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A contribution to the task 8.1- Comparative analysis of the innovation capacity in the WBC with particular focus on joint cooperation needs

A comparative analysis of the innovation systems of WBC based on the national contributions presented at the First Innovation Dialog Forum (IDF) in Beļ iĺ i, Montenegro (November, 8-9, 2010) and selected literature

Content:

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During the 1st IDF held in Bečići, Montenegro on November 8-9, 2010 the national representatives were kindly asked to make a short presentations on the innovation system in their countries and provide also a screening table with the basic information on the national innovation systems according to the pre-defined structure that comprises the following 9 elements:

1. Main structure and characteristics of the national research and innovation system
2. Education/Research system
3. Enterprise and industrial system
4. Intermediaries and science-industry cooperation
5. Government policy making and coordination of innovation
6. Framework conditions
7. The country's involvement in the regional research, innovation and business development initiatives and projects
8. Main structural deficiencies of research and innovation system
9. Main challenges for governance of innovation

Due to the variability of the provided data a clear and straightforward systematization of NISs and their comparison is not possible. Thus, here we will try to highlight some aspects of NISs which we noticed as important for their deeper understanding and future upgrading including regional cooperation. The Common screening table on the NISs of WBC is provided in the Annex 1 and comprises the data for all the WBC countries except Serbia[1].Therefore, Serbia is included in the analysis according to the availability of other sources of information. The additional resources are also used for the analysis of the remaining countries.

2. WBC: some differences some similarities

The differences among WBC are significant regarding overall economic development as well as the development of the specific sector such research and education system, technological development, ICT and similar factors that are critical for global competition based on innovation.

For example, the OECD study on sector competitiveness in the WBC have found that the most serious shortage to operation and growth of the businesses in FYR Macedonia are limited skills, in Croatia management capability while in Albania and Kosovo, UN Res.1244 , the biggest problem is the electricity infrastructure which causes daily power outages (OECD, 2008:4).

However, it should be taken in mind that the techno-economic backwardness of some countries like Kosovo, UN Res.1244 is not only the result of historical development but also of the political situation. Some WBC have only recently won state independence and a chance to establish national governments dedicated to build the national economic progress and social welfare[2].

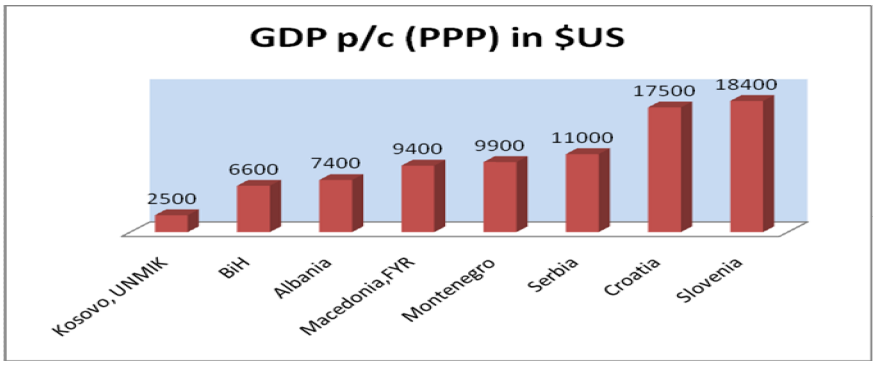
However, the majority of WBC shares similarities in many sectors that make a good ground for business cooperation and the development of regional system for fostering innovation and technological development. The common market of WBC consists of more than 23

[1] The Serbian representative provided the presentation of the programme ñCompetition for the Best Technological Innovation in Serbiaò instead of the national report according to the template.

[2] For example, Montenegro, four years after gaining independence in May 2006, is in the process of establishing its own science system and science policy, while Kosovo, UN Res.1244 is doing the same since it declared independence in February 2008

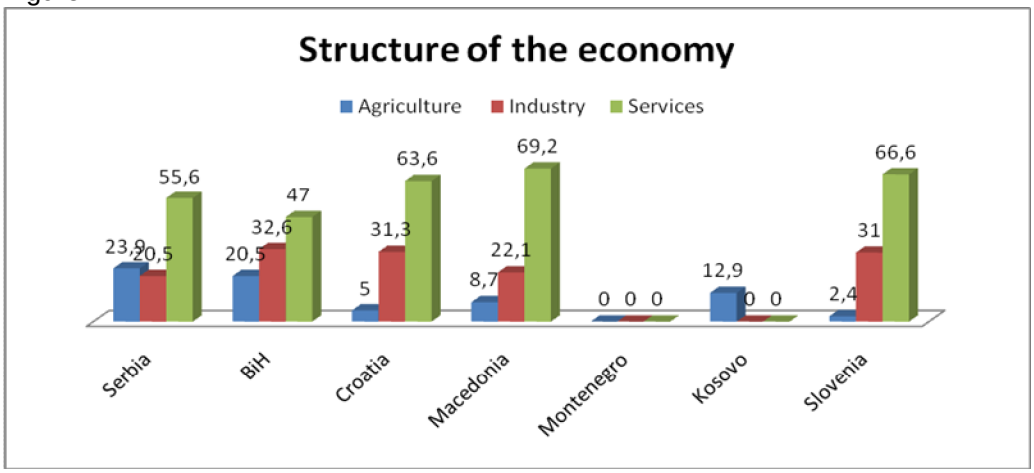
e basis for regional cooperation in many areas not only
model of cooperation.
DP per capita (in PPP) [3], the most developed country is Croatia with the $US 17500 followed by Serbia ($US 11000), Montenegro ($US 9900) and FYR Macedonia ($US 9400). Bosnia and Herzegovina has 6600 $US what is 37.7% of GDP p/c in Croatia while Kosovo UN Res. 1244 with $US 2500 p/c has attained only 17.5% of the Croatia GDP p/c. (Figure 1).

Figure 1.



Majority of the countries can be considered as service economy since more than a half of their economies are based on services, although in traditional sectors (Figure 2). The service sector in BiH counts for 47% in economy while the data for Montenegro and Kosovo, UN Res.1244 are missing. The contribution of industry to overall economy in WBC varies between 20% and 30% (Figure 2). Unfortunately the data about technological capacity of economy and innovation absorption of companies are not readily available.

Figure 2.



Source: CIA ï The world factbook

According to the Lisbon Review (WEF, 2010) which measures eight distinct dimensions that capture areas highlighted by Europeôs leaders as critical for becoming competitive economy in a globalised world, all WBC perform lower than the various EU groupings, including the

[3] CIA – The world factbook https://www.cia.gov/library/publications/the-world-factbook/

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members. Montenegro is top-ranked country which EU members of Greece, Poland, Italy, Romania and eece and ahead of the four countries ranked below it. In other words, the top-performing non-members receive better assessments overall than a number of present members (Figure 3)

Figure 3. Rankings and Scores of Non-EU Eastern European Countries

	Final Index		Subindexes															
			Information Society		Innovation and R&D		Liberalization		Network Industries		Financial Services		Enterprise Environment		Social Inclusion		Sustainable Development	
Economy	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score
Montenegro	1	4.19	2	3.95	3	3.32	2	4.34	2	4.60	1	4.74	6	4.32	2	4.28	2	3.94
Croatia	2	4.18	1	4.04	2	3.36	5	3.85	1	5.23	3	4.34	7	4.16	7	3.72	1	4.70
Azerbaijan	3	4.02	4	3.67	4	3.26	3	4.15	6	4.16	4	4.13	2	4.68	1	4.50	4	3.57
Turkey	4	3.85	5	3.61	5	3.24	1	4.39	3	4.38	2	4.39	5	4.46	10	3.19	9	3.12
Macedonia, FYR	5	3.79	3	3.86	7	2.93	4	3.95	5	4.16	5	4.08	3	4.58	9	3.39	6	3.33
Georgia	6	3.78	6	3.35	9	2.79	6	3.82	8	3.93	7	3.69	1	5.01	6	3.77	3	3.89
Ukraine	7	3.62	9	3.04	1	3.59	10	3.48	4	4.32	11	3.22	9	4.08	4	3.89	5	3.33
Serbia	8	3.51	7	3.29	6	2.95	8	3.66	9	3.83	8	3.68	10	4.01	8	3.45	7	3.19
Armenia	9	3.50	11	2.70	8	2.82	7	3.74	7	3.94	6	3.88	8	4.15	5	3.79	10	2.98
Albania	10	3.47	8	3.13	11	2.52	9	3.65	11	3.46	9	3.41	4	4.48	3	3.94	8	3.13
Bosnia and Herzegovina	11	3.07	10	2.86	10	2.54	11	3.43	10	3.73	10	3.32	11	3.28	11	2.69	11	2.73
EU 27	-	4.81	-	4.73	-	4.23	-	4.80	-	5.39	-	5.05	-	4.60	-	4.51	-	5.16
EU 15	-	5.12	-	5.06	-	4.66	-	5.06	-	5.80	-	5.33	-	4.69	-	4.78	-	5.61
Accession 12	-	4.42	-	4.32	-	3.68	-	4.47	-	4.88	-	4.70	-	4.49	-	4.19	-	4.61

Source: WEF, 2010

Montenegro and Croatia are ranked 1st and 2nd of the group. Montenegroõs greatest strengths are in the dimensions of financial services and social inclusion while Croatiaõs main strengths are its network industries and efforts toward sustainable development. Serbiaõs and Macedoniaõs greatest strength is the quality of the enterprise environment. At the bottom of the table are Albania (10th) and Bosnia and Herzegovina (11th) which receive very poor assessments across most other areas. However, Albaniaõs comparative strength is in the enterprise environment, where it is just barely behind the Accession 12 average and not far behind the EU27 score.

3. Research capacities including HE

Research intensity[4] also significantly differs among the WB countries, at least judging from the data for GERD. GERD was highest in 2009 in Serbia and Croatia (Serbia surpassed Croatia recently) but still significantly low than, for example, in Slovenia (Figure 4).

The most developed research and higher education systems are established in Croatia and Serbia. The public research sector in Croatia consists of seven universities, 14 public and 18 private polytechnic and professional higher education institutions, three academies and 26 public institutes. It also includes about fifty õotherò public research institutions such as the Croatian Academy of Arts and Sciences or research units within health care institutions. Croatian scientific community has 2500 researchers per million inhabitants, which is only 57% average in the EU 27, which has about 4300 researchers per million inhabitants. Croatia has a small share of researchers (head count) of the business sector that is only 22% of the EU average (0.14% in Croatia versus 0.62% in the EU 27).

4 For detailed analysis see GFF, 2006

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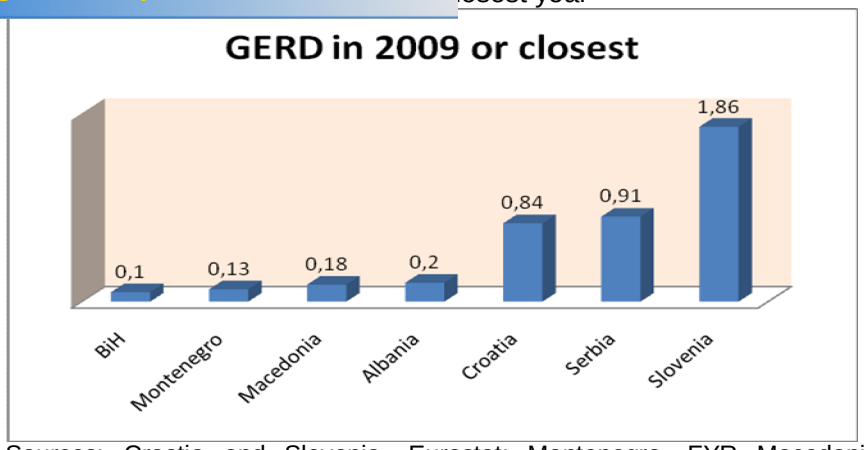

Sources; Croatia and Slovenia- Eurostat; Montenegro, FYR Macedonia, Albania and BiH ï presentations in Beļ iĺ i, Serbia ï calculations based on the national statistics http://webrzs.stat.gov.rs/WebSite/public/ReportView.aspx

The public R&D sector, with universities playing a leading role, is the largely dominant sector in both research manpower (80% of total researchers) and performing research activities (59% of R&D). As reported in 2009, the business sector employs a modest 20% of total researchers and invests 0,4% of GDP in R&D. This indicates a substantial lack of critical mass of researches and investments for technological accumulation and transition to knowledge economy. The majority of GERD (51.1%) is financed by the government while business sector contributed with 40.0%. The business research sector includes 13 private scientific institutions, six of which are in-house institutes affiliated with large industrial corporations while remaining are research institutes which operate independently in the market. The majority of business research is financed by business companies themselves (86% in 2009) while the government with the modest 2.1%.)

Research and higher education system of Serbia consists of 7 national Universities with 78 Faculties, 7 private universities with 45 faculties, Academy of Sciences with 10 Institutes , 28 scientific institutes and one Centre of excellence (Kutlaca, 2010).

The research community of FYR Macedonia consists of 2394 researchers of which 79 are in the business sector, 668 in the government sector and 1647 are at universities. The percentage of gross domestic product (GDP) devoted to the R&D in 2010 was only 0.11% of GDP[5] (in 2007 0.18%) which represents a decrease from the previous years when investments in R&D were over the 0.2%of GDP. BERD amounts to 0.04% of GDP, GOVERD to 0.09% of GDP and HERD 0.09% of GDP. The leading scientific institution in Macedonia is the Macedonian Academy of Science and Arts (MANU) that consists of five departments and 5 research centres. The two of them - Research Centre for Genetic Engineering and Biotechnology, and the Research Centre for Energy, Informatics and Materials are internationally recognised (Polenakovik and Pinto, 2010). FYR Macedonia has also 5 state universities with 60 faculties, 18 private universities with 79 faculties, 7 public research institutions (Polenakovik, 2011). Macedonia Government dedicated 60 million EURO for 2010 and 2011 for purchasing new research and scientific equipment for all public Universities, research institutions, laboratories, etc. This is the highest state direct intervention in R&D area in the last 20 years since Macedonia became independent country.

[5] http://www.stat.gov.mk/PrikaziPublikacija_1.aspx?rbr=122

egro consists of about 766 researchers, 117 part-time, The greatest number of researchers is in humanities and social sciences it has 3 Universities: University of Montenegro with 19 faculties and 3 research institutes, University Mediteran with 6 faculties, and the University Donja Gorica.

The most important subjects in the area of scientific and research in Bosnia and Herzegovina are two academies ï the Academy of sciences and art of Bosnia and Herzegovina in Sarajevo and Academy of sciences and art of Republic of Srpska in Banja Luka. There are 8 public universities - 6 in Federation of B&H and 2 in Republic of Srpska. Since 2008, the nine private universities has been established, 3 in Federation of B&H and 6 in RS. In total, there are 140 private and public faculties exists, 10 academies, 16 higher schools, 4 theological faculties and 4 international studies. The total number of academic staff that works at the Universities in RS is 2456. Out of the total 50% are PhD holders and 15% Master degree holders. There are 1423 permanent (58%) and 1033 (42%) part time staff. According to the rough estimation of the Ministry of Science and Technology of RS, there are 1.2 researchers per thousand active populations (ERAWATCH BiH, 2010)

There is no data on size of the research system in Kosovo, UN Res.1244 in relation to the economy (GDP), structure of GERD, number of researcher by sectors, share of R&D personnel in the business enterprise sector as the % of the labour, etc. For the first time in 2010, the government devoted ú1m for research only for public institution. Around 0.1% of the Kosovo, UN Res.1244 ôs budget is devoted to research projects. There is one public university (another one is established in 2010) and around 30 private colleges/universities mainly involved in teaching, very limited in research

As recorded in 2009, the research community of Albania consist of 77 researchers in state research institutions and 1693 in public & private institutions of higher education (assistant and full professors). Albania has 12 public higher schools and 17 private higher schools. The latter are ñyoungerò with the first being opened only 6 years ago. Nevertheless, some of these have shown potential even in the field of research.

Albania has made one of the biggest steps forward when government undertook a comprehensive reform of the scientific research system in 2006. The Academy of Sciences of Albania was re-organized according to the European model and its research institutes were integrated into the higher education system. The public research Institutes were also re-organized while twelve technology transfer centres and agencies were created. Their main mission consists of transfer of technologies and knowledge and provision of the expertise to policy-making in relevant fields.

As presented, the research and higher education systems of WBC significantly differ. For example, both systems in Kosovo, UN Res.1244 are in the phase of infancy while Croatia is faced with various reforms of rather inert HE and R&D sectors towards greater efficiency and business needs. The common feature of R&D systems in WBC is the domination of public research sector that perform and finance the most (if not all) part of research activties. This is opposed to the industrially developed countries where industry finances and conducts most research and development activities, and hires most researchers. The vast majority of the R&D potentials in WBC are heavily dependent on scarce budget resources that can ensure only maintaining of research sector, not a progress. The underdevelopment of research system seems to be smaller difficulty compared to low absorption capacities of the business for research and innovation. SMEs sector is lacking the critical innovation and research resources for commercially oriented research and cooperation with the scientific sector.

4. Brief overview of the governance of the NISs[6]

The innovation systems of the WBC are highly centralised ñtop-downò systems coordinated by the line ministries, primarily ministries of science and education and ministries of economy. This governance model is typical for less developed countries and technological followers that suffer a lack of market forces and established relationship between the innovation stakeholders that drive technological development by ñinvisible handò of business interests and mutual co-evolution. Thus, government interventions related to emerging innovative businesses, supportive regulations and incentives for development provided by the high-policy levels are needed. The leading roles in innovation governance in WBC have the ministries of science/education and ministries of economy while remaining ministries like ministry of agriculture, ministry of health, etc. have the minor role (e.g. in Albania and Macedonia). Only Albania has established the Ministry for Innovation and for Information and Communication Technology.

The strong ñdivision of labourò and competences within these two leading ministries exists even in the countries with the most developed innovation infrastructure (like in Croatia) and points not only to the lack of cooperation between the government bodies on strategic development but also to the gap of knowledge producers and knowledge users. It is well known that there is a strong mismatch between the supply and demand side for innovation in WBC (Radosevic, 2009) as well as the large disconnection of research and business sectors. It influences the relationships between government bodies and their jurisdictions and vice versa. Ministries of science are the principal financer and coordinator of scientific research (and higher education in some countries) that serves to create and preserve the national educational and knowledge base. On the other hand, ministries of economy are mainly in charge for development of SMEs. They devise strategies for SMEsô development and set up the SME/entrepreneurship infrastructure such as business centres, business incubators, clusters, regional development agencies, etc. They are also responsible for industrial polices, exports polices, administrative regulations and other aspects of SMEs competitiveness.

Development of new technologies and research-based innovation is regularly concentrated within the ministries of science and education (e.g. Ministry of Science, Education and Sports (MSES) in Croatia, Ministry for Education and Science (MoES) in Macedonia, Ministry of Education and Science (MES) in Albania, Ministry of Education, Science and Technology (MEST) in Kosovo, UN Res.1244 , etc. Such ministries usually stress the supply side of innovation system lacking at the same time the connection with production sphere both in manufacturing and services.

From the presented data, only Albania and Croatia have established, in addition to ministries as government bodies, the independent and specialised agencies for development of innovation and technology system: BICRO in Croatia and the Agency for Research, Technology and Innovation (ARTI) in Albania. While BICRO has more than 10 years of experience in managing innovation programmes ARTI was established in August 2009 and is at the beginning of its demanding way towards the national innovation agency. In Serbia, the establishment of the Innovation Fund is currently under consideration with a view to promote entrepreneurship and R&D of market oriented technologies and establish partnerships with domestic and foreign corporations (Kutlaca, 2010).

[6] The more detailed study on innovation infrastructure and stakeholders is provided in the EUROCONSULTANTS, 2007

polices are operationally and legally in the jurisdiction of on of Bosnia and Herzegovina and Republic of Srpska.

Albania made a significant progress in establishing the new government institutions related to innovation since 2007. They established the National Agency for Information Society (NAIS) in 2007, the Agency for Research, technology and Innovation (ARTI) in August 2009 and the Ministry for Innovation and Information and Communication Technology (MIICT) in April 2010.

Currently, the less developed governance structure for innovation is in Kosovo, UN Res.1244 since it has set up only a Department of Science and Technology within Ministry of Education, Science and Technology (MEST) in charge for science and innovation policy. There is also the Center for Innovation and Technology Transfer ï QITT within the MEST and the Office of Industrial Property within the Ministry of Trade and Industry. Both centres are in the early phase of development.

According to the available data only Croatia is experienced in running the programmes oriented towards fostering science-industry cooperation and commercialization of research results which are managed by the BICRO and HIT. BICRO has gradually grown into a respectable innovation stakeholder that runs a range of important innovation policy programmes such knowledge-based companies, proof of concept, seed (venture) capital, etc. However, the impact of the programmes on overall development remains very modest that points to the low technology capacities of knowledge users and absorption capacities of companies for innovation and research results.

The common feature of the governance of innovation in WBC is low recognition of science and R&D by policy makers as the key strategic factors essential for long term economic development. The most ambition countries in this sense are Croatia which runs science-industry cooperation programmes for around a decade and Serbia which perceive academic institutions as a primary source of new knowledge production and innovation (Tekic, Cosic and Penezic, 2010). For example, through the Competition for the Best Technological Innovation in Serbia they succeeded to establish 65 new technology based companies since 2005. The founders are mainly recruited from the students of the Technical University of Novi Sad in Vojvodina (Ġenk, 2010).

However, the main deficiency of NISs of WBC rests within the production sectors which are mainly low-and medium tech and rarely needs cooperation with research sector. Although the research system is the most developed subsystem of NISs in some countries like Kosovo, UN Res.1244 it is still in the phase of infancy. For example, the government of Kosovo, UN Res.1244 has devoted for the first time ú1m for research only for public institutions in 2010.
However, it should be borne in mind that underdevelopment of research system and research capacities does not necessary hinder the overall economic development. The examples of Asian tigers like Japan in the past and South Korea[7] in the present tell us that underdeveloped scientific system and research capacities are not always the major obstacle to economic development. On the contrary, the most important drivers are production capacities and technological competences of companies that enable technological leapfrogs

[7] Korean national R&D expenditure in 1981 only amounted to 0.8% of GNP and consists of 36 000 R&D personnel. Over the 1980s the national R&D expenditure rose dramatically so that in 1991it amounts to about 2.0% of the GNP (an annual rate of increase of about 23%) while the numbers of R&D personnel rose to 132 000 in 1991. 80% of GERD is financed by the industrial sector (Chung and Lay, 1997).Koreaĝs per capita gross domestic product (GDP) has increased about 160 times from $80 in 1960 to $12,638 in 2003. With GDP per capita over $10,000 and total GDP $605 billion in 2003,Korea was ranked eleventh by GDP and thirteenth by total trade volume in the world (Soon Yim and Wang Dong ,2005)

ndustrial sectors. The technological accumulation and
f industry turned out to be the decisive factors of

Therefore, the common challenge for all WBC, regardless the research capacities is to upgrade the technological capabilities of companies and their absorption capacities for using advanced innovation, generic technologies and research results.

5. Research and Innovation strategies

All the WBCs, except Kosovo, UN Res.1244, have the strategic documents related to research policies in place and coordinated by the line ministries, i.e. ministries of science. The strategic documents usually consist of laws or strategies for scientific-research activity and related action plans. For example, Macedonia adopted the Law for scientific-research activity in 2008, and recently MoES begins to develop new 5 year R&D strategy. In addition to the activities of MoES (as a main driver to science, technology and innovation in Macedonia), Ministry of Economy is developing with OECD support National Innovation Strategy for the period 2012-2020. Serbia adopted a National strategy for scientific and technological development 2010-2015 in February 2010 [8], Montenegro adopted the Strategy for scientific research activities (SRA) (2008-2016) in June 2008, while Croatia currently prepares the new science and technology policy since the last one has expired in 2010.

BiH has adopted the common low[9] which regulates scientific and research issues on the state level, but the Republic of Srpska has its own ñLaw on the Research and Scientific activities (OG 112/07) while in Federation of Bosnia and Herzegovina each of the ten cantons has its own legislative regulating this issue. For example Canton Sarajevo has ñLaw about scientific and research activitiesò(2004).
Albania demonstrated the highest enthusiasm in strategic programming on technology transfer and innovation. They developed the National Strategy for Development and Integration (NSDI), the Business & Investment Development Strategy (BIDS) 2007-2013)[10] and the National Strategy on Science, Technology and Innovation (STI Strategy) 2009-2015. The latter is the first comprehensive policy document that sets the guidelines for future developments in STI and provides also a current picture of the STI situation in Albania. It also addresses the issue of lack of financial resources so far, and the need to increase the overall support in the future.
Albania also developed the Cross cutting strategy on Information Society with the objective to create an information based economy. Finally, a Business Innovation and Technology Strategy (BITS) is drafted to assist and stimulate firms to innovate and upgrade technologically. It follows the European model of two independent agencies dealing with innovation: one as a science&research-driven innovation agency, and another as an economy&business driven innovation agency.

The specially tailored action plan on investment in research with the stress to stimulate private sector investments is developed only in Croatia[11] but it does not increase investments in R&D. Other countries integrate this task within the more general strategic plans. For example, in Montenegro, the action plan that sets up the aim of increasing

[8] The Key relevant findings from the Enlargement report - November 2010 http://www.euraxess.rs/sitegenius/article.php?id=812

[9] The ñFramework Law on the Basics of Research and Development Activities and Coordination Internal and External Scientific and Research Cooperation of Bosnia and Herzegovina

[10] BIDS comprise specific objectives and measures particularly in respect to the measure aiming at increasing competitiveness through technology transfer and innovation while the

[11] The ñAction plan for Fostering Investments in Science and Researchò passed by the Croatian parliament in April 2008, known also as the ñ3% Action Planò

activities up to 1.4% of GDP in 2013 is integrated within tivities (SRA).

The governments of Croatia and Montenegro launched fiscal incentives for better RTD investment through the remissions of VAT and import duties on research equipment. In order to raise the level of private investments in R&D Croatia also introduced the tax deductions for R&D in private companies harmonised with the European regulations (Becic and Svarc, 2010). Macedonia do not have special tax deduction for R&D but companies are exempted from the corporate tax on all profits that are re-invested into the development of a company including R&D[12]. Tax incentives are not introduced in Kosovo, UN Res.1244 and BiH.

None of the countries developed a special strategy or action plan on innovation or technology development based on the assessment of technological and innovation potentials or foresight exercises. Therefore, the first lesson of innovation policy ï that innovation development should be based on country-specific science, technology and production framework conditions has not been met in WBC.

In Croatia, technology policy is a part of the Science and technology policy 2006-2010 and is outlined in rather general manner relaying upon the first and rather comprehensive innovation policy programme (HITRA) launched in Croatia in 2001. The strategic innovation or technology plan for the forthcoming period is yet not envisaged. Serbia has made progress in strategic planning by Innovation Law, introduced in 2005 (OECD, 2009) which enables: the formation of organizations for support of innovation activities and technology transfer centres, defines intellectual property rights, and establishes a Serbian Innovation Fund (Kutlaca , 2010).

A few WBC has outlined the industrial policy. From the presented data, only Macedonia has adopted the National Industry Policy 2009-2020, developed by the inter-ministerial working group with the following key areas of intervention: applied research and development and innovation, sustainable development, collaborative approaches for competitiveness enhancement (business research, government collaboration, networks, clusters, alliances), SME development and entrepreneurship, human resource development and knowledge creation, Internationalisation and investment enhancement.
Croatia developed the Strategy of the industrial policy in perspective of the forthcoming accession to the EU but its practical implications are rather low.

It is symptomatic that the industrial policy is very poorly represented in the strategic plans of WBC although it should have an important role in strategic development concerning the backwardness in technological accumulation of the companies and a modest role of research for economy. During the transition period industrial policy in WBC was tacitly limited to the processes of privatisation and subsidies to industrial declining sectors (e.g. shipbuilding sector in Croatia). The reasons for negligence of industrial policy could be various, for example:

1. Negative connation of the traditional type of industrial policy (until the 1980s) related to direct intervention and control by the government over the production sector and exercising the model of ñpicking the winnersòwithout market competition;
2. Excessive dependence on the European incentives and formulation of strategic policies which are then used for national policies;
3. Uncritical faith in the process of EU integration as a solution for strategic problems and waiting for EU to bring solutions through the accession or structural funds and technical assistance.

[12] ERAWATCH Research Inventory Report: The Former Yugoslav Republic Of Macedonia

strial policy with the policy for SMEs that relates to the establishing framework conditions for enterprisesô

Referring the last point, it is worth noticing that the policies related to SMEs are mainly established by the European Charter for Small Enterprises approved by EU leaders in 2000 which recommends the ten key policy areas[13] of action to support small enterprises. The implementation of actions are analysed periodically and the two studies are carried out for WBC up to now (OECD, 2007; OECD 2009). They brought a rather detailed analysis of the countriesôframework conditions and comparisons.

The main difficulty with the strategic documents, at least in Croatia, is that they mainly copy the European schemes and approaches while lacking down-to-earth analysis of national competences, national innovation needs and corresponding strategies. The widespread practice to follow strategies, priorities and solutions formulated by the EU is also partly a consequence of the: ñEuropeanisationò of innovation and research policies through policy learning from EU, strong dependence of the national polices upon EU monitoring, approval and financing. Commonly, these processes reduce the abilities, independence, self-confidence and efforts of the national political and economic elites to develop their own strategies and solutions.

The lack of innovation and technology development strategies illustrates that public administration and socio-economic elites which are responsible for overall development are not aware (or do not have abilities) for long-term planning and do not recognise the importance of innovation for economic development. The variety of reasons could cause such a negligence of knowledge and innovation resources, such as:

- lack of understanding of the relationship and inter-dependence of research, innovation and economic growth; conceptual confusions of the role of research sector, companiesôtechnological abilities and innovation for development;
- lack of trust in the concept of innovation system and related knowledge flow as the mechanism for technology transfer development;
- too much trust in neo-liberal mechanism and market as regulatory mechanism for overall development inducing technologies and innovations;
- vested and non-transparent interests of various rent-seeking groups which prefer technological backwardness to maintain their monopolistic position and rents without competition and investments;

Therefore, one of the important measures for fostering innovation in WBC is developing the innovation governing abilities of national and regional administration and institutions involved in strategic planning and supporting programmes. For example, the main shortcomings observed by the OECD experts (OECD, 2007, p.31) of the government measures in Croatia focused on enhancing the entrepreneurial capacity, concern:

- Å conceptual confusion among ministerial officials and staff about policies and programmes since they often see programmes as policies;
- Å although many programmes exist, they are fragmented, not well connected and overlapping, while the performance measures are missing;

[13] The SMEs policy areas include: Education and training for entrepreneurship; Cheaper and faster start-up; Better legislation and regulation; Availability of skills; Improving online access; Getting more out of the Single Market; Taxation and financial matters; Strengthening the technological capacity of small enterprises; Making use of successful e-business models and developing top-class small business support; Developing stronger, more effective representation of small enterprisesôinterests at Union and national level.

delivering policies and programmes are complicated, not try-centred.

6. Policy programmes and supporting measures

Starting from the systemic view of innovation systems (Smits and Kuhlmann, 2004) that aims to ensure the harmonised development of all parts of innovation system that affect dynamic of innovation, the five types of policy measures can be identified. They are targeted at:

1. Research capacities including education and training (supply side);
2. Absorption capacities of companies and innovation competences that include:
   - 2.1. Policy programmes for not-research driven innovation
   - 2.2. Institutional set up for fostering entrepreneurship and innovation
   - 2.3. Policy programmes for research-driven innovation and intermediary institutions for knowledge transfer.
3. Development of specialized innovation sub-systems such as financial means, legal regulations - intellectual property rights, foresight exercises, etc.

In addition, the development of on fundamental economic and social stability, so-called fundamentals (OECD, 2001) have the critical role in building the environment in which innovation could flourish. They include factors such as functional market economy, stable macroeconomic, fiscal discipline, low inflation rates, regular business to business payments to avoid insolvency of companies, VAT reimbursement on time, opening economies to international trade and capital flows, well-functioning financial and labour markets, etc. Besides, socio-cultural and political fundamentals are of critical importance. They include positive attitudes towards innovation, entrepreneurship, competition and individualism, prevention of corruption, vested interest, financial engineering and greed, political voluntarism, protectionism etc. that disable equal chances to all citizens based on their creativity, skills and efforts.

The three of the five types of policies measures are common to all WBCs:

- Research/education supporting programmes;
- Policy programmes for not-research driven innovation;
- Institutional set up for fostering entrepreneurship.

The remaining two are present only in several countries:

- policy programmes for research-driven innovation and intermediary institutions;
- Development of specialized innovation sub- systems.

6.1. Research supporting programmes

These programmes are indented to develop and maintain the national science base. The programmes include national budget funds for scientific research projects which are usually administered and allocated by the ministries of science and education. Awarding of the research grants are organised on the competitive basis, but despite the complex evaluation procedures, the competition is rather weak since the grants primarily serve to maintain the national research potentials and knowledge base than scientific excellence and merits. The programmes follow the horizontal approach meaning that selection criteria for all types of projects (fundamental, applied, experimental) and all types of institutions (universities,

ogy-oriented institutes) are the same in order to provide ntific disciplines. The thematic programmes aimed at fields like biotechnology, ICT, new materials, etc. are rather rare or absent from research policy. Regularly, the research grants are combined with other supporting measures like procurement of scientific equipment, provision of financial means for scientific conferences or publishing, etc. One of the new type of programmes implemented in almost all WBC under the influence of the mobility programmes of the EU is the ñbrain gainò programme. Although the programmes for inward mobility are targeted at all foreign researchers, it mainly attracts the interest of research Diaspora to return to the homeland or to establish research cooperation. For example, the National Foundation for Science in Croatia has developed the Brain gain programme that consists of three sub-programmes (Visitor, Senior, Post-doc). It also includes the Homing programme for establishing the entire research laboratories for the researchers who have built an independent research career abroad and could help the integration of the Croatian research community into European community.

6.2 .Absorption capacities of companies and innovation competences

6.2.1 Policy programmes for not-research driven innovation

The policy programmes and institutional setï up for entrepreneurship and innovation which are not based on research are usually administered by the ministries of economy which are responsible for support of entrepreneurship, competitiveness and innovation of SMEs.
Following this task, the national ministries of economies usually establish the ministerial departments in charge for preparation and implementation of strategic policy documents, programmes and projects for supporting entrepreneurship, cooperation with foreign donors, and EU. These activities could be divided in two main groups:

- polices for SMEs that involve supporting programmes for fostering innovation (e.g. buying new equipment, training programmes, promotion of crafts, women entrepreneurship , etc);
- support to business infrastructure that consists of various institutions such as business centres, development agencies, etc.

The comprehensive analyses of the polices for development of SMEs are carried out within monitoring of implementation of European Charter for Small Enterprises in WBC (OECD, 2009). It divides the WBC countries in the three groups according to the level reached in terms of policy performance.
A first group, made up of Albania, Bosnia and Herzegovina, and Kosovo, UN Res.1244 under UNSCR 1244/99, was characterised by a level of performance across the ten dimensions around level 2, denoting an institutional and legal framework underpinning SME policy still largely reliant on ad hoc intervention and pilot projects, and in need of further concretisation.

A second group, made up of the FYR Macedonia, Montenegro and Serbia, described countries that had largely completed the legislative and institutional framework supporting SME policy and had just entered into the phase of policy implementation. Their performance level was between level 2 and level 3 in most dimensions. Finally the 2009 report confirms Croatia as the regionôs most advanced country. In each policy, excluding the human capital dimensions and tax policy, Croatia has recorded a performance well above level 3.

However, it is also stressed there have been significant policy developments in Serbia across a wide range of dimensions. The country has moved rapidly from the phase of policy elaboration and definition of strategy objectives to policy implementation in areas such as support to innovative companies, start-ups, provision of business services and information

es The FYR Macedonia and Montenegro have made
an capital and provisions of business support services
he key areas of supporting SME competitiveness and technological capacity. Albaniaõs policy performance over the last two years has been remarkable and has allowed the country to join the second group. The weak points in Albaniaõs performance remain human capital development and technological capacity of SMEs. Kosovo, UN Res.1244 under UNSCR 1244/99 and Bosnia and Herzegovina are still in a phase of completing the basic institutional, legal and regulatory requirements underpinning SME policy:

According to the reports presented in Beļiĺi, the possibility of funding innovation in Montenegro relays on several programmes and instruments like: Development fund that is a common instrument of State support to entrepreneurship, Diaspora fund that is the business cooperation programme with Diaspora, founded by Government and SMEDA. There are several other possibilities like: development of credit line to support entrepreneurship in rural areas, implementation of the credit line for the increase of the energy efficiency in SMEs, using of several international initiative, programmes, credit lines and donors like IPA, EBRD, USAID

Kosovo, UN Res.1244 has also introduced the Voucher Scheme which provides free consultancy to SMEs. In Kosovo, UN Res.1244 there is also an NGO initiative ï the Business Support Centre Kosovo, UN Res.1244 which provides support through training for business skills, ú100 for consultancy, soft loans (less than 5% interest rate up to ú10000 for start-ups) and networking.

6.2.2 Institutional set up for the development of entrepreneurship and innovation

This kind of institutions involves a range of different institutions aimed at provision of the premises for SMEs and various kinds of business assistance and support for networking a connection within the value chain. Typical institutions of this kind are: business incubators; entrepreneurial centres; regional development agencies; free zones; entrepreneurial zones and clusters. Institutional infrastructure for SMEs is usually the most developed and diverse part of the innovation system of WBC.

The most complex institutional infrastructure for business development is in Serbia (see Intermediary institutions) and Croatia. In Croatia, the institutional infrastructure for local entrepreneurship development and business incubation consists of around 23 business incubators, 44 entrepreneurial centres, 27 development agencies, 13 free zones and 108 entrepreneurial zones (Business navigator).

The first business incubator in Montenegro was launched in 2007- the Business Start-up centre Bar. There is also the similar centre in Podgorica which is now in function. SMEDA has launched a programme initiative under which 4 business centres were established in the various regions of the country as well as 7 local sub-centres. One European Information and Innovation Centre (EIICM), involving SMEDA, Chamber of Economy, Faculty of Mechanical Engineering and Business Start-Up Center was established under CIP programme. It replaced former EURO information correspondence centre.

FYR Macedonia has developed the Regional innovation centre in Stip, NCDIEL ï National Centre for Development of Innovation and Entrepreneurial Learning, IC ï Macedonian Innovation Centre, while remaining support organisations consist of 2 business start-up centers, 4 incubators and the MASIT ï ICT Chamber, and 4 main Chambers of commerce. There is a National Agency for Entrepreneurship Promotion that is implementing national programs through 6 regional enterprise support centers and 3 enterprise support agencies.

ip in Kosovo, UN Res.1244 is not very supportive. l by MTI (not functioning well, the latest initiative to aging these incubators).The Business Start-up Centres is established by donors and driven by NGOs. Industrial/Business Parks is under consideration.

In Albania there were several initiatives for establishing business incubators but, none of these is operational till today. Therefore, the designed Business Incubation Programme for Albania will apply a step by step approach, by setting up a pilot business incubator and building on its experience, in parallel taking into consideration the experiences from other countries

A very popular concept for development of innovation capacities of companies and entrepreneurship are clusters[14]. The cluster concept leaves wide scope for interpretation due to its fuzzy, polycentric and hybrid nature and usually is mixed with the notion of the regional innovation system (RIS). Clusters and RIS may co-exist in the same territory while RIS may in fact contain several clusters. By contrast cluster is not by necessity an integral part of a regional innovation system (Andersson and Karlsson, 2004). Clusters do not necessarily involve research institutes or universities but they are gathered around the same working sector, common market, common problems to face, etc. Unlike RIS, clusters can be developed only bottom-up since they consist of dense network of firms connected in value-chain and government can provide only horizontal measures. Since they are usually supported by the regional or local government and financial are not very demanding their number can be significant. For example, Serbia recorded around 18 clusters, FYR Macedonia around 16 clusters while in Croatia there are currently about 50 different clusters coordinated by the Ministry of Economy, Labour and Entrepreneurship (MELE), Croatian Employers Association and Croatian Chamber of Economy.

Albania developed 4 clusters in tourism, meat processing, medical herbs and leather goods production industry with the assistance of foreign donors. In Bosnia and Herzegovina 2 closures are recorded while in Montenegro, only meat processing has been carried out as a basis for developing cluster programme. There is no data for Kosovo, UN Res.1244 .
The great difficulty is to get the information which of these clusters are really in function and which exist only formally.

6.2.3. Policy programmes for research-driven innovation and intermediary institutions for knowledge transfer

Innovation capacities for research-driven innovation usually involve programmes for knowledge flow between the sectors and sector interactions. Supporting programmes for such innovations consists of the tailored made programmes for science-industry cooperation and commercialisation of research results.

The complex set of these programmes are devised at the moment only in Croatia and partly in Serbia. Similar conclusions come also from the OECD analysis (OECD, 2009:23) which states that Äall across the region, government policies directed at strengthening the technological capacities of SMEs are at an early stage of development Croatia is the most advanced in the three areas of technology dissemination, technology co-operation, and research and development of inter-firm clusters. In a number of other countries (Bosnia and Herzegovina, the FYR Macedonia and Serbia), technology support programmes are mostly

[14] . ñClusters are geographically close groups of interconnected companies, suppliers, service providers, and associated institutions in a particular field (é). Clusters are often working in a particular region, and sometimes in a single townò (EC, 2006)

ess has been recorded in Bosnia and Herzegovina, and
ea. Albania, Kosovo, UN Res.1244 and Montenegro are
ationò

Croatia is still leading the Western Balkan countries in terms of policy framework, number of active programmes and pilot projects. It launched comprehensive technological development programme under the responsibility of Business Innovation Centre of Croatia (BICRO) which runs the several programmes such as: support for knowledge-based companies (RAZUM), the development of the technology infrastructure (TehCro), public-private risk capital fund (VenCro), R&D services for companies (IRCro), business, competitiveness upgrading programme (KonCro) and the Proof of Concept programme (PoC). In addition, there is the TEST programme aimed at developing of new technologies (products/processes/services) up to the stage of commercial application, and programmes run by the Croatia Institute of Technology (HIT). The Unity through Knowledge Fund and the National Science Foundation also carry out programmes for science-industry cooperation (Svarc, 2011). The most recent programme ï the Science and Innovation Investment Fund is devised within the IPA and targeted at integration of universities and RTO into the local economic development.

According to OECD (2009) in FYR Macedonia, a new law on supporting and facilitating technological development opens the door for enterprises to apply for government co-financing for up to 50% of research and development project costs. At the end of October 2008, 57 projects proposals were under evaluation. However, budget allocations are limited to ú146,920 in 2008.
FYR Macedonia has introduced the Innovative voucher in 2010 by the Agency for promotion of entrepreneurship with the aim to boost the knowledge capacity of SMEs by building links between knowledge providers and SMEs. The specific objectives of the scheme are to enable SMEs to buy knowledge and strategic consultancy from research institutions and to increase the demand-orientation of the public knowledge institutions.

Intermediary institutions

In other countries - BiH, Kosovo, UN Res.1244, FYR Macedonia and Albania supporting measures for cooperation between entrepreneurs and researchers are mainly limited, at least judging from the reports presented in Beļ iĺ i, to setting up intermediary institutions aimed at provision of the spatial proximity of knowledge users and producers and links between science and industry. These kinds of institutions include technology transfer centres, technology parks, science parks, etc.

The most complex institutional set up for knowledge transfer is developed in Croatia and Serbia. Serbia has made progress on the implementation of the Innovation Law, introduced in 2005 (OECD, 2009). In line with the requirement of the law, 3 innovations centres, 20 research and development centres, 39 research and production centres, 2 technological parks and 3 technological incubators had registered with the Ministry of Science and Technology by the end of October 2008.These entities became eligible for financial support covering up to 50% of their R&D projects. Budget allocation in 2008 amounted to ú 4.7m. Additional funding has been provided by the EC-funded the Enterprise Development and Innovation Grant Scheme, mostly channelled through cluster development

Croatia has 5 centres for technology transfer in Zagreb, Split, Rijeka, Osijek and Dubrovnik and three recently established technology transfer offices at universities of Zagreb, Rijeka and Split. There is also an office for technology transfer at the RuĽer Boġkoviĺ Institute in Zagreb (RuĽer Innovation). In addition, there are technology parks in Zagreb and Varaġdin and one university Science and technology park attached to the University of Rijeka.

a has established the Technology Park Tuzla, while the final phase. Republic of Srpska has established the in 2010. Technology Business Park Banja Luka establishment is in the process.

In the FYR Macedonia (OECD, 2009) there are four technologies transfer centres (three in Skopje and one in Bitola) established with the support of GTZ, the German technical co-operation agency. Another nine centres are planned, under the USAID-funded Competitiveness Project. In addition, the Agency for the Promotion of Entrepreneurship and the Economic Chamber of the FYR Macedonia is providing technology transfer services in the context of the Enterprise Europe Network since the beginning of 2008, through the European Information and Innovation Centre in Macedonia (EIICM). The first private technology park of SEAVUS company is under construction. Macedonia has reported that 20 development and research units have been established in the economy sector as well as the research centre in pharmaceutical company ï Alkaloid, Skopje. Recently established new centers for innovation support were:

- NCDIEL ï National Centre for Development of Innovation and Entrepreneurial Learning,[15]
- IC ï Macedonian Innovation Centre.[16].

It seems that Montenegro, Albania and Kosovo, UN Res.1244 have not yet started to develop intermediary institutions. Kosovo, UN Res.1244 has only Center for Innovation and Technology Transfer at the Ministry of Education, Science, and Technology. There is no technology transfer centre as well as technological parks and science parks in Montenegro and Albania. The main initiative in Montenegro is the establishment of a University Centre for Design and Development, based at the University of Montenegro (Policy index 2009).

6.3. Development of specialized innovation sub-systems

In addition to institutional set up with the direct influence on innovations like research institutes, technology transfer centres, science parks, etc, there is also wider institutional context (innovation sub-systems) with the significant impact on innovation activities. These innovation subsystems include for example financial, legal and governance sub-systems.
These innovation sub-systems like financial tools for investing in research commercialisation and innovation, intellectual property regulations in academia or long-term strategic planning are poorly developed in WBC. The most developed subsystem is the one related to the standard intellectual property rights since it is critical for European integration in terms of free trade and investments. There is a lack of data regarding the establishing of the intellectual property rights in academic community related do research commercialisation and university-spin offs. Croatia has carried out the CARDS programme (started in 2003) for developing IPR in academic community which involves several universities. The knowledge collected within the projects is nowadays applied in technology transfer offices at universities of Zagreb, Rijeka and Osijek, Rudjer Innovation and the Technology transfer office of the Croatian Institute of Technology. The latter has developed a Manual for managing intellectual property rights in academic community and research institutes.

According to the available data only Croatia has launched the programme Vencro aimed at initiating venture capital industry while other WBC do not have such initiatives. The exception is the Serbian initiative for the Western Balkan Technology Fund that should collect capital of ú100m for ventures in the WBC region. The CRANE - a Croatian network of business angels and private investors interested in investing in innovative companies is in the very early stage of development.

[15] Funded by Austrian Development Agency
[16] Funded by USAID

ngel network is developing under the Slovenian business
on Centre, while the first projects are expected for

Technology foresight exercises are not carried out in any of WBC.

7. Main structural deficiencies of research and innovation system

The main deficiency of **research and innovation system** noticed by all WBC is a lack of leadership and vision in developing NIS. FYR Macedonia for example, notices that they are missing a clear vision, strategy and policy for developing of NIS. Albania complains about the lack of proactive policies to support technology capacity building for enterprises, particularly for SMEs, while BiH lacks the strategic documents which will provide the basis how involve business sector to invest in research. In Kosovo, UN Res.1244 UNMK there is no well defined system of research and innovation and in Montenegro the main structural deficiencies are present in research ambient as well as within the governance structures which did not find efficient legal and policy arrangements that provide a sound and supportive environment for universityï enterprise cooperation. Montenegro also notifies that monitoring system for innovation is not placed well both in terms of institutions that monitor innovation activities, as well as indicators used to monitor innovation,

The next large shortcoming is **the lack of technological competences of companies** that create a lack of the interest from the company side for research and innovation. This is a problem not only of technologically less developed Kosovo, UN Res.1244 and Albania but also of more advanced countries like Croatia which complains abut missing the market for research services and research results (Svarc, Laznjak and Perkovic, 2011). The weakest point of NIS is the absorptive capacity of companies for new knowledge and for adapting imported and purchased technologies. This capability is essential for company to grow and innovate. Without technical capability of companies the measures aimed at science-industry cooperation or intermediary institutions like science parks are in danger of creating an illusion of modernization and progress which actually do not exists. Therefore the prime task of NISs in WBC should be oriented toward upgrading the technological capabilities of companies.

All countries complain about the **outdated and inadequate** s**cientific infrastructure** and low **level of investments** in research and innovation both from public and private resources. Although the differences among the countries are significant since the level of investments varies from a total of ú1m in Kosovo, UN Res.1244 to 0.9 in Serbia the problem remains the same. More resources are needed in all countries but for different purposes: once for establishing the research system (Albania, Kosovo, UN Res.1244) while other countries need to strengthen research excellence as well as capacities for cooperation with the business sector.

Majority of research policy plans and intentions are not reflected in supporting measures. The implementation of policy documents, the specific measures are either underfinanced or do not address the policy priorities.

The additional shortcomings by individual countries include:

- Å In Albania there is no dedicated institutional structure within the Albanian government to coordinate research activities and there is no specific strategic approach to business innovation and technological development; Albania is highly dependent on foreign technology;

ed procedures related to public procurements and tax

- In Croatia there is a low level of inventive activities, low complexity of innovation activities and low share of R&D employees in total number of employees compared to the EU 27 average;

- FYR Macedonia suffers from the concentration of research activities at one university – Ss. Cyril and Methodius University; there is an overlapping of responsibilities between MoES and MoE and a low level of awareness about the need for innovation. There is no tax incentives for companies that invest in R&D and more intensive focus on entrepreneurial learning to all levels of education is needed; On the company level, unfortunately, only few companies have their R&D departments (Alkaloid, Stobi, Skovin, Tikves, Mikrosam, HI-Tech corporation, Plasma, Veda é). R&D expenditure by firms is typically considered a cost without due consideration of the long-term effects of innovative products, processes and services resulting from R&D activities. According to data from recently conducted CIS 4 (community innovation survey) only 18 % of surveyed 2000 companies had introduced innovative products or services in the last 3 years (Polenakovik 2011). This figure illustrates low awareness for innovation, as well as low priority currently accorded to R&D by the business sector.

- Montenegro put a specially stress on the lack of effective linkages between knowledge institutions (HE and R&D) and industry since there is little awareness of the mutual benefits of cooperation with industry. Although the need for cooperation of universities and enterprises are included in policy documents, an efficient legal and policy arrangements that provide a sound and supportive environment for universityï enterprise cooperation do not yet seem to have been established. Universities find difficulties to attract social partners (Chambers of Commerce, Regional Development Agenciesé), since they do not consider universityï enterprise cooperation as part of their portfolio. Despite universities consider SMEs to be the most relevant and interested partners for cooperation the actual cooperation between university and industry takes place with large companies ï often branches of multinationals, because these have a critical mass of qualified staff who can find a common language with teachers and researchers, they have better equipment and infrastructure, longer-term strategies and more money;

  Concerning the public support Montenegro defined several needs that can be also considered as deficiencies:

- Business to business and university to business linkages, in terms of mechanisms to support networking, mechanism to support cooperation between the interdisciplinary research groups and business;
- Infrastructure and support services favouring the emergence of new clusters, in terms of business and technology incubators, science parks;
- Government source for financial support in terms of publicly funded schemes to support technological innovation like credits, vouchers, organizational design or marketing;
- Access to finance, in terms of policies or agencies aimed at fostering seed financing, start-up financing;
- Incentive frameworks for innovation in terms of policies for providing the right incentives, policies aimed at lowering the risks for entrepreneurial ventures

8. Main challenges for governance of innovation

of innovation vary according to the level of development

The main challenge for Kosovo, UN Res.1244 is to build the research system and integrate the fragmented parts of NIS into a new properly design innovation system. They should also develop statistics on all important indicators regarding innovation, technology and science.

Albania wants to ensure that by 2015 Albanian scientists would be able to generate high quality and internationally recognised research in selected areas. Therefore, their main tasks are related to improvement of basic research infrastructure able to support university training at three levels (BSc, MSc, PhD levels) and creation of scientific excellence in key research areas for the country. They also set a task to increase the public spending on research to 0.6% of GDP by 2015. The share of GERD from foreign sources notably from the EU (FP, etc.) and international donors should cover 40 per cent of all research spending in the period 2010ï 2015. Internationalization and integration into ERA and the building of national competences are the key factors recognised in Albania. It calls for redesign of the overall legal and institutional framework for research policy-making and research funding and alignments required for European Partnership for Researchers (improving researchersô careers and mobility) and joint programmes. The increased public understanding of science the role of innovation and new technologies for society and economy is needed. In the field of innovation and transfer of new technologies a specific Strategy for Business Innovation and Technology (BITS) would fill the gaps through 4 programmes of Innovation Fund, Business Innovation Services, Incubation Programme and Cluster Development.

The main problem in BIH is perceived in fragile economy and the capacity of the various actors in the innovation system to support knowledge-based economic development. The outdated equipment and infrastructure in the higher education/research sector, insufficient investment in training on new technologies and technology upgrading in enterprises, and similar problems are perceived as the main obstacles to innovation system.

Croatia should increase effectiveness of the R&D sector and put it into work to achieve broader social economic objectives i.e. increase competitiveness, employment and living standards There is also a lack of an adequate financial system which could facilitate R&D sector

In FYR Macedonia one of the main challenges is to determine interï ministerial group responsible for development of innovation policy as well as to prepare a solid innovation strategy. The challenge is also to recognise and finance most proactive innovation drivers (both public and private) and to strength capacity of public institutions that deals with STI. The reverse brain drain of high educated people is needed and should be included in regional innovation policies and strategies. The better promotion of the EU mobility programs especially among young researchers is needed. FYR Macedonia also supports the establishment of the national and regional innovation and patent fund.

Montenegro provides a range of tasks that should be accomplished in order to gain more functional innovation system. The key role has the Governments of the Montenegro that should accelerate a transition of researchers from academic sphere to enterprises through a greater emphasis on the mobility aspects of the best young researchers. It should also introduce tax incentives for projects which involve knowledge transfer from universities to enterprises in order to encourage innovation in SMEs. Establishment of the science and technology parks to promote networking between their tenants as well as the encouragement of the industrial clusters develop an outward exporting orientation and link up with international systems of innovation are seen as important.
Universities in Montenegro are recognised as the key drivers of the local systems of innovation, major source of knowledge in emerging and established clusters, drivers of the

ment and the source of local innovations and local egro should establish technology transfer centres to licensing of inventions and innovations created in university laboratories. Universities should focus on applied research activities. Collaboration with enterprises and participation in joint research projects should be included in academic staff promotion criteria.

Innovation policy should be seen in Montenegro as the cumulative result of interaction among governments at various levels, businessmen, academics, and social partners comprising membership from all of these spheres, especially at the regional level.
Furthermore, it is necessary to establish new institutional arrangements of universityï enterpriseï government relations. The common objective is to realize an innovative environment consisting of university spin-off firms, three-lateral initiatives for knowledge-based economic development, and strategic alliances among firms (large and small, operating in different areas, and with different levels of technology), government laboratories, and academic research groups
It is emphasised that financial resources by themselves will not solve the problem of a low innovation capacity in Montenegro. Instead, the policy focus needs to be shifted to:
ÅMicroeconomic capacity of WB region;
ÅQuality and specialization of factor conditions;
ÅQuality of enterprise strategies and entrepreneurship;

An important future step need to be involvement of proposed model of university-enterprise cooperation in corresponding strategic documents such as future Strategy of technological development together with the already existing Strategy for sustainable development (2007).

9. Conclusion

It is rather difficult to estimate institutional maturity and complexity of the national innovation systems in WBC since they are in constant flux and subjected to many changes. For example, the reliable information about functionality and success of supporting institutions enlisted in different directories of WBC are missing and call for an in-depth analysis.
The two types of infrastructural institutions can be identified which complement each other and commonly build the national innovation systems:

- Institutions and programmes focused on the development of SMEs and entrepreneurship based on non-research innovations;
- Institutions and programmes for supporting research-based innovation and science-industry cooperation.

As expected, the first kind of programmes and institutions are more common in WBC with less developed innovation system while programmes for research-based innovation are mainly limited to Croatia and Serbia. Countries in WB region have not, except Croatia and Serbia, initiated/developed specific policy programmes and supporting measures aimed at knowledge flow between the sectors and their interactivity such as programmes for science-industry cooperation, research commercialisation, academic spin-offs, intellectual property rights in academic community, etc. The most common measure for supporting science-industry links is reduced to establishing of the intermediary institutions like technology parks and technology transfer centres but with no evidence about their achievements.

Very roughly, we can divide the countries in the five groups according to their experience in establishing institutional infrastructure and supporting programmes for innovation, as follows:

- Kosovo, UN Res.1244 ï lack of innovation structure, strategy and programmes for both research-based and non-research based innovation;

in establishing supporting measures, policy elaboration
on-research base innovation; intermediary institutions in

- Montenegro and Macedonia - familiar with establishing and implementation of innovation infrastructure for SMEs and entrepreneurship (non-research based innovation);
- Serbia- complex innovation infrastructure for SMEs/ entrepreneurship and beginner in programmes for science-industry cooperation
- Croatia ï complex innovation infrastructure for the SMEs/entrepreneurship and developed policy-mix for science-industry cooperation, yet with the modest influence on economic development.

Due to the different level of development of NISs in WBC the different measures or specific policy mix should be put in place. For example, in Kosovo, UN Res.1244 and Albania important measures should be directed towards energy safety and setting up the research system while in Serbia and Croatia the reforms or R&D and HE systems are needed in terms of achieving both scientific excellence (international recognition) and involvement of research/education sectors in local and national economy. However, WBC shares many common problems in research sector such as law participation in FP, lack of quality assurance system in R&D and HE, low mobility of researchers, obsolete scientific equipment, etc.

The common shortcomings of the innovation systems in WBC identified so far are presented in the Table 1 as well as possible directions of policy measures

Table 1. Some common shortcomings of the NISs in WBC and possible directions of policy measures

Some common shortcomings of the NISs in WBC	Directions of policy measures
There is a lack of strategic visions of development of NIS and a presence of myopic strategic policies instead of analytical studies based on technology foresight exercise or assessments;	There is a need for learning process related to technology foresight and strategic planning which can be organised at the regional level of WBCs; the practical implementation of the finding should be necessarily carried out in the selected sectors on the level of WBC region to put strategic visions into work and avoid being dead letter
The structure of the national economies is dominated by the low-tech sector while lacking the structural reforms to overcome technology obsoleteness;	It calls for a kind of large ï scale technology programmes which should involve all the innovation stakeholders at the national level for modernization; it is worth investing the viability of such the programmes at the regional level of WBC
Innovation and absorption capabilities of SMEs are weak for both innovations generation and adoption/modification; there is a huge lack of research workforce in the private business sector	There is a need for common programme in upgrading innovation abilities of companies; the programmes for industrial revitalisation could be more efficient than programmes for research commercialisation; it comes from the fact that technology capabilities of companies and knowledge they apply tend to be firm specific and cumulative while assimilation of knowledge from research

	sector can be ineffective and not sustainable
roducers on and research sector	The programmes for science-industry cooperation should be adapted to the needs of the SMEs; this area provide a wide range of possibilities for WBC cooperation (e.g. vouchers, regional awards, regional training centres, various mobility programmes among countries and sectors, apprenticeship, etc
Research and technology capacities of WBC are modest and research-based innovation do not have pronounced role in the development	the programmes for research commercialisation and establishment of the sophisticated intermediary institutions such as science parks or technology transfer centres should be fostered wisely so as not to create a false impression of progress and modernization
WBC shares many similarities regarding business and technology development and naturally are oriented towards each other but there is a lack of information of areas of possible cooperation	An exercise in mapping the technologies and research with commercial potentials within WBC region is needed for designing the common thematic (sectoral) programmers; it might be a good starting point in innovation and research cooperation
The markets for innovation products and research results are not developed in any of WBC	The actions to develop the regional market for innovation and research can be initiated; the regional market consist of more than 21 million of people, provides economy of scale, value chain connections and concentration of research and technological potentials
Fundamentals that are critical for innovation dynamics are not in place in any WBC	WBC should improve fundamental economic and social stability (fundamentals) which are critical for innovation and economic growth such as stable macroeconomic, fiscal discipline, low inflation rates, opening economies to FDI, etc.

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ng Table on the NISs of WBC

Country	Main structure and characteristics of the national research and innovation system
Albania	Science system in Albania includes the higher education, scientific research, knowledge and technology (innovation) development. As such it includes not only the public and non-public institutions of higher education and basic research, but also entrepreneurships operating in the field of research, development and innovation **I**nnovation **S**ystem: **Central Government** • National Council for Science and Innovation • Ministry of Education and Science MES • Ministry for Innovation and for Information and Communication Technology • Line Ministries ○ Ministry of Economy, Trade and Energy ○ Ministry of Agriculture ○ Ministry of health ○ Ministry of |Defence ○ Ministry of Environment **National Institutions** • Agency for Research, Technology and Innovation (ARTI) • National Agency on Information Society (NAIS) • Patent Office **Research Bodies** • Universities • Centers of Excellence • Academy of Scienc***e*** **Annual Gross domestic expenditure on R&D** (GERD) amount to around 15 million EUR in 2009, i.e. less than 0.2 percent of GDP. This expenditure is almost exclusively funded by the public sector and by foreign sources. The government is committed to increasing funding for higher education and scientific research. In this view, the 2009 budget is 2.2 times higher than in 2005. Actually, the only ósesearch-fundingô programme is a small scale competitiveness funding programme (currently 132 projects for a total budget of $5m, implemented over 2ï 3 years) run by MES. In 2006, the Albanian government undertook a comprehensive reform of the scientific research system. The main outcomes of this reform are summarized as follows: a) the Academy of Sciences of Albania was re-organized according to the model of many European countries: it now operates through a selected community of scientists organized in sections and no longer administrates research institutes b) the research institutes of the Academy were detached and integrated into the higher education system. c) *Research Institutes* (RIs) under the line ministries were re-organized and twelve Technology Transfer Centers and Agencies were created, having as their main mission the transfer of technologies and knowledge and provide expertise to policy-making in relevant fields. Completion of the structural reform in 2008 with the integration of RIs of the Academy of Science and line ministries in universities brought Albanian research system in line with those of most European countries in

	tion and research are integrated together, as a of modern science systems. At present, it is difficult to make a precise estimate of STI investment levels, the performance of public, academic and business organizations that conduct research, or of the ñinnovation systemò in general. R&D and innovation statistics are collected not in line with international (OECD, Eurostat or UNESCO) standards.
Bosnia and Herzegovina	Bosnia and Herzegovina according to its Constitution is consists from two entities: Federation of Bosnia and Herzegovina Republic of Srpska ñFramework Law on the Basics of Research and Development Activities and Coordination Internal and External Scientific and Research Cooperation of Bosnia and Herzegovinaò regulating scientific and research issues on the State level. Scientific and Research and Technology issues are operationally and legally in the jurisdiction of the entities in accordance to entities and cantonal legislative: This issue is Repulic of Srpska is regulated by the ñLaw on the Research and Scientific activities in Republic of Srpska (Sl.Gl.112/07) In Federation of Bosnia and Herzegovina which is consists from ten cantons, each canton has its own legislative regulating this issue. For example Canton Sarajevo has ñLaw about scientific and research activitiesò(2004). According to the official data very low level and structure of science and research financing: Total budget is below 0,1% of GDP, and participation of the State (entities and state) is over 80%, Participation of business sector is around 10% Participation of the education institutions and others is below 10%; According to the Statistical Agency of Bosnia and Herzegovina in 2006/2007 percentage of high educated population was 6-7%.
Croatia	The composition of GERD: Business 40.7%, HEI 33.7%, Government 25.5% Slow restructuring of the public institutions coupled with secondary role of innovation in business strategies Low base of research with a commercial potential Technology transfer processes and institutions are being developed Solid, but underfunded support measures
Former Yugoslav Republic of Macedonia	A. Main ñplayersò in public sector: - Ministry for Education and Science (MoES) - Ministry for Economy (MoE) - Other ministries: o Finance o Agriculture o Information society o Transport o Local self-government o Environment and physical planning - Universities - MANU (Academy)

	ions otion of entrepreneurship tellectual property MoES is responsible for policy development and monitoring of implementation of activities related to science and R&D, while MoE developed industrial policy and now is developing under OECD supervision National Innovation strategy 2020. MoE supports clusters, incubators and business start-up centers. B. Key partners in the private Sector - Chambers of commerce - Private universities - Research centers within companies - Individuals ï inventors - NGOôs C. R&D costs (**table 1**)

Table 1. R&D costs as percentage of GDP

Kind of costs	2003	2004	2005	2006	2007
% of GDP for science/research	0.22	0.25	0.24	0.21	0.18
Participation of the business sector/ GDP	0.003	0.015	0.03	0.03	0.04
Funds from the state budget/ GDP for science and research	0.14	0.12	0.11	0.10	0.09
Participation of the higher education/GDP	0.08	0.11	0.10	0.08	0.05

Table 2. Employees in the field of science and research

YEAR	2003	2004	2005	2006	2007
Total	2589	2552	2642	2373	2394
Business sector	67	136	158	78	79
Government sector	829	754	754	671	668
Higher education	1693	1662	1730	1624	1647

Kosovo, UN Res.1244 , UNMIK	No national research and innovation system in place There is no data on size of the research system in relation to the economy such as structure of GDP (GVA), structure of GERD, number of researcher by sectors, share of R&D personnel in the business enterprise sector as the % of the labour, etc For the first time, this year government devoted 1 million Euros for research only for public institutions. 0.1% of the Kosovo, UN Res.1244 ôs budget is devoted for research projects
Montenegro	Researchersôcommunity consists of about 766 researchers, 117 part-time, 480 full time or external associates. The greatest number of researchers in humanities and social sciences. Gross domestic expenditure on RTD was o,13% in 2007, the same as in 2002. Gross government expenditure on RTD- ratio to GDP was 0,053% in 2007, relate to 0,044% in 2002. Gross business enterprise expenditure for period 2002-2008 is not available. The same situation is for gross foreign investment in RTD. No action plan for increase of investment. Action plan within the Strategy for scientific-research activities envisaged the overall investment (public and private)as 0,8% of GDP in 2010, up to 1,4% GDP in 2013.
Country	**Education/Research system**
Albania	***Higher schools*** are academic & research institutions Actually; there are

	ools and 17 private higher schools. The latter are irst being opened only 6 years ago. Nevertheless, hown potential even in the field of research. ***archers in 2009:*** - 77 in state research institutions - 1693 in public & private institutions of higher education (personnel with graduation Phd, As. Prof, &Prof) • ***National research centers*** Center of Albanologic Studies • ***Public Centers/Agencies of technology transfer and development*** - 6 centers/agencies in the Ministry of Agriculture, Food and Customer Protection - 1 agency in the Ministry of Environment, Forests and Water Administration - 1 centre in the Ministry of Tourism, Culture, Youth and Sports - 2 centers/agencies in the Ministry of Economy, Trade and Energy - 2 centers in the Ministry of Public Works, Transports and Telecommunication. • Centers/agencies/institutes and other private entrepreneurships dealing with research and technology and knowledge development and transfer. The institutions were established or re-affiliated as follows: *1) three inter-disciplinary research centers:* ÅCentre of Albanologic Studies ÅUniversity Research Centre of Energy, Water and Environment in the Polytechnic University of Tirana ÅGeo-Science Centre in the Polytechnic University of Tirana *2) two new faculties:* ÅFaculty of Information Technology in the Polytechnic University of Tirana Å Faculty of Biotechnology and Food in the Agricultural University of Tirana 3) *a new centre and new a department* (as part of the Faculty of Natural Science of the University of Tirana) ÅApplied and Nuclear Physics Centre ÅBiotechnology Department The policy intervention to be developed over the six year period from 2010 to 2015 around five main programmes, in addition to the existing baseline funding is foreseen to be made, as follows: • **Research Infrastructure Fund** improving the equipment and facilities available in the public and university research institutes to a level permitting research projects to be executed to international standards • **Albanian Centers of Excellence in Science** (ACES) with the objective of developing 4-5 centers of excellence bringing together a minimum of 20 researchers (principal researchers, post-university researchers and PhD candidates) • **Research Eagles Grants Programme** aimed at increasing the number of Masterôs and Doctoral graduates in science and engineering, carrying out post-university research or projects in Albania. The programme will fund both young researchers to undertake PhDs in Albania and mobility to pursue PhD training in the EU27, as well grants for returning researchers from abroad • **National Technology Programme** aimed at bringing together consortia of academic research institutes with the private sector or other public sector organizations (e.g. water or energy utilities) in order to develop a medium-term programme of applied research with a social or economic impact. • **Science Promotion and Education Programme** aimed at

	e towards young people and funding of a limited schools to boost PhD numbers. Various science ssador schemes or ôinnovation awarenessô initiatives rve as models. All of the above programmes will be administered on the basis of competitive calls for projects or applicants. An initial investment in scientific infrastructure of $4.9m was made with the support of the World Bank, but amounts committed remain small and are focused on teaching laboratories. In 2007, the Albanian government introduced a programme for PhD studies, ôThe Excellence Fundô, which supports partially or fully the best PhD candidates to complete PhD studies abroad. A total of 27 PhD students were supported by this fund during 2007ï 2009. Under the medium-term plan (2008ï 2009) of the Brain Gain Programme, the Albanian Government for the first time committed State budget funds and opened 550 vacancies in higher education and scientific research institutions. To date, 82 assistants and lecturers with a MA or PhD degree have been qualified and appointed through open competitions in public and private universities.
Bosnia and Herzegovina	The most important subjects in the area of scientific and research in Bosnia and Herzegovina are generally: Academies of Sciences Universities (Faculties and Institutes) Institutes which are legally public or private owned Enterprises Research centers or company's institutes; There are two academies of sciences and art in Bosnia and Herzegovina as higher level of scientific institutions: Academy of sciences and art of Bosnia and Herzegovina in Sarajevo and Academy of sciences and art of Republic of Srpska in Banja Luka. There are 8 public universities in Bosnia and Herzegovina, 6 in Federation of B&H and 2 in Republic of Srpska. Since 2008.godine 9 private universities has been established, 3 in Federation of B&H and 6 in RS. In the scope of private an public universities 140 faculties exists, 10 academies, 16 higher schools, 4 teological faculties and 4 international studies. Number of publications in the referent journals, per 100.000 inhabitants was 0.61 in 2000, in pre war period it was 1.95 (1990), which is very low comparing to surrounding countries Serbia (11.34), Croatia (26.00) (Source: Fourth Inernational Congress on peer Review in Biomedical Publication, Barcelona, 2001). According to ISI (Institute for Scientific Information) number of publications in 2008 per million inhabitants was 103.05, which is also low comparing to Serbia (365,82) and Croatia (738,03). Number of graduated students in 2007 (12199), magister and specialists (436), doctor of sciences (144) (Source: Statistical Agency of Bosnia and Herzegovina, 2008).
Croatia	The education / research system is in flux, as exemplified by the current public debate regarding the new laws related to research, higher education and the organisation of universities The key challenges include: defining strategic priorities and institutional setup, securing sources of funding, opening up to ERA, increasing

	nd researchers nly involved in teaching, very limited in research ï)
Republic of Macedonia	State universities (5) with 60 faculties - Public research institutions (7) - Private universities (18) with 79 faculties • Macedonian Academy of Sciences and Arts - Departments (5) - Research Centers (2) • Only few research departments within companies (business sector) • Independent researchers (21) Number of employees in the field of science and research **(table 2)**
Kosovo, UN Res.1244 , UNMIK	1 public university (another one recently established this year) and around 30 private colleges/universities -Mainly involved in teaching, very limited in research Best practice: brain gain program, 1 million Euros for science and research from Kosovo, UN Res.1244 consolidated budget; National Program for Science and research
Montenegro	3 Universities (University of Montenegro- 19 faculties, 3 research institutes, University Mediteran- 6 faculties, University Donja Gorica-5 faculties), & private faculties), 4-non university laboratories, not jet licensed as the scientific-research institutions There is no private foundations and research centres. There are still some former industrial development centres (al, steel, agro-complex), which are dealing with the commercial technical services now like environmental monitoring or consultancy. MOES is the basic governmental institution which funds research projects on national and regional level. The types of the activities that are funded are applied research (up to 70%) and basic/fundamental research (up to 100%). Programme funding of Montenegrin Academy of Science and arts (MASA).
Country	**Enterprise and industrial system**
Albania	The contribution of SME toward GDP is about 80%. The share of small and medium-sized enterprises is 99.9% of the total number of companies in 2009. SMEs participate with 81.8% of the total number of employees. SME contribution to exports in the year 2008 is about 69 %. In Albania there are about 133 large enterprises, 667 medium enterprises and around 105.677 small businesses. Foreign and joint venture enterprises in Albania make 2.2% of the total number of active enterprises in the country or 2336 in 2009. • **Policy development for SME ï best practice** According to Doing Business 2010, in ease of doing business, Albania is ranked 82 (from 181 countries analysed) Several reforms undertaken by the government and that have improved the business climate are: • Registration of business within a day and with a minimal cost of **100 ALL** (**0.81 EUR**) through the establishment and operation of **National Registration Centre (NRC)** which function as a one stop shop • **The reduction time and cost for starting a new business**. Now it is needed 5 steps to open a new business compare 10 steps in the previous year and only 5 days compare 36 days in the previous year, which is also connected with the cost reduction to open a business. • **Functioning of National Licensing Centre as a one stop**

	nd permits that were previously obtained at various ndertaken recent years with income tax at the level 10%, and social security contribution at the level of 15 % becoming Albania one of the countries with lowest fiscal burden in the region • **E-learning regarding** the usage and impact that internet has in development and activity of electronic commerce. • ***Public procurement*** since the early of 2009 all public procurements are submitted electronically. The e-procurement platform contains all the tender documents and in this system all the operations, including downloading the tender documents and proposal submission, are free of charge. • ***Tax Administration*** on-line services help facilitate downloading the business tax declaration forms, and to declare business taxes on-line. Payers of the Value Added Tax (VAT), who are making on-line payments through the banking system, are enabled to declare monthly VAT on-line. • **On line service** at **Customs** Since 2008, with the computerisation of all customs and using the **Asycuda** programme, it is significantly improved the service toward business, reducing the time of completing the documents and goodsô control. **AIDA (Albinvest) in supporting SME manages:** The government Competitiveness Fund 200.000 Euro/year and Export Credit Guarantee Fund (ECGF) ï 1.68 Mln Euro for a period of 6 years
Bosnia and Herzegovina	For the illustration: small and medium enterprises recruiting 71% of total employees in Republic of Srpska. According to some data from CPU (Center for Policy and Governance) total estimated number of producers in B&H is 26.000 to 29.000. It is estimated that about 97% of enterprises makes micro, small and medium. Small and medium enterprise makes around 60% of GDP in Bosnia and Herzegovina and generate most of the working places.
Croatia	Traditional R&D performers have largely downsized their R&D activities, whereas SMEs have not been able to compensate for these losses The lack of greenfield FDI with strong technology capabilities has reduced the role of technology spillovers from abroad Technology infrastructure is being developed, but the lack of industrial policy at the national and regional levels is likely to slow down the development of NTBF and attraction of technology-based FDI

Former Yugoslav Republic of Macedonia	•
	• Total number of companies (end of 2009)[17] ï 101323**,** while active: 70710 companies:
	  ○ Micro (<9): 59398
	  ○ Small (10-49): 3706
	  ○ Medium(50-249): 1159
	  ○ Big (>250): 204
	• Organised in 4 main Chambers
	  ○ Economic chamber of Macedonia
	  ○ Association of chambers of Macedonia

[17] Source: Central Registry of Republic of Macedonia

	c chamber of Northeast MacedoniaChamber of small es usiness 2010, in ease of doing business, Macedonia is ranked 36 (from 183 countries analysed).
Kosovo, UN Res.1244 , UNMIK	99.8 % of total firms are SMEs majority of them operating in trade and services There is no data on new technology based firms and multinational companies There is no data on SME contribution to employment or GDP Policy developments include SME European Charter that is being implemented, but still lagging behind the countries of the region Best practice of SMEs include: Voucher Scheme which provides free consultancy to firms; industrial park in Drenas, Initiative to improve the functioning of existing business incubators Several laws has been put in place that regulate various issues of innovation: LAW NO. 02/L-54 ON TRADEMARKS LAW NO. 2004/45 ON COPYRIGHT AND RELATED RIGHTS LAW NO.2004/49 PATENT LAW LAW NO. 02/L-45 ON INDUSTRIAL DESIGN
Montenegro	Industrial system is designed according to the presence of big national companies which has, mainly, been privatized recently. The companies are Aluminium plant, Steel factory, Electrical supply system, communications. Share and role of SMEs in the overall industrial scene is like this: The percentage of micro enterprises is 78,02% or 11883, out of 15229, small enterprises are present in 9,83% or 1497, the lowest is the number of medium enterprises, about426 or 2,8%. Key governmental players in innovation policy are: Ministry of economy, Ministry of education and science, directorate for development of small and medium enterprises(SMEDA). Recently Government has improved the environment for business and innovation by introducing several legislative documents and strategies like: Law on business organizations, Law on Business organization insolvency, Law on Company insolvency, law on Fiduciary Transfer of Property rights, Law on Value added tax, Law on accounting, Foreign trade law, Customs law, Law on Free zones, Competition protection law. Several strategic documents have also been launched like: Strategy of development of small and medium enterprises (2007-2010), Multi annual indicative Planning document (2007-2009). Statistical business register has been developed also. The possibility of funding innovation in Montenegro relays on several programmes and instruments like: Development fund- common instrument of State support to entrepreneurship, Diaspora fund-business cooperation programme with Diaspora, founded by Government and SMEDA. There are several other possibilities like : development of credit line to support entrepreneurship in rural areas, implementation of the credit line for the increase of the energy efficiency in SMEs, using of several international initiative, programmes, credit lines and donors like IPA, EBRD, USAID.
Country	**Intermediaries and science-industry cooperation**
Albania	In Albania there were several initiatives for establishing **business incubators** earlier. Nevertheless, none of these is operational till today. Therefore, the designed Business Incubation Programme for Albania will apply a step by step approach, by setting up a pilot business incubator and building on its experience, in parallel taking into consideration the

	er countries. nerate new jobs, new enterprises and increase ugh development of entrepreneurs and enterprises in ia. The purpose of the Business Incubation Programme is to establish and develop permanent infrastructure that will support the emergence of innovative start up companies. This involves actions in finding and equipping premises, developing and maintaining business support structures and promotion of the concept and contents of business incubation to stakeholders in Albania. **Clusters** in Albania have firstly been developed with the support of donor organizations. In the framework of Enterprise Development and Export Market Services Project (EDEM), financed by USAID four new clusters have been created in tourism, meat processing, medical herbs and leather goods production industry. Having been very important as a starting point in terms of collaborative approaches within the Albanian business community, these initial efforts did not succeed in establishing sustained cluster structures and activities. UNDP is considering providing support to strengthen the capacities of the Ministry of Economy, Trade and Energy (METE) in relation to cluster development and assessment of clustering potential in Albania. The Regional Competitiveness Initiative for the Western Balkans 3-year project, supported by the European Commission from 2010-2013, with the total budget of EUR 3.8 M involves among other activities strengthening the innovative capacities of the region and expedite development and implementation of reforms for sectors with comparative advantage. METE is currently in the process of formally adopting a National Business Innovation and Technology Strategy (BITS), which integrates the Albanian Cluster Programme (ACP). The Albanian Business Relay and Innovation Centre (BRIC), which will be the operative arm of METE to implement the BITS, will start operating shortly.
Bosnia and Herzegovina	Framework Law on the Basics of Research and Development Activities and Coordination Internal and External Scientific and Research Cooperation of Bosnia and Herzegovinaòdefine: particular interest in the area of the science and technology, basic principles of scientific and research activities, establishment of the scientific and research international cooperation and cooperation inside of the country. the way of coordination establishment between institutions in charge for area of science and technology, forming of Bosnia and Herzegovinaôs Science Council, As well as coordination of informatics system for the area of science and research activities and Bosnia and Herzegovina. The Law on Science and the Strategy of Science at the state level provide the legal basis for coordination of innovation policy in the country. Both document call for the improvement of co-operation within the ótriple helixô of public-private-research communities in BiH. Entitesô ministries are in the process of development their research strategy which will tackle the issues of inovation. Strategy of development of BiH recognises the need for a development of society based on knowledge and innovation.
Croatia	There are several financial instruments aimed at financing the cooperation TEHCRO ï organized by BICRO MELE financed six technology parks; NZZ ï managerial instruments in basic research HIT foresight programmes seeking to envisage future technology demand (R&D investements demand

Macedonia	and research units in the economy; res: Natural Sciences and Mathematics, Mechanical ulty of Medicine and faculty; fer of technologies: Faculty for Mechanical Engineering, Faculty of Agriculture, Technical Faculty in Bitola and TMF; - Regional innovation center in Stip - NCDIEL ï National Centre for Development of Innovation and Entrepreneurial Learning[18] - IC ï Macedonian Innovation Centre[19] - European Enterprise Network[20]Introduction of Innovative voucher in 2010 by the Agency for promotion of entrepreneurship in the Republic of Macedonia
Kosovo, UN Res.1244 , UNMIK	• Center for Innovation and Technology Transfer (Ministry of Education, Science, and Technology) • Industrial/Business Parks (ongoing projects) • Business Start-up Centres (mainly donor driven and NGOs) • Research institutes 3 incubators are established by MTI (not functioning well, the latest initiative to outsources to private sector for managing these incubators)
Montenegro	No solid and intensive science-industry cooperation. The former links have been broken, as well as industrial development offices, by the privatization process. At the moment, at the level of academia, there is only an evidence of existing of RTD service centres which should turn out in Technology transfer offices in the second phase. There are no technology transfer agencies at the moment. Industry is dominated by the large companies which chase profit with no interest toward clustering. SMEs are mostly oriented toward the food production and services. Only meat processing has been carried out as a basis for developing cluster programme. There are no Technology innovation centres operating in the country, as well as technological parks and science parks. First business incubator was launched in 2007- Business Start-up centre Bar. There is also the similar centre in Podgorica, operating now. SMEDA has launched and programme initiative under which 4 business centres were established in the various regions of the country as well as 7 local sub-centres. One European Information and Innovation Centre (EIICM), involving SMEDA, Chamber of Economy, Faculty of Mechanical Engineering and Business Start-Up Center was established unde CIP programme. It replaced former EURO information correspondence centre.
Country	**Government policy making and coordination of innovation**
Albania	**Strategic programme** on technology transfer and innovation. • *The National Strategy for Development and Integration (NSDI)* • The Business & Investment Development Strategy (BIDS) BIDS 2007-2013 comprise specific objectives and measures particularly in respect to the measure aiming at increasing competitiveness through technology transfer and innovation • *The National Strategy on Science, Technology and Innovation (STI Strategy) 2009-2015* The STI Strategy is the first comprehensive policy document that sets the guidelines for future developments in STI. This document provides for a

[18] Funded by Austrian Development Agency
[19] Funded by USAID
[20] Funded by EU (IPA funds) and Government of Republic of Macedonia (EEN is located at the University Ss. Cyril and Methodius with branches at Agency for entrepreneurship promotion and Economic Chamber of Macedonia)

	STI situation in Albania. It also addresses the issue sources so far, and the need to increase the overall • *Cross cutting strategy on Information Society* The objective of the strategy is the reviewing and coordinating of the commitments related to the creation of an information based economy and therefore to ensure a coordinated society wide execution of the responsibilities from the relevant actors. Priority areas within the strategy that require immediate action are identified and the designation/ specification of the main activities within those areas will be laid out in the action plans of the divisions, in line with vertical strategies. • A Business Innovation and Technology Strategy (BITS) is drafted to assist and stimulate firms to innovate and upgrade technologically. Albania will follow the European model of two independent Agencies dealing with Innovation: One as a Science- & Research-driven Innovation Agency, and another as an and another as an Economy- & Business driven Innovation Agency. Itôs in place the **legal framework**: • Law on the Academy of Sciences No. 9655, date 11.12.2006 • Law on Higher Education No. 9741, date 21.03.2007 • Law No. 9880, dated 25.02.2008 ñOn electronic signatureò • Law No. 10128, dated 11.05.2009 ñOn electronic commerceò • Law No 9643 date 20.11.2006 ñOn public procurementò • Law ñOn electronic documentò • Law ñOn electronic Commerceò Soon ñOn protection of electronic dataò and Cyber crime legislation for databases. Government **institutions** are established • National Agency for Information Society **(NAIS)** established in 2007 • Agency for Research, technology and Innovation **(ARTI)** established in August 2009 • Minister for Innovation and Information and Communication Technology (**MIICT)** established in April 2010 • Business Relay Innovation Centre **(BRIC)** ï to be set up
Bosnia and Herzegovina	Framework Law on the Basics of Research and Development Activities and Coordination Internal and External Scientific and Research Cooperation of Bosnia and Herzegovinaòdefine: particular interest in the area of the science and technology, basic principles of scientific and research activities, establishment of the scientific and research international cooperation and cooperation inside of the country. the way of coordination establishment between institutions in charge for area of science and technology, forming of Bosnia and Herzegovinaôs Science Council, As well as coordination of informatics system for the area of science and research activities and Bosnia and Herzegovina. The Law on Science and the Strategy of Science at the state level provide the legal basis for coordination of innovation policy in the country. Both document call for the improvement of co-operation within the ótriple helixô of public-private-research communities in BiH. Entitesô ministries are in the process of development their research strategy which will tackle the issues of inovation. Strategy of development of BiH recognises the need for a development of society based on knowledge and innovation.

	nce, Education and Sport (MSES) is a key institution sign of the national research policy, parallel with the y, Labour and Entrepreneurship (MELE). MELE autonomously designs and finances the programs of strengthening R&D investments, promotion of science and business infrastructure and entrepreneurial education. Moreover, the National Foundation for Science, Higher Education and Technological Development of the Republic of Croatia (NZZ) was established by the Croatian Parliament, with the basic goal of promoting science, higher education and technological development in Croatia in order to ensure economic development and support employment creation. The main policy documents are: The Science and Technology Policy of the Republic of Croatia 2006-2010, an Act adopted by the Croatian parliament in May 2006; The Action plan for the period 2007-2010 Science and Technology Policy of the Republic of Croatia» with a detailed outline of the main planned activities for national innovation system development. The Action plan for Fostering Investments in Science and Research», passed by the Croatian parliament in April 2008. This Action Plan, known also as ñ3% Action Planò, is aimed at stimulating investments needed for structural reforms of science and higher education sector in order to facilitate Croatian development based on the knowledge-based economy model.
Former Yugoslav Republic of Macedonia	<u>A. Ministry for education and science (MoES)</u> - Law for scientific-research activity (2008); - Law for the Macedonian Academy of Sciences and Art (1996/2009) - Law for encouraging and facilitating technological development (2008); - Law for encouraging and assisting the technical culture (2000). *Programming function of MoES* is determined by: - Programme for scientific research; - Programme for technological development; - Programme for technical culture; - Strategic documents in the state. *Financing function of MoES is accomplished through:* - Budget funds (**Table 3** for R&D projects funded from government); - Allocations from the business community ; - International financial support. Currently National R&D strategy (draft) is developed for period 2011-2020 <u>B. Ministry for economy (MoE)</u> B1. Sector for industry B2. Sector for SME development and competitiveness Key documents: - Industry policy 2009-2010 - SME strategy 2010 ï 2013 Currently National Innovation Strategy is in process of development for period 2011-2020, with OECD support
Kosovo, UN Res.1244 , UNMIK	• There is a department within Ministry of Education, Science and Technology called *Department of Science and Technology.* • There is also Center for Innovation and Technology Transfer - QITT • Within the Ministry of Trade and Industry there is a Office of Industrial Property (both of them in their early phase of development)

	ives ction plan on investment in research. The action gy for scientific research activities (SRA) (2008- 2010) adopted in June of 2008, sets up the aim of increasing the investment in scientific and research activities up to 1,4% of GDP in 2013. New Law on scientific research activities (2010) declares the uniform access to all the players to the research funds so the industry is highly recommended to apply, especially considering the fact that there is the compulsory funding of applied research in all the applied research projects funded by the Ministry of Education and science. Government has launched several incentives for better RTD investment through the remissions of VAT and import duties on research equipment. Tax and customs duties are laid down in Law on scientific and research activities, Law on Value added tax, Customs Law, Instruction of Ministry of finance on the manner of carrying out the rights on remission of VAT
Country	**Framework conditions**
Albania	During the last years the Government has undertaken encouraging policies for development of information technology, starting from students to entrepreneurs in order to increase competitiveness of Albanian businesses in regional and global market. Big investments are made on **banking system**, which are evaluated in approximately 200 million EUR. There are 16 foreign banks in Albania. Credit to economy, which is an important indicator, rose by approximately 32% during the last 5 years, and crediting power to the private sector accounts for 39% of GDP in 2009 On average crediting in Albania is close to other countries of the region which indicates an acceptable norm of crediting by Albanian banks to private companies in the country. Careful crediting measures have kept Albania untouched by the global financial crisis, being an important contributor in the positive GDP (%) of Albania in 2009. New products implemented in recent years confirm that bank customers are increasingly using electronic access products provided by their banks ï through payment cards, PCs or recently even telephones. The increased use of cards has been supported by the increased number of ATMs throughout the country, and more facilities to get internet access. In addition to expanding their electronic products and services, banks are also focusing on providing better security and protection for their customers. **Telecommunication sector** in Albania has become an important factor in the expansion of services provided by businesses and the government, where we can mention the introduction of e-Gov which has facilitated communication and interaction with the government & private sector ○ The penetration rate of mobile telephony reached 129/100 inhabitants in 2009. ○ PC/100 inhabitants 2.3 in 2008. ○ Internet penetration 31.2% in 2009. ○ The time to install a line of telephone for businesses in Albania is comparable to other countries of the region. It is approximately 7 days. ○ The cost of service for the fixed-line and the mobile telephony is the lowest in the region.
Bosnia and Herzegovina	Federation of Bosnia and Herzegovina: Technology park Mostar, Technology Park Tuzla, Technology Park Zenica is in the final phase. Republic of Srpska: Innovative center has established in Banja Luka in 2010. Technology Business Park Banja Luka establishment is in the process.

	phasize that in Bosnia and Herzegovina exists some as NGOs, dealing with innovations, and they are quite active. Association of the Innovators of Bosnia and Herzegovina Association of the Innovators of RS Some city Innovators Associations as Tuzla, Bihac, etc. , It is important to emphasize that in a last years most of the patents coming not form research institutions, but from the individuals.
Croatia	In Croatia there are 26 public institutes and 13 private research centres/institutes. The substantive part of the innovation system related to entrepreneurship and business infrastructure development (supporting entrepreneurial zones, incubation centres, business centres and regional development agencies) rests within the Ministry of Economy, Labour and Entrepreneurship (MELE) The entrepreneurial infrastructure supported by MELE is comprised of 27 business centres, 16 business incubators and six regional development agencies. In addition, there are 15 economic free zones and 235 entrepreneurial zones, out of which 140 are fully functioning. Fourteen incubators out of the16 established are in the early stages of development
Former Yugoslav Republic of Macedonia	Support organisations: - 2 business start-up centers - 4 incubators - 4 technology transfer centers - - 1 private technology park ï SEAVUS company (under construction) - Plans for ERA city (science park) - MASIT ï ICT Chamber - Alkaloid company (developed research center in pharmacy) Still missing: - Business angel network (formal establishment of first network is expected for September 2011) - Early stage finance mechanisms - Innovation advisorsMuch higher R&D investments form public and private sector
Kosovo, UN Res.1244 , UNMIK	• Environment for Entrepreneurship not very supportive • There is no bank that provides loans to new companies (an exception are micro financing institutions which provide loan which very high interest rates ï around 24%) • No venture capital • There are only NGO initiative e.g. Business Support Centre Kosovo, UN Res.1244 provided support through training for business skills, 100 ours free consultancy, soft loans (less than 5% interest rate up to 10000 Euros for start-ups) and networking. • Good example from public initiative is Voucher Scheme
Montenegro	There are no measures to facilitate the venture capital. Access to ICT networks: there are around 15229 active companies in Montenegro. The official records of sales show that the number of sold internet business packages is around 6000. Here, it should also be added that many of them use `regular` home packages. E-Government status indicator is less than 20%. Internet penetration as the 5 of total population is 41,3%.
Country	**The countryôs involvement in the regional research, innovation and business development initiatives and projects**

	nd integration into ERA and the building of national utually reinforcing. Albania is committed playing its l research Programmes and initiatives, in proportion with its financial means and strategic interests, and promoting participation of Albanian researchers in the EUôs Research Framework Programme and integration into other European research initiatives (COST, EUREKA, etc.). Through COST great potential is offered as a bottom-up tool for networking with other European scientists and participation of Albanian researchers in different projects Since 2008, Albania participates in the "7th Framework Programme for Research and Development (2007 to 2013)". Albania is entitled to participate in all four pillars of the programme (Capacities, Cooperation, People and Ideas) as well as the Euratom and the Joint Research Centre (JRC) initiatives. The participation of the Republic of Albania to the Community Programme FP7 since 2008, in the "Entrepreneurship and Innovation Specific Programme (**EIP)** of the Competitiveness and Innovation Framework Programme **(CIP)".** Within CIP programme there are three main sub-programmes which are focused in SMEs with that type of technology that protect the environment: -Entrepreneurship and Innovation Programme (**EIP).** -**ICT** policy support programme -The intelligent energy-europe programme **(IEE).** In the framework of **IPA 2007**, on 20 October 2009 started the project ñSupport SMEs to become more competitive in the EU market, through innovation and technology transferò(**first** component). Projectôs activities are: Innovation and Technology Strategy, Business Relay and Innovation Centre in Albania, Training Needs Analysis for SMEs, National Competitiveness Programme for SMEs, Albanian SME Development Programme. **Second** Component of the project IPA/ TAM, with a value of 1 million EUR is managed by EBRD-TAM programme. This programme has started its implementation in December 2008 and there are selected 18 companies that will gain technical assistance in improving their management for the purpose to increase their competitiveness. **Europe for Citizens** As from entering in force of the MoU participation of all Albanian stakeholders promoting active European citizenship shall be open. **Culture Programme** Albania has entered into advanced discussions with DG Education and Culture regarding the signature of a MoU for her participation in the Culture programme. The signature of this MoU and its subsequent ratification by the Albanian Parliament is anticipated during 2010 **Coordination** The Ministry of European Integration (MEI) is the overall coordinator of the Community Assistance Programmes in Albania. The Ministry of Economy, Trade and Energy (METE) is responsible for the participation and management of the CIP/EIP and the Ministry of Tourism, Culture, Youth and Sport (MTCYS) is responsible for participation and management of the Europe for Citizens and

	arch, Technology and Innovation (ARTI) was established in August 2009 with a mission to be a coordinating structure for national and international programmes, including FP7, COST and EUREKA
Bosnia and Herzegovina	Basic international cooperation activities in scientific, research and technology area are performing through Ministry of Civil Affairs of Bosnia and Herzegovina, as the institution coordinating activities other entities ministries or directly trough EC and some specific program (Tempus, FP7, etc). According to Constitutional authorization, entities and cantons have authorization to act bilaterally and realize different projects in the area of science research and technology development with European regions, and World. In FP6 Bosnia and Herzegovina has over 40 approved projects. Since start of FP 7 Bosnia and Herzegovina has 20 institutions involved and applied on 29 projects. Bosnia and Herzegovina is a part of COST program since 2009. SEE-ERA.net ï about 70 projects are applied to this programme. TEMPUS ï since 1997 around 90 projects has been realized
Croatia	In order to finance regional development projects, Croatia relies on EU pre-structural funds like Phare, ISPA, SAPARD and CARDS but also on other available resources such as World Bank, UNDP, EBRD USAID, etc. In the last several years there are growing number of the regional (Western Balkan) initiatives and projects , and among them the most important are: • Regional Strategy for Research and Development for Innovation for the Western Balkans; • Western Balkans Regional Competitiveness Initiative
Former Yugoslav Republic of Macedonia	Partner in many FP6, FP7, Tempus, IPA, Transnational programs, Bilateral programs, donor driven programs (USAID, ADA, GTZ, SIDA, UNIDO, COST, EUREKA, ...)
Kosovo, UN Res.1244 , UNMIK	Kosovo, UN Res.1244 participated in Tempus
Montenegro	On the state and academia level, country is involved in several development initiatives and projects dealing with innovation and business like; SEE-ERA.NET, SEE-ERA.NET plus, WBC-INCO.NET, NATO programme Science for peace and security, CIP EU programme (EU competitiveness programme), 4 TEMPUS programme with the complementary subject ñEducation-research-innovation, triangleò Within one of these projects RTD service centre was established at the university of Montenegro, FP7 projects (REGPOT, PEOPLE) dealing with the evaluation of research capacities of the universities and Strategic planning of research, IPA for the same purposes of evaluation of research capabilities, COST programme (Montenegro still does not participate in COST, but action plan for participation has been adopted by the Ministry of Education and Science. Several new attempts for reaching the existing COST actions are already present. No participation of Montenegro in EUREKA, although some official steps have been carried out in Lisbon Conference in 2009, IDEALIST2011 (ICT NCPs cooperation), SEERA-EI (SEE research area for e- infrastructure, WINS ICT (WBC INCO-Net support in ICT)
Country	**Main structural deficiencies of research and innovation**

	poorly on innovation. It is ranked at **96 out of 133** in o Global Competitiveness Report
	Capacity and competence to manage both basic and applied research in Albania are limited and generally far from standards that would enable co-operation and participation in European or international programmes. Equally, **scientific infrastructure** is outdated and inadequate to support quality research. The very **low level of expenditures** dedicated to science and research despite the increasing trend last years. Albania relies heavily on foreign funding and in particular on the very competitive structure of the EUôs 7th Research Framework. Science and technology system undertook radical reforms and transformations. Albania is the seat of **very few of transnational corporations**. Non existence of important **clusters** in economy which would use the innovation potential. Poor financing of research activities in the business sector and insufficient market with venture capital. The innovation system in Albania is in its earlier stage of functioning and has institutional gaps. There is **no dedicated institutional structure** within the Albanian Government to coordinate such activities (World Bank). There is no specific strategic approach to business innovation and technological development. Å Albania is **highly dependent on foreign technology** Å **Albanian firmsô ñtechnological capacityò** to upgrade by absorbing existing advanced technologies **is weak** Å The insufficient innovation culture of SME and low motivation of businesses to introduce innovation '**Albania lags behind** all other countries in Eastern Europe in establishing **proactive policies** to support **technology capacity building for enterprises**, particularly for SMEs.' (WB)
Bosnia and Herzegovina	Lack of the strategic documents which will provide the basis how involve business sector to invest in research. Lack of financial programmes which support these two sectors. Lack of technological competences of our companies. Lack of the interest from the company side. Complicated and procedures related to public procurements and tax deliberation.
Croatia	Low level of Inventive Activities Low Complexity of Innovation Activities Low share of R&D Employees in total number of employees compare to the EU 27 average
Former Yugoslav Republic of Macedonia	- Main research potential mainly is located at Ss. Cyril and Methodius University (Faculties/departments for Chemistry, IT, Mechanical engineering, Technology, Metallurgy, Medicine, Pharmacy, Agriculture and food, etc.) - Overlapping of responsibilities between MoES and MoE on STI issues - Not clear vision/strategy/policy for developing of NIS - Very low level of finance support from the Government - Low level of awareness about need for innovation in public sector, but especially in business sector - No tax incentives for companies that invest in R&D activities - Very low level of investment in research infrastructure (space and labs)More focus on entrepreneurial learning should be to all levels of education

	ell defined system of research and innovation iciency is the low share of budget to GDP devoted to research • Very limited number of firms ever take innovative practice; if they do, these are very minor From 11 dimension of SME European Charter Kosovo, UN Res.1244 scored lowest on strengthening technological capacity (SME Policy Index, 2009, pp 222)
Montenegro	• Main structural deficiencies are present in research ambient as well as within the governance structures: • There is the lack of effective linkages between knowledge institutions (HE and R&D) and industry. Although universities and enterprises have policy in their mission statements that mention the need to cooperate, efficient legal and policy arrangements that provide a sound and supportive environment for universityï enterprise cooperation do not yet seem to have been established (3,6,7) • Universities find it difficult to attract social partners (Chambers of Commerce, Regional Development Agenciesé), who do not consider universityï enterprise cooperation as part of their portfolio; • There is little awareness of the mutual benefits of cooperation with industry; • Actual cooperation between university and industry takes place with large companies ï often branches of multinationals, because these have a critical mass of qualified staff who can find a common language with teachers and researchers, they have better equipment and infrastructure, longer-term strategies and more money; • Despite of fact that universities consider SMEs to be the most relevant and interested partners for cooperation (98,9% of regional enterprises are SME), cooperation with them. Concerning the public support there are defined several needs that can be also considered as deficiencies: • Governance structures in terms of national committees or councils that coordinate innovation policies, involvement of public agencies and policy makers in innovative policy design, key strategy documents or relevant laws, • Monitoring system in terms of institutions that monitor innovation activities, indicators used to monitor innovation, • Business to business and University to business linkages, in terms of mechanisms to support networking, mechanism to support cooperation between the interdisciplinary research groups and business • Infrastructure and support services favouring the emergence of new clusters, in terms of business and technology incubators, science parks, • Government source for financial support in terms of publicly funded schemes to support technological innovation like credits, vouchers, organizational design or marketing • Access to finance, in terms of policies or agencies aimed at fostering seed financing, start-up financing • Incentive frameworks for innovation in terms of policies for providing the right incentives, policies aimed at lowering the risks

	eurial ventures
	ges for governance of innovation
Albania	The government seeks to ensure that by 2015 Albanian scientists to be able to generate international-quality research in certain selected areas. • improvement of basic research infrastructure able to support sufficiently university training at three levels (BSc, MSc, PhD levels) Åcreation of scientific excellence in key research areas for our country Å education and retaining/attracting qualified people in the Albanian research system Åincreased public understanding of science and an improved awareness of the role of innovation and new technologies for society and economy. *Increase public spending on research to 0.6% of GDP by 2015*. *Increase the share of gross expenditure on R&D from foreign sources* notably from the EU (FP, etc.) and international donors to cover 40 per cent of all research spending in the years 2010ï 2015. *Improving the legal and institutional framework for research policy-making and research funding* Redesign of the overall legal framework is part of the process of Albaniaôs integration into ERA and should include aspects related to the legal alignments required for European Partnership for Researchers (improving researchersô careers and mobility), joint programming, etc., as well as adjustment of Albanian laws to the EUôs State Aid rules on R&D and innovation Internationalization and integration into ERA and the building of national competences The creation of a specific government funding measure to stimulate the companies in the field of innovation and transfer of new technologies A specific Strategy for Business Innovation and Technology (BITS) that is proposed to meet the needs of the enterprises and so fill the gaps in activities that will enable the innovation system as a whole to function. Through 4 programmes of Innovation Fund, Business Innovation Services, Incubation Programme, Cluster Development Programme
Bosnia and Herzegovina	The economy of BiH remains fragile and the capacity of the various actors in the innovation system to support knowledge-based economic development are limited by a lack of structured co-operation between, outdated equipment and infrastructure in the higher education/research sector, insufficient investment in training on new technologies and technology upgrading in enterprises, etc..
Croatia	The increase of effectiveness of the R&D sector need to be connected with achieving broader social economic objectives i.e. increase competitiveness, employment and living standards Existence of an adequate financial system which could facilitate the R&D sector!!!
Former Yugoslav Republic of Macedonia	- To determine inter ï ministerial group responsible for development of innovation policy (there is already established dialog and base, but it must be officially structured) - To prepare solid national innovation strategy - To recognise and finance most proactive innovation drivers (both public and private), - To Strength capacity of public institutions that deals with STI related issues - To reverse brain drain of high educated people (stronger relations with wide speeded Macedonian researchers) - To be included in regional innovation policies / strategies - To allow to more younger researchers to apply on EU mobility programs (better promotion of programs in Macedonia) - To create regional innovation + patent fund

	stalling properly the innovation system ented pieces of work by different institutions within ystem Lack of data and statistics on all important indicators regarding innovation, technology and science
Montenegro	• Governments of the Montenegro should accelerate a transition of researchers from academic sphere to enterprises through a greater emphasis on the mobility aspects of the best young researchers. • Governments of the Montenegro should also introduce tax incentives for projects which involve knowledge transfer from universities to enterprises in order to encourage innovation in SMEs. • Establishment of the Science and Technology Parks should be encouraged with activities to promote networking between their tenants. • Industrial clusters should be encouraged to move to internationalization so that they develop an outward exporting orientation and link up with international systems of innovation. • Universities should boost their centres to provide more support to researchers to commercialize their application oriented research results though the creation of new spin-off enterprises. • Universities in Montenegro should establish Technology Transfer Centres to handle property rights issues and the licensing of inventions and innovations created in university laboratories and to encourage patenting and licensing of technologies to enterprises. • Universities should focus on applied research activities. A record of collaboration with enterprises and participation in joint research projects should be included in academic staff promotion criteria. To improve **innovative capacity in Montenegro** in particular, more resources for science and R&D will not be enough. The focus needs to shift to: ÅThe microeconomic capacity of WB region; ÅQuality and specialization of factor conditions; ÅQuality of enterprise strategies and entrepreneurship; These are the qualities of the business environment that enable the transformation of scientific knowledge into new products, services and competitive firms. Universities in Montenegro should be important elements of their local systems of innovation: ÅDriver of regional technology-based development and the source of a major proportion of local innovations and local companies; ÅA good contributor to local knowledge and to the development of local technology clusters; ÅA major source of knowledge in emerging and established clusters. As an important future step need to be involvement of proposed model of university-enterprise cooperation in corresponding **strategic documents** such as future **Strategy of technological development** together with the already existing **Strategy for sustainable development** (2007)**.** Innovation policy should be seen as the cumulative result of interaction among governments at various levels, businesspersons, academics, and social partners comprising membership from all of these spheres, especially at the regional level. Furthermore, it is necessary to establish **new institutional arrangements**

	erprise government relations. Next step will be dge infrastructure in terms of overlapping institutional rganizations emerging at the interfaces. The common objective is to realize an **innovative environment** consisting of university spin-off firms, tri-lateral initiatives for knowledge-based economic development, and strategic alliances among firms (large and small, operating in different areas, and with different levels of technology), government laboratories, and academic research groups