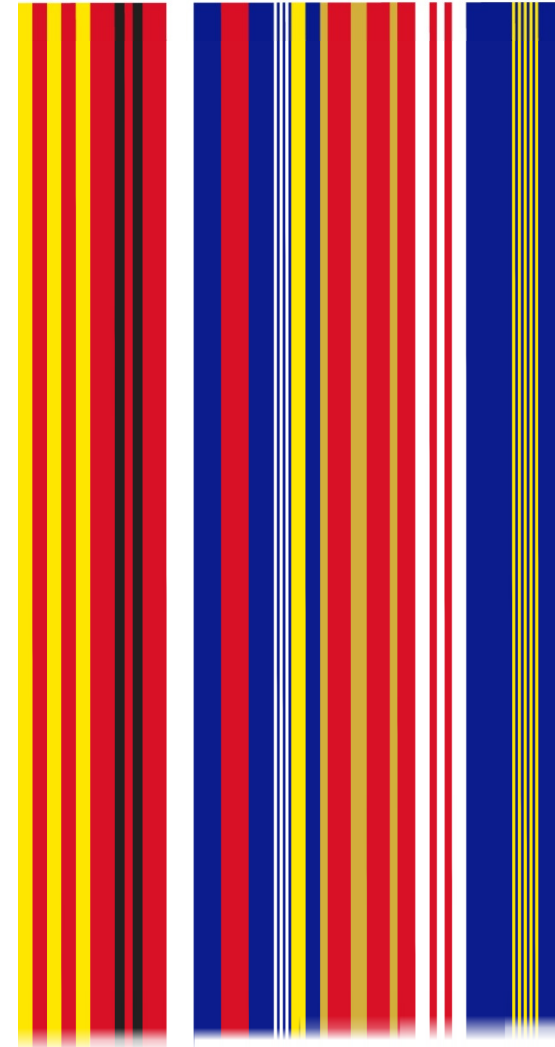


**Comparative analysis of the
innovation capacity in the WBC with
emphasis on joint cooperation needs
in the field of innovation**

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**Meeting of Steering Platform in Research for
WBC
Sarajevo, 1 December, 2011.**

wbc-inco.net
Co-ordination of Research Policies
with the Western Balkan Countries



WP8 -T8.1 Stocktaking (Ivo Pilar)



Purpose:

- create theoretical and analytical background for the common research and innovation strategy of the WBC region;
- pave the way to the regional innovation system

Instruments (components):

- 1. Mapping of the WBC innovation systems** and the key stakeholders based on a comparative approach (ZSI, Vienna);
- 2. Identification of future research and market needs – TODAY and in the future (2030)** reflecting how research and innovation can be geared towards fulfilling these needs through collaboration in the region (JRC-IPTS)
- 3. Carrying out a comparative analysis of the innovation capacity in the WBC** with particular focus on joint cooperation needs in the area of innovation (Ivo Pilar)

Comparative analysis of innovation capacities and systems

Methods



1. desk research
2. survey of innovation needs based on two on-line and consecutive questionnaire targeted at two stakeholders - entrepreneurs and researchers (D8.49) (COMPARISON)
3. mapping of the innovation systems carried out by the ZSI (separate study)
4. national reports on innovation infrastructure presented on the 1st innovation Dialog Forum held in Bečići, Montenegro on November 8-9, 2010
5. open questionnaire targeted at selected innovation experts in WBC

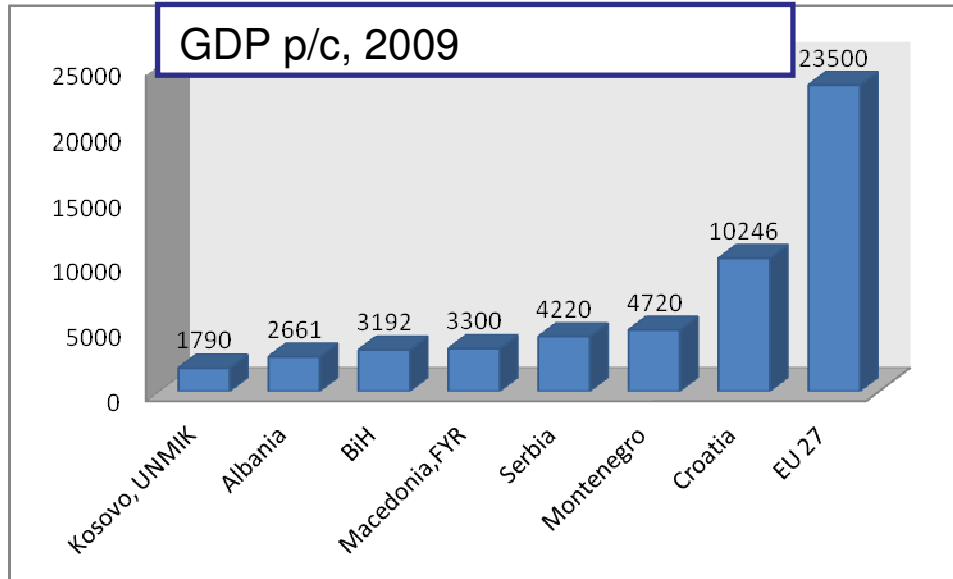
Why we are doing this?



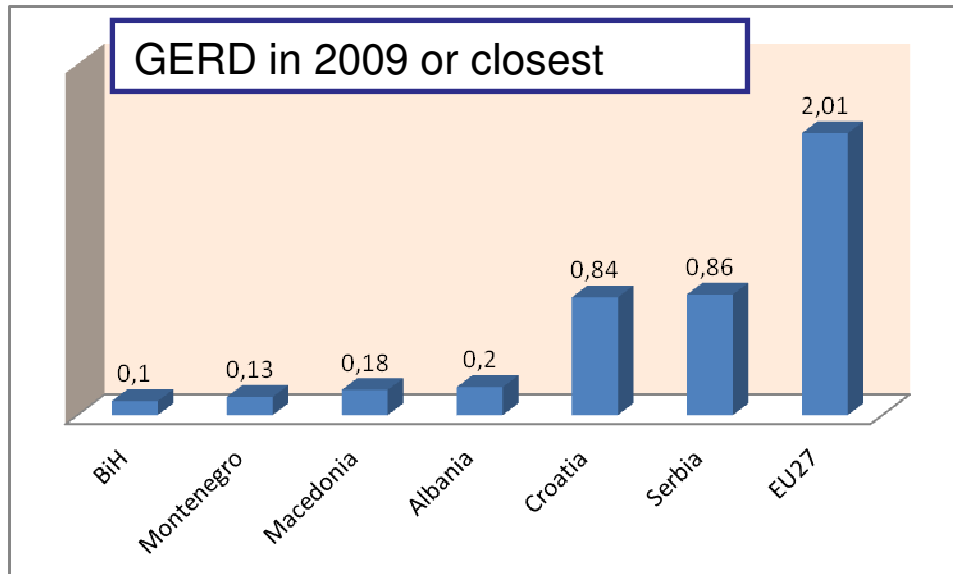
- WBC are EU neighbouring countries and potentially important partners for EU in trade (e.g. 60-80% of WBCs exports/imports), investments, infrastructure development (energy, transport), expert /workers mobility, etc;
- the last enlargement of the EU by two new members Bulgaria and Romania, shifted the focus of the EU from Southeast Europe towards WBC as the area where future integration is expected (Skufic, 2010);
- at the same time, the economic, scientific and innovation potentials of WBC do not meet the criteria for integration on an equal footing.

- Additional efforts are needed to strengthen the Balkan region in terms of innovation and entrepreneurship capacities; these factors have come into focus of policy actions of EC, OECD, WB, etc. in the early 2000's.

Setting the scene



Much of the Balkans lag behind the rest of the EU. **Croatia's GDP per capita is about a half of the EU average while Albania's is barely more than one-quarter of the EU average.** WBC countries will need many decades to catch up with the EU average (Albania 65 years) (Sanfey, 2011)



NEED FOR A NEW GROWTH MODEL BASED ON KNOWLEDGE FACTORS AND INNOVATION

In the majority of WBC total investments in R&D, except Serbia and Croatia, is negligible, while business R&D barely exists.

Similarities: WBCs share

1. PRESENT ECONOMIC MODEL is outdated and wrong since it is based on: /1/ defensive inter-sectoral restructuring (dismiss of workers=high unemployment rate + large size of informal economies), /2/ domestic market consumption (mainly by government=public debts), /3/ low-tech/cost FDI, /4/ strong reliance on foreign/external knowledge = low levels of export competitiveness

2. SIMILAR PATTERN OF TRANSITION PROCESS – strong neoliberal economic policy; political voluntarism; privatisation by the “empty shell model” (Županov, 2001); collapse of industrial R&D institutes – “shock without therapy” (Radošević, 1996) = devastation of the 50 years of technological accumulation; domination of foreign (privatised) service/energy companies – banks, telecoms.

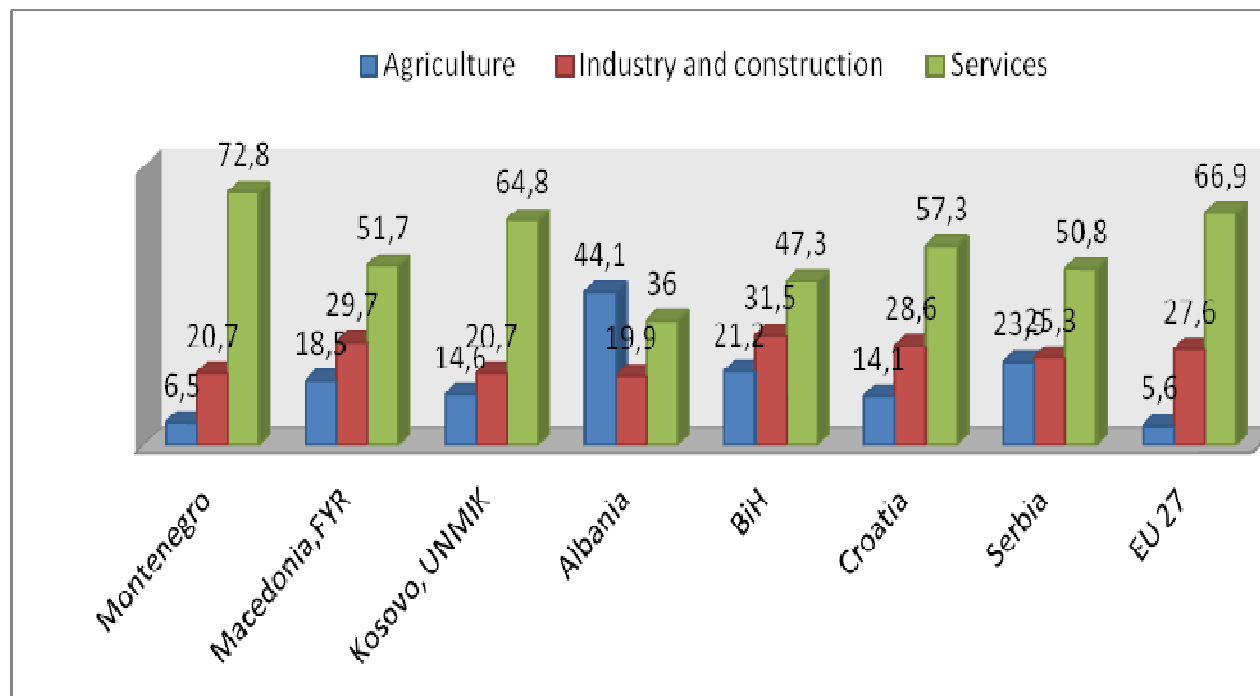
3. IMPACT OF THE GLOBAL FINANCIAL CRISIS - strong deregulation of bank sector - profit seeking, businesses are perceived risky = contraction of business and production in EU
Decreasing demand + reduction of economic activity+ liquidity problems + difficult access to credits + dematerialization of innovation (ICT, bio, nano)

Consequences

- no need for companies to innovate-weak business R&D investments;
- Innovation are not science-based
- Competitive advantages are in non technological sectors and products (tourisms, trade, LM tech manuf.)
- Technology efforts include absorption of foreign technologies and mastery of production capability
- Limited utilization of ICT.

Majority of WBCs are service economies

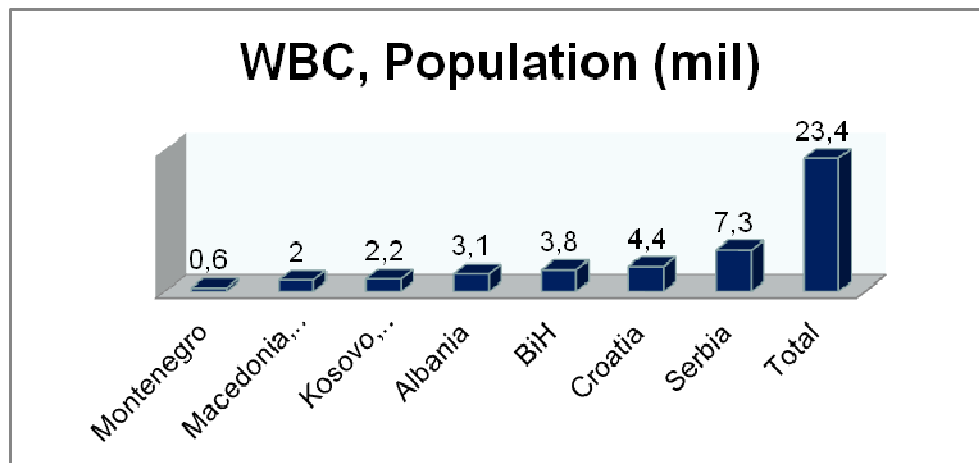
Employment by economic activity (%), 2009



Although majority of the WBC can be considered as **service economy** it has nothing to do with the post-industrial knowledge economy since services are in traditional sectors (crafts, tourism)

Source: Pocketbook on the enlargement countries, EUROSTAT, 2011, p. 50

Advantages



The **common market** of WBC consists of more than **23 million** of people that is a **respectable basis for regional cooperation** in many areas **not only in trade** that is currently the dominant model of cooperation.

Advantages

Why the regional innovation system (RIS) is needed?

RIS is **defined** as a group of geographically close:

- firms;
- research institutions;
- governments;
- other institutions (venture capitalists, technology centres, regional agencies, etc.)

Promote the innovation process

The basic argument for RIS

Spatial proximity provides companies with closer social and economic relations and interactions, common market, knowledge, information, motivation, etc. which provides a ground for:

Fostering **regional competitive advantage** that distant rivals cannot replicate

Integration of companies into common innovation process supported by the similar values, background and understanding of technical and commercial processes

Accelerating innovation as a **process of learning and knowledge transfer** that benefits from the **proximity** of organizations, markets, social relations, etc

Differences



- **Overall economic development** and related innovaton capacities: there is almost a **six-fold difference** among WBC in per-capita income between the richest (Croatia) and poorest (Kosovo UNSCR 1244)
- Development of the main **components of NIS-institutional set-up or environment for innovation**

Critical subsystems of innovation system in WBCs

SUPPORTING MEASURES AND INSTITUTIONAL SET UP

1. R&D and HE

The **MOST/LEAST** developed, depends on country

2. Business innovation (non-research based innovation)

The **MOST** developed in all WBC incl. less developed countries

3. Research driven innovation (IS narrow) +

Specialised innovation sub-systems, like:
 -financial (VC);
 -legal (IPR);
 -strategic (TA, TF).

4. "Fundamentals" factors that provide
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The "old" one are not in place while the new one appears (e.g. "grand challenges"): ageing of population (pension funds), energy safety, global financial crisis, structural unemployment, public debts = existential problems

R&D and HE (sub)systems



Similarities: All the WBCs, except Kosovo, UN Res.1244, **have strategic documents** related to research policies in place and coordinated by the line ministries, i.e. ministries of science

Significant differences, e.g.

- **Kosovo** – phase of infancy (€1m in 2010 for public R&D)
- **Albania** – most enthusiastic in strategic programming, comprehensive reforms started in 2006, e.g Agency for RTI (**ARTI**) was established in August 2009
- **Croatia** – mature systems faced with **various reforms due to the institutional inertia, low efficiency** and weak relations to business needs;

establishing vs. reforming research system

- There is a lack of statistical data...not included in international statistical databases...

Business innovation (sub)system Entrepreneurship and SMEs



supporting programmes for fostering innovation in SMEs (e.g. buying new equipment, training programmes, promotion of crafts, women entrepreneurship, etc);

support to business **institutional infrastructure** such as business centres, development agencies, clusters, etc.

- Development started relatively early under the influence of the **European Charter for Small Enterprises in 2003** which monitor and evaluate enterprise policies.
- As of 2010, all of the **WBCs have in place the basic legal and regulatory frameworks** necessary for entrepreneurship and business development e.g. simplifying registration processes for companies.

Institutional infrastructure



In a mapping of the WBC Innovation Infrastructures (ZSI, 2011) the key innovation infrastructures in WBC identified are:

1. Technology and innovation centres;
2. Clusters;
3. Technology and science parks;
4. Business start-up centres;
5. Technology incubators;

and other related organisations (free zones, regional development agencies, ...)

Business supporting and innovation infrastructure

Innovation Infrastructures Status 2011 (Absolute change compared to 2007)	ALBANIA	BOSNIA and HERZEGOV INA	CROATIA	FYR of MACEDO NIA	MONTENE GRO	SERBIA	Kosov o UN Res.12 44
TICs	2 (0)	7 (+5)	9 (+3)	7 (+1)	2 (+2)	5 (+1)	1 (+1)
Clusters	2 (-2)	5 (+2)	7 (-4)	13 (+5)	1 (+1)	30 (+14)	1 (-2)
Technology & Science Parks	0 (-)	2 (+2)	5 (+2)	3 (+3)	0	5 (+1)	1 (-)
Business Incubators / Start- up Centres	2 (-)	17 (+4)	25 (+5)	4 (-6)	3 (+1)	17 (+4)	5 (+1)
Total Absolute Change compared to 2007	-2	+13	+6	+3	+4	+20	±0

Source: ZSI, Mapping

Business incubators are the most spread innovation facilities: 73 facilities in total, followed by business clusters (59); Business clusters (and then business incubators) are the easiest facility to set-up and also easiest to close (when provided assistance from donors is over); in total, 16 out of 45 clusters operating in 2007 had to be closed by 2011.

(Sub)system for research driven innovation



Specific policy **programmes** for **S-I cooperation**, research commercialisation, academic spin-offs, intellectual property rights

support to **interface institutions for S-I cooperation**, etc. such UT offices, science parks, technology centers, innovation centers, etc.

Only **Croatia** developed programmes and institutions: BICRO, HIT, RAZUM; IRCro, KONCro; TEHCro, PoC....

Serbia – individual programme initiatives like the “Competition for the Best Technological Innovation in Serbia”, University of Novi Sad

Other countries :

- The most common measures are reduced to establishing of the intermediary institutions like:
 - Innovation/technology centres (all WBC)
 - Technology/science parks (recorded in all WBC except Albania and Montenegro)

(Sub)system for research driven innovation



- A **lack of evidence about the achievements** of the institutions.
- There is **no clear distinction** between “business supporting” institutions and “intermediary institutions for S-I cooperation”.

Special programmes:

- A few countries, e.g. Croatia and Montenegro launched **fiscal (tax) incentives** for better research in companies;
- Programme for development of **Venture Capital** - only in Croatia
- **Technology foresight** - not applied in any country

Governance of innovation – some common features



The innovation systems of the WBC are highly centralised “top-down” systems coordinated by the line ministries, primarily:

- **ministries of science** and education in charge for **research-based innovation**, SI cooperation
- **ministries of economy** in charge for fostering “**business innovation**” -innovation in SMEs and entrepreneurship infrastructure

There is a strong “**division of labour**” within these two leading ministries:

- **the lack of cooperation between the government bodies** on strategic development + lack of effective coordination among institutions; fragmented, not coordinated innovation policies and systems;
- There is a **lack of the NATIONAL long-term strategic vision in general**; if exists, innovation or R&D are not vital element of strategies and future.

Governance of innovation – some common features



- **None** of the countries developed innovation strategy based on analytical studies of local - country-specific potentials, down-to-earth analysis (TF).
- **Few** WBC have outlined the **industrial policy** although it should have an important role concerning the technological backwardness and need for production sophistication (only FYR of Macedonia, Croatia and Serbia).
- In contrast, there is **a flood of RTI policy documents** (e.g. Serbia has produced from 2005 to July 2011 around 90 strategic documents).

Governance of innovation – some common features



- The additional efforts are needed to strength the Balkan region in terms of innovation and entrepreneurship capacities; these factors have come into focus of policy actions of EC, OECD, WB, etc. in the early 2000's

Despite many strategic documents **WBC are lacking in reality meaningful innovation and technology development strategies**

A tentative categorization of WBC by the maturity of NISs (innovation infrastructure and programmes)



	Research system	Entrepreneurship and SMES (non-research based innovation)		Research based innovations	
		Programmes	Institutions	Programmes	Institutions
Croatia	Complex	Complex	Complex	Complex	Complex
Serbia	Complex	Complex	Complex	Moderate	Moderate
FYR Macedonia	Familiar	Moderate	Familiar	Beginner	Moderate
B&H	Moderate	Familiar	Familiar	Beginner	Moderate
Montenegro	Familiar	Beginner	Moderate	Beginner	Beginner
Albania	Beginner	Beginner	Beginner	Beginner	Beginner
Kosovo UN Res.1244	Infancy	Infancy	Infancy	Infancy	Infancy

Infancy-almost no experience; **Beginner**-establishing a few institutions/ programmes; **Moderate**-establishing several institutions/ programmes; **Familiar**-track record in institutions/programmes; **Complex**-existing of a system of institutions and programmes

Some recommendations

- Establish, strengthen or reform **research system**:
- **Substitute a “flood”** of formally produced strategic documents with comprehensive analytical studies of technological competences;
- Put in place a **system of monitoring and evaluation** of (conceptually correct) supporting institutions, measures and strategies to avoid mismatch between desires and outcomes;
- Put in place appropriate **policy mix** based on **national competences**: stress on upgrading of technological capabilities of companies since **industrial revitalisation** could be more efficient than programmes for research commercialisation;

Some recommendations



- Initiate an exercise in **mapping the technologies** and research with commercial potentials within WB region to identify common thematic (sectoral) programme;
- **strengthen fundamental** economic and social stability factors (fundamentals) which are critical for innovation;
- develop the **regional market** for innovation and research (more than 23 million of people) which provides economy of scale, value chain connections and concentration of research and technological potentials;
- **strengthen science-industry cooperation** following the needs of SMEs;
- improve **statistical systems** for R&D, innovation and entrepreneurship;

Part II

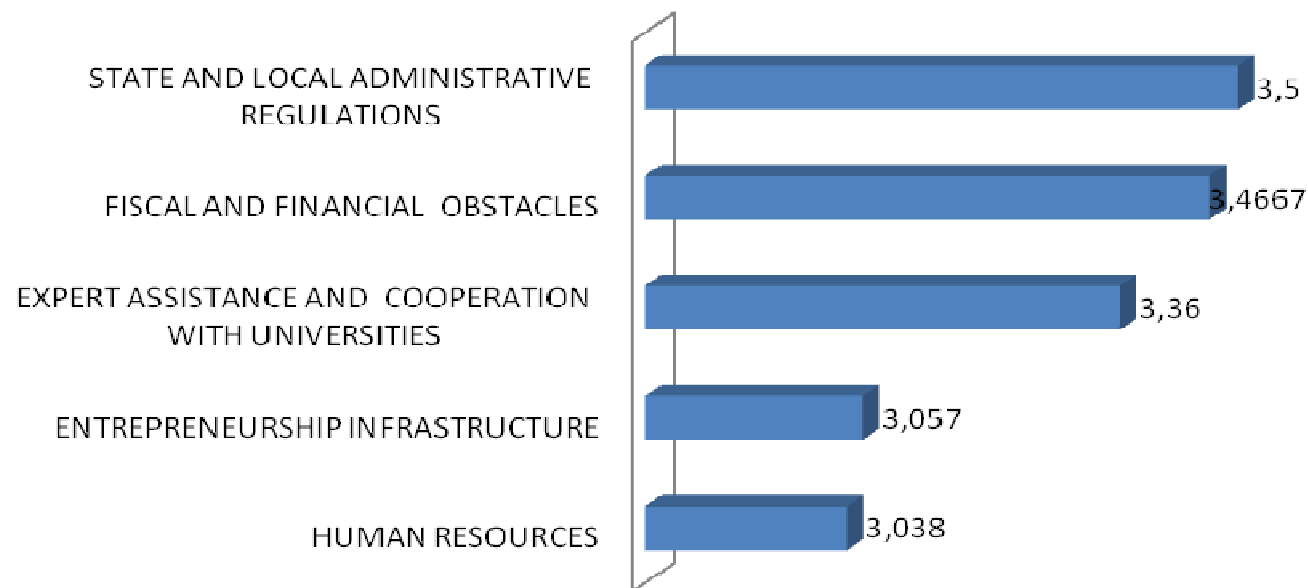
**Identification of research and
market needs – today and in the
future (2030)**

In the reports

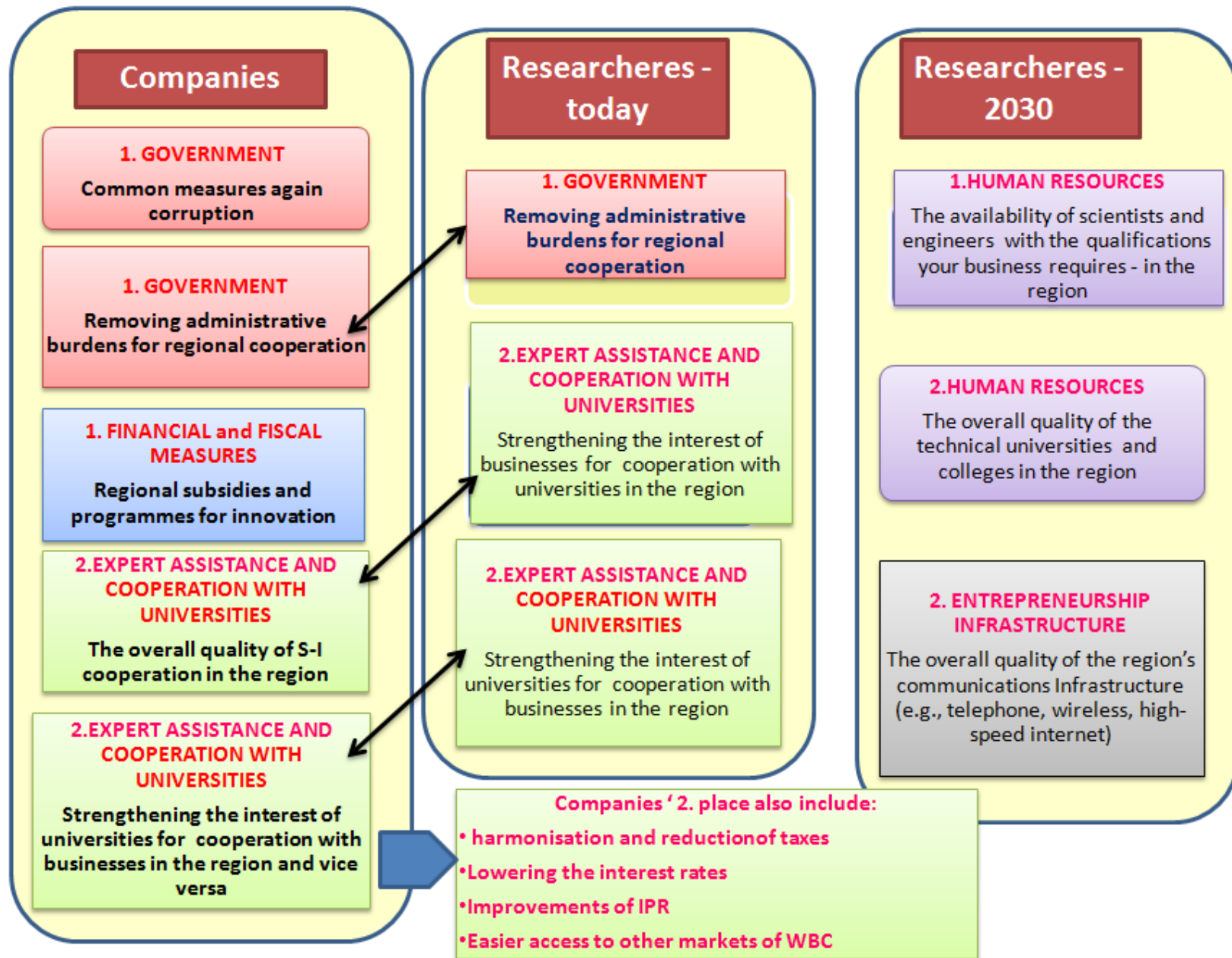


- Sources of innovation in companies;
- Factors which should be improved to foster regional innovation cooperation of companies (barriers);
- Expected possible outcomes of regional cooperation;
- Regional innovation actions (measures) for improving regional innovation cooperation;
- Actions for fostering science-industry cooperation;
- Research topics of mutual interests of companies and researchers for cooperation.

Factors which should be improved to foster regional innovation cooperation of companies



The most important **factors for regional cooperation** that **need improvements** - by companies



The most important factors for regional cooperation that needs improvements ranked the first and second place by all the countries - Comparison

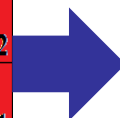
The quality of regional **energy supply** is recognised by all the countries except Serbia and FYRoM as critical factor; The improvement of the **foreign languages proficiencies** is placed first by Montenegro and Bosnia and Herzegovina. **Corruption** is recognised by Serbia and Croatia as an important barrier

	1. place		2. place		
Albania	Improvements and harmonisation of labour market regulation at the regional level		2. The overall quality of the region's energy supply	2. The overall quality of the region's transportation (e.g., roads, air transport, railroads)	
Bosnia and Herzegovina	The improvements of foreign languages proficiencies		The overall quality of the region's energy supply	The overall quality of the region's transportation (e.g., roads, air transport, railroad)	
Croatia	The overall quality of the region's energy supply	Improvements of administrative burdens and permitting procedures for regional cooperation	Common regional measures against corruption in state and local administration	The availability of regional subsidies and programmes for innovation	The overall quality of the region's communications infrastructure (e.g., telephone, wireless, high-speed internet)
FYR Macedonia	Strengthening the interest of universities for cooperation with business in the region		Strengthening the institutions like university science parks, technology transfer centers , etc.		
Montenegro	The improvements of foreign languages proficiencies		Energy supply, transportation , cost of doing business, technical universities, university apprenticeship, top managers, scientists and engineers, etc.		
Serbia	Strengthening the interest of business for cooperation with universities in the region		Common regional measures against corruption in state and local administration		

The factors that needs improvements for regional innovation cooperation by countries ranked first and second place – **researchers**

How to improve science-industry cooperation: comparison

	Companies	Researchers - Today	Researchers in 2030
More funding for collaborative research between universities and businesses	1	1	2
More funding for knowledge/technology transfer and expert consultations	2	2	1
Greater understanding by researchers of the needs of business companies and industry	3	6	8
Development of local partnership/inclusion of universities in clusters or business associations	4	9	9
Greater understanding by researchers of intellectual property rights (IPR) and its implications	5	6	10
Easy access to professional technology transfer officers (or similar staff)	7	11	6
Establishing of university incubators or science parks	8	10	9
Financial incentives for university staff which cooperate with companies	9	8	11
Better mobility (exchange) of researchers between universities and industry	10	5	5
Organization of specialized training courses by universities for the needs of industrial sectors and companies	11	4	4
Creation of specialised large-scale programmes for cooperation of companies and research institutions (e.g. technology platforms)	12	7	7
Introduction of regular business/technical advising services at universities for the needs of businesses	13	3	3



Two most important actions for fostering science-industry cooperation are:

- more funding for collaborative research between universities and businesses;
- more funding for knowledge/ technology transfer activities and expert consultations.

Have companies already experienced such advising activities without an impact on their businesses?

Most important actions for improving regional innovation cooperation: comparison

	Companies	Researchers - today	Researchers in 2030
Establishing regional venture capital fund	1	6	11
Creating a regional financing programme for innovation	2	4	6
Developing regional initiatives for large infrastructural projects	3	8	3
Common large scale technology programmes	4	12	9
Joint regional approach towards international funding institutions (WB, EU)	5	10	7
Harmonisation and opening of the government's procurements markets	6	5	5
Strengthening regional innovation clusters in selected sectors	7	11	12
Common apprentice (trainee) programmes of young experts	8	7	10
Common educational programmes for technical skills, innovation management,	9	9	8
Common programmes for mobility of personnel in the region between	10	3	1
Consistent legal framework aimed at facilitating foreign direct investments in the	10	1	2
Opening and liberalisation of the service market within the WB region	12	2	4

The three actions least important for industry are among the four most important for researchers.

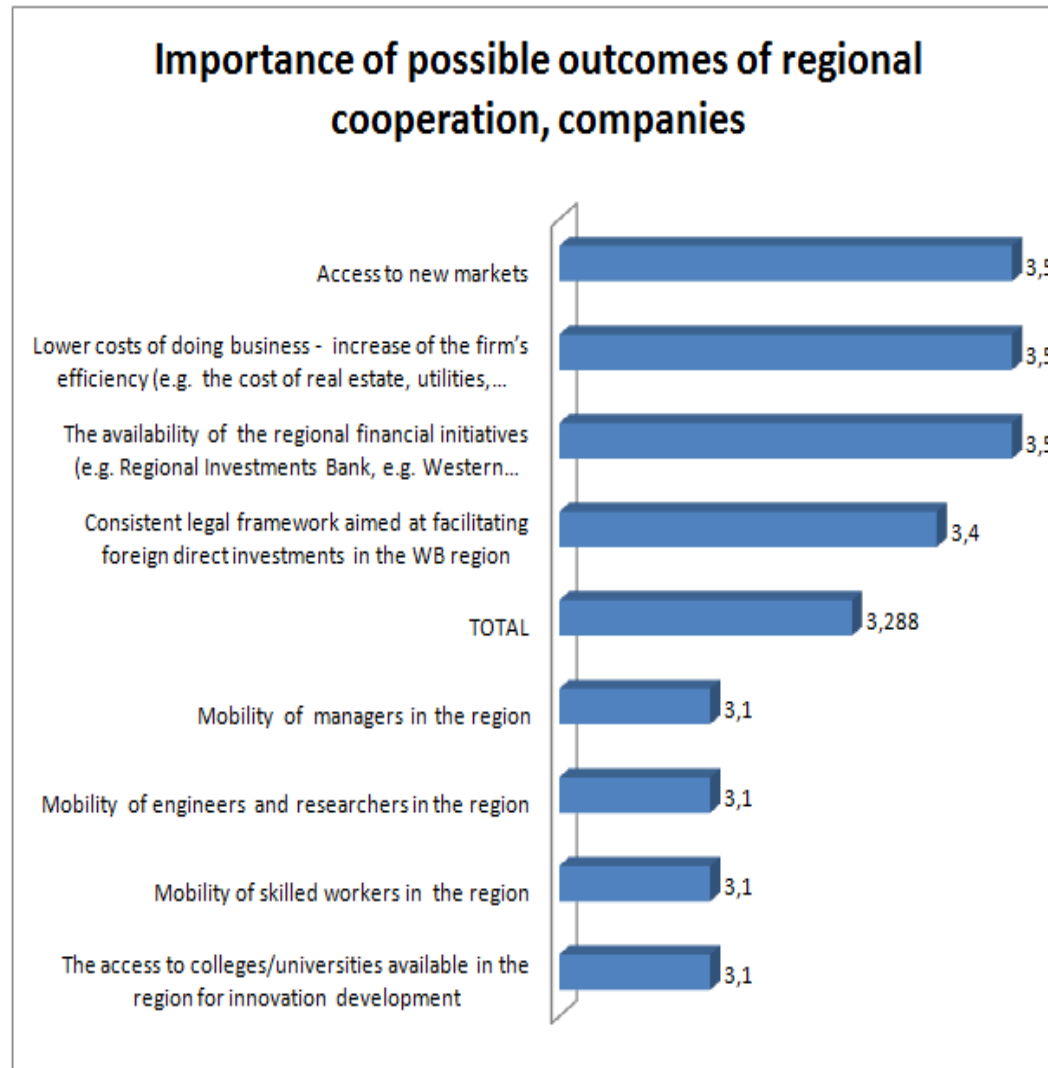
The establishing of the regional venture capital fund which is perceived by the companies as the most critical factor for improving regional innovation activities is next to the least important factors for researchers.

Most important actions for improving regional innovation cooperation: comparison



- Despite substantial differences in perceiving the most important factors for improving regional innovation cooperation both the sides **recognized the need for developing regional initiatives for large infrastructural projects**. They might be sufficiently large and capital intensive to demand cooperation of several WBC: ICT, transportations, energy resources, clean technologies, business-innovation infrastructures.

Expected outcomes



1. Lowering costs for doing business;

2. Availability of the regional financial initiatives

3. Access to colleges /universities in the region for innovation development

Versus “access to new markets” (companies)

Measures to improve regional cooperation

1. Identify and remove state and local administrative burdens and procedures for regional cooperation
2. Improve science-industry cooperation by MORE FUNDING for
3. Establish regional subsidies and programme for innovation cooperation
4. Establish regional venture capital fund
5. Initiate large infrastructural projects on regional level
6. Improve mobility of personnel at regional and sectoral level
7. Improve legal framework for fostering FDI
8. Open and liberate of service market for R&D

a. collaborative research between universities and businesses

b. Knowledge and technology transfer and consultations

Establish **dialog** and **communication** between science and industry sphere by **different models** like thematic workshops, brokerage events, mobility schemes, etc

Establish/exercise some **best practice models** for fostering innovation and S-I cooperation at the regional level (next slide)

Collection of Good Practice Examples

45 examples of innovation good practice have been collected using a standard template by many experts

21 from EU MS

24 from WBC

national programmes, funding schemes, cooperation models, infrastructure/business centres, incubators, technology transfer offices/support

NEXT STEPS

- Discuss and select around 10-15 measures during the First Review Meeting in **February 2012 in Albania** with experts and stakeholders/potential implementers;
- Reduce number to around 5 examples being suitable and required from WBC to be implemented;
- Develop “realistic” adaptation schemes
- Discuss adaptation schemes during Second Review Meeting in **Fall of 2012** with implementers

**Social Innovation & Research
priorities in social sciences and
humanities (SSH)**

Social innovation

International conference: **Challenge Social Innovation**, Vienna, September 19-21, 2011

Social innovations are new concepts and measures to resolve societal challenges, adopted and utilised by social groups concerned (ZSI)

Social innovation is of growing interest since it is realised that that economic growth driven by technological innovation have not lessen unemployment, inequalities and poverty

New societal problems such as ageing, jobless society, climate change, energy safety... needs innovations in social and political sectors

Our participation



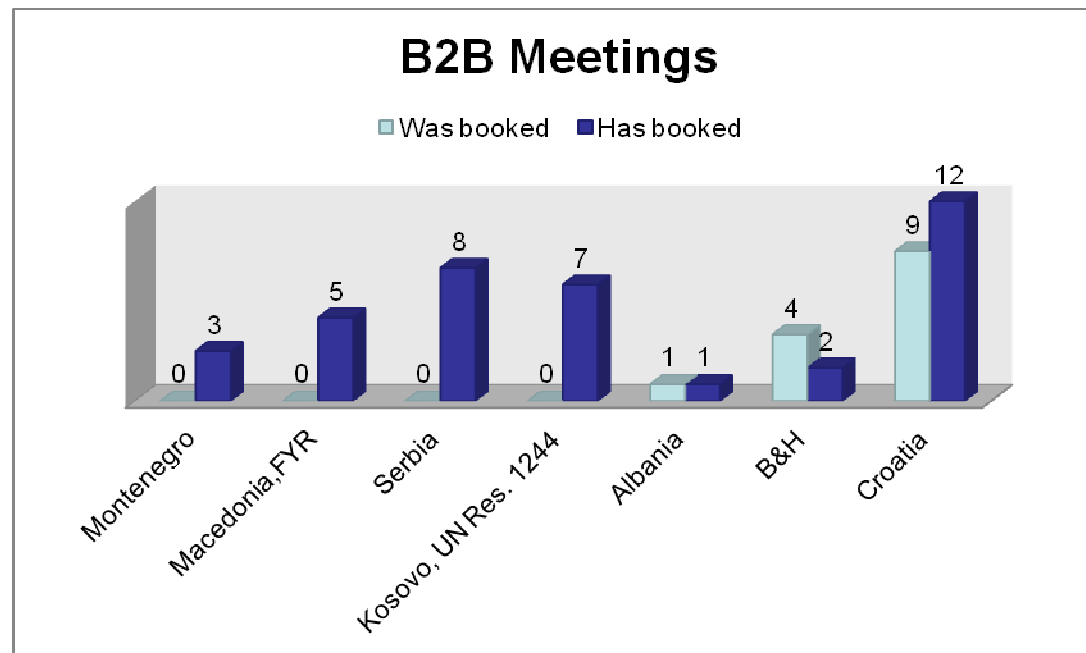
Three events:

- Consultation session on research priorities in the field of SSH was held as a pre-conference event;
- Special sub-section organised by WBC-INCO.NET participants: 1.7. Social Innovation for inclusion and integration
- Information/Exhibition desk for the WBC-INCO.NET project

Our participation

Quite successful:

- There were 42 participants from WBC (out of total 158) = 26% of all participants
- More than 50 bilateral meetings



Consultation session on research priorities in SSH



1. Employment / employability (education/skills, labour market);
2. Economic clusters (WB specific);
3. Demographic challenges (ageing, “investing” in youth, migration, urbanisation);
4. Knowledge society (relationship between national knowledge and educational resources and intern.competitiveness);
5. Social change / social inequalities related to transition;
6. Social sciences and social movements (grass root movements);
7. Technology and innovation, link between research and business;

Relation of reserach priorities to social innovation and WP for SSH 2012



- Priorities fit quite well into the topic of social innovation and in the WP for SSH 2012;
- Desire: to apply for a common project within EU FP
- Problems: a. to find a coordinator (experienced, interested and willing to coordinate project preparation and implementation); b. Shortage of time
- In the new EU FP 2014-2020- **HORIZON 2020** – the status of SSH is not clear.

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Co-ordination of Research Policies
with the Western Balkan Countries



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