourism, restaurants & recreation	Tourism, restaurants & recreation	Sustainable innovation
Food processing	Food industry	- Manufacturing & industry	Sustainable innovation

**Table 9: Framework for development of smart specialization - research infrastructure potential**

Basis for development of smart specialisation	
Research infrastructure potential	
Description	Potential
Biomedical and life sciences	Agriculture, public health, hydrographical and seismological research, water and marine chemistry, and microbiology research, as well as marine biology infrastructure
Information and Communication Technologies (ICT)	Energy, telecommunications, electronics, computer engineering, and related technologies
Materials science	Mechanical engineering and metallurgy with research and testing labs

**Table 10: Framework to support smart specialisation and cluster development**

Policy Instrument	Mode of Implementation
JRC RIS3 Smart Specialisation Platform	S3 Platform Registration; use of the platform to develop an "entrepreneurial process of discovery" to identify smart specializations fields and develop a suitable policy mix to implement them; objective analysis of the Montenegro's comparative advantages and functioning of the innovation eco-systems; benchmarking specialization; and use of peer review workshops



<b>European Cluster Collaboration Platform</b>	Access to profiles of potential partner clusters in Europe; establishing geographical, sectoral & thematic communities; accessing information about current calls/tenders and posting offers and requests for cooperation, expertise and support; and information about cluster cooperation events and activities
<b>Cluster Observatory</b>	Mapping and monitoring of cluster performance; identification of relevant clusters for transnational partnership and internationalisation; use of tools for cluster management
<b>COSME</b> (EU programme for the Competitiveness of Enterprises and Small and Medium-sized Enterprises)	Promoting and supporting cluster participation in COSME actions to develop sector-based clusters and cluster internationalisation, especially those based on the 3 <sup>rd</sup> specific objective of COSME: "to improve framework conditions for the competitiveness and sustainability of Union enterprises, particularly SMEs, including in the tourism sector"
<b>Horizon 2020</b>	Participation in Horizon 2020 actions in support of clusters and smart specialisation, especially through the specific objectives of "Leadership in enabling and industrial technologies" and "Societal challenges"
<b>Erasmus+</b>	Participation within international projects to develop workforce skills and competencies related to smart specialisation and clusters, especially actions within Erasmus+ KA2 – Strategic partnerships
<b>EUREKA</b>	Support to SME and research organisation application to the relevant type of measure through the Montenegro EUREKA office within the Ministry of Science: Individual innovation projects; Eurostars; EUREKA cluster projects; and 'Umbrellas' (thematic networks)
<b>COST</b> (European Cooperation in Science and Technology)	Support for networking activities carried out within bottom-up science and technology networks open to researchers and stakeholders through COST Actions related to the technology and research specialisms identified above. Montenegro can participate on a case-by-case basis as a Near Neighbour Country.
<b>Adriatic-Ionian Programme 2014-2020</b>	Priority 1 – Innovative and smart region (Specific objective 1.1: Support to development of innovation network and clusters among region, academic community and enterprises in Adriatic-Ionina region)
<b>EU Strategy for the Danube Region</b>	Priority No.8 on 'Competitiveness'

**Table 11: Framework for support to „emerging industries“**

<b>Emerging Industrie</b>	<b>Key characteristics</b>	<b>EU support instruments which can be used for emerging industries</b>
<b>Experience industries</b>	Experience industries comprise enterprises whose activities supply innovative products and services to provide customers with "experiences" including activities traditionally associated with the sectors of tourism, culture, or leisure, in particular related to visitor attractions such as museums, galleries, science centres, heritage sites, zoos and aquaria, and theme parks"	<b>COSME</b> – actions related to tourism; access to finance for SMEs <b>Creative Europe</b> – culture sub-programme and cross sector strand <b>Programme for Employment and Social Innovation (EaSI)</b> - microfinance and Social Entrepreneurship axis <b>EUREKA</b> – activities that support competitiveness and productivity of SMEs through implementation of technological projects
<b>Maritime industries</b>	Maritime industries comprise enterprises whose activities supply innovative products and services related to the traditional maritime sector. Maritime industries include both shipbuilding and recreational craft.	<b>Erasmus+</b> - strategic networks for skills development <b>Programme for Employment and Social Innovation (EaSI)</b> – PROGRESS axis on employment <b>Horizon 2020</b> – Blue Growth <b>COSME</b> – access to finance for SMEs <b>EUREKA</b> -competitiveness of SMEs
<b>Creative industries</b>	Creative industries encompass a broad range of activities, including cultural industries and cultural or artistic production: advertising, architecture, art, crafts, design, fashion, film,	<b>Creative Europe</b> - Culture Sub-Programme, e.g. actions on European Cooperation Projects; European Networks; Cross-sector strand –

	music, performing arts, publishing, R&D, software, toys and games, TV and radio, and video games. There is an increasing convergence between business services and creative industries through use of ICT.	guarantee facility <b>Programme for Employment and Social Innovation (EaSI)</b> - microfinance and Social Entrepreneurship axis
<b>Eco industries</b>	"Eco industries comprise industries that provide innovative products and services that positively influence the natural environment, what the OECD and EUROSTAT call the "environmental goods and services industry."	<b>Horizon 2020</b> - Societal Challenge "Climate action, environment, resource efficiency and raw materials" <b>COSME</b> – EEN and access to finance; specific measures, e.g. on green buildings <b>EUREKA</b> - Enterprise innovation

**Table 12: Framework for support of environmental and energy challenge and the rational use of natural resources**

<b>Instruments</b>	<b>Mode of implementation</b>
<b>Environmental Impact Assessment (EIA)</b>	Implementation of the newly amended Environmental Impact Assessment (EIA) Directive (2014/52/EU)
<b>EU Eco-Management and Audit Scheme (EMAS)</b>	Promotion of EMAS for use by enterprises and other relevant organizations to provide the following benefits: 1) Enhanced environmental and financial performance through a systematic framework; 2) Enhanced risk and opportunity management; 3) Enhanced credibility, transparency and reputation; and 4) Enhanced employee empowerment and motivation.
<b>COSME</b>	Participation in COSME actions including: EEN measures to increase SME access to energy efficiency, climate and environmental expertise; use of the corporate social responsibility risk check tool; promotion of social entrepreneurship; the European Resource Efficiency Excellence Centre; implementation of the Action Plan Construction 2020; and adoption of bio-based products in public procurement.
<b>Horizon 2020</b>	Supporting research organisations, civil society and SME participation in Horizon 2020 actions related to the environment and development of sustainable industry
<b>WBIF</b>	National IPA Coordinator (NIPACs) cooperation with the Western Balkan Investment Framework for preparation of infrastructure investment projects related to energy, environment, transport, climate change, and private sector development