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Inovacijski kapacitet zemalja Zapadnog Balkana s naglaskom na faktore regionalne inovacijske suradnje i suradnje znanosti i gospodarstva

Innovative capacity of the Western Balkans Countries, with emphasis on the factors of regional innovation cooperation and science-industry cooperation

WBC Wirtual Manufacturing Network
University of Rijeka, STEP, 20.4. 2012.

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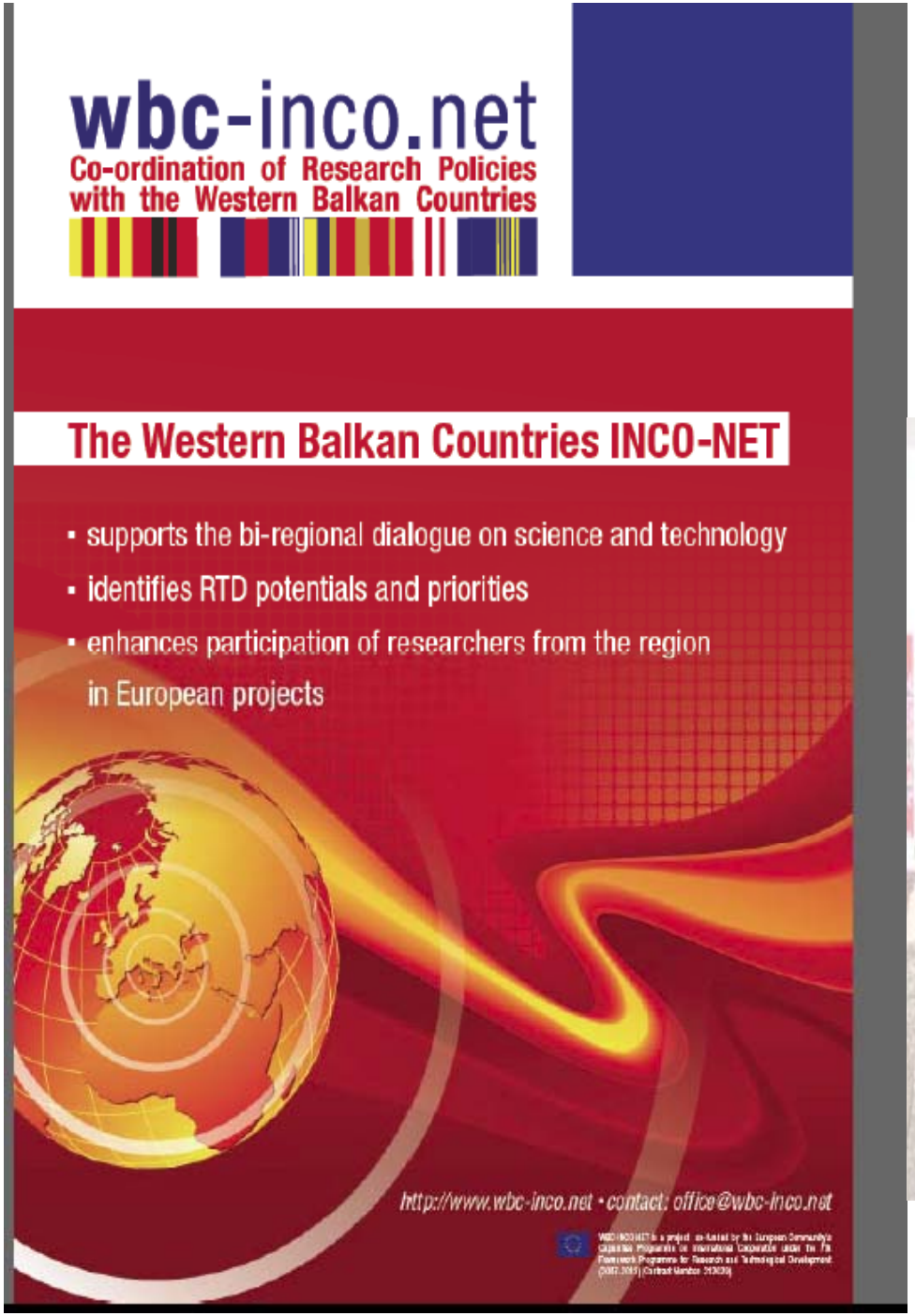

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- 29 partners from 16 countries
  - 14 Partners from the WBC
  - 15 Partners from the EU and Associated Countries
- Coordinator: Centre for Social Innovation (ZSI), Austria
- Institutions: Ministries responsible for Science and/or Innovation/Economy, R&D institutes and agencies, analytical partners

Partners

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- Overall aim: Integration of Western Balkan Countries (WBC) in the European Research Area
- Project aim: Coordination of Research Policies with the WBC
- Funded under FP7 Capacities - INCO
- Start: January 2008; end: December 2013
- Networking project
- Regular meetings, trainings, analyses, studies and dialogue activities

Workpackages

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WP1 European and Regional Dialogue

WP2 Priority Setting

Research priorities in SSH in Croatia

WP3 Monitoring and Analysis

D 3.18 Barriers in research cooperation of WBC countries in the FP

WP4 Building Capacities

WP5 Facilitating Networking

WP6 Project Management

WP7 Dissemination

WP8 Innovation Support

WP8 –Innovation support
T8.1 Stocktaking (Ivo Pilar)

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Main task: ***comaprative analysis of the innovation capacities and needs*** **of WBC with a vew of identifying joint cooperation needs in the area of innovation**

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 factors of – TODAY and in the FUTURE (2030)** to enhance innovation 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)

Why we are doing this?

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- 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.

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

Setting the scene

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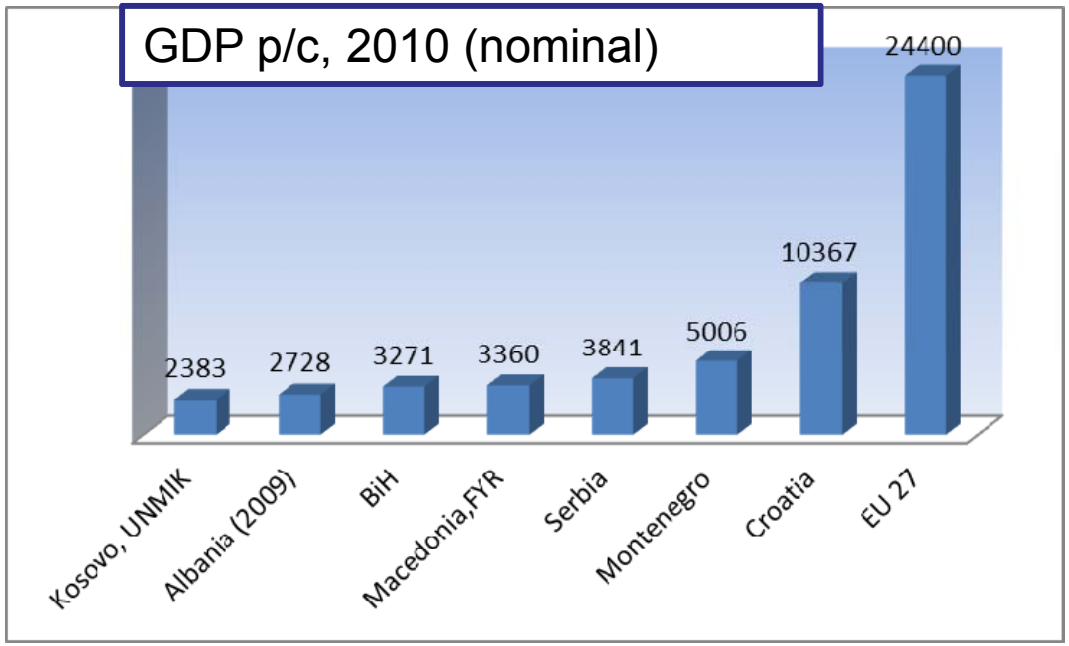

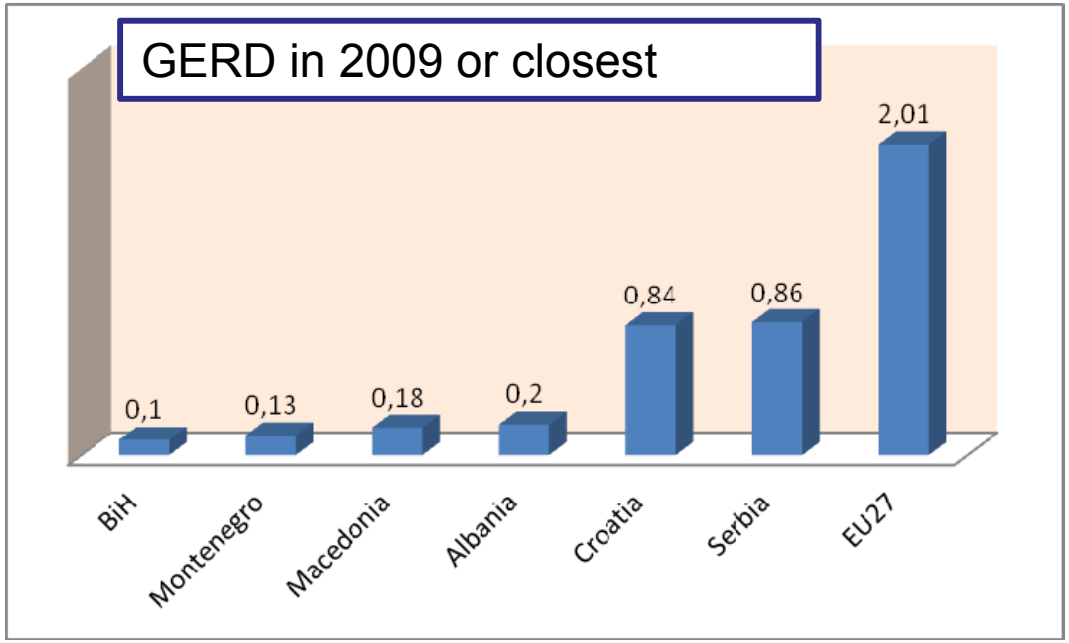

Much of the Balkans lag behind the rest of the EU. **Croatia's GDP per capita is about a half of the EU average while Albania's is barely more than one-quarter of the EU average**. WBC countries will need many decades to catch up with the EU average (Albania 65 years) (Sanfey, 2011)

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

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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**
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

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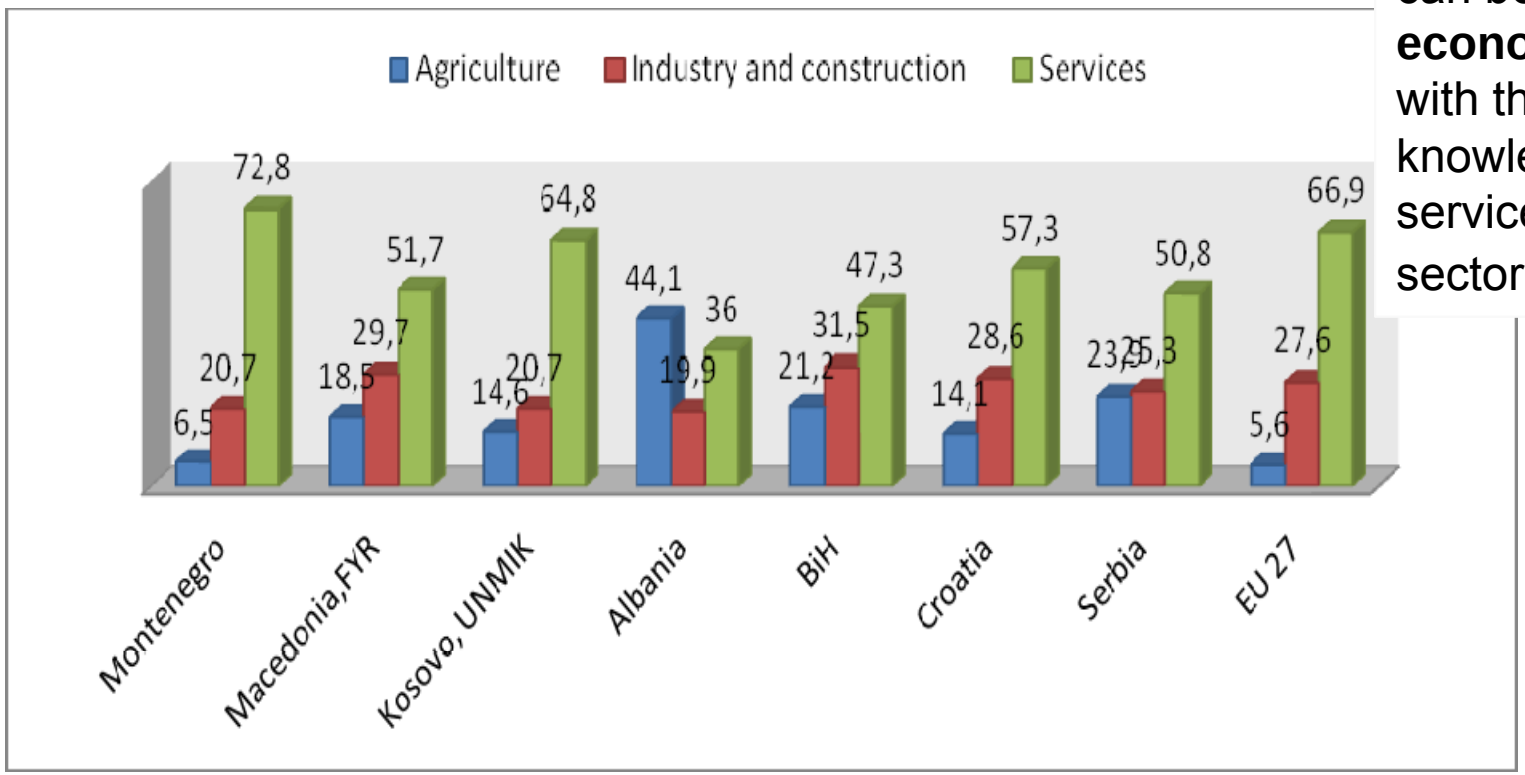
Employment by economic activity (%), 2009



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, toursim)

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

Advantages

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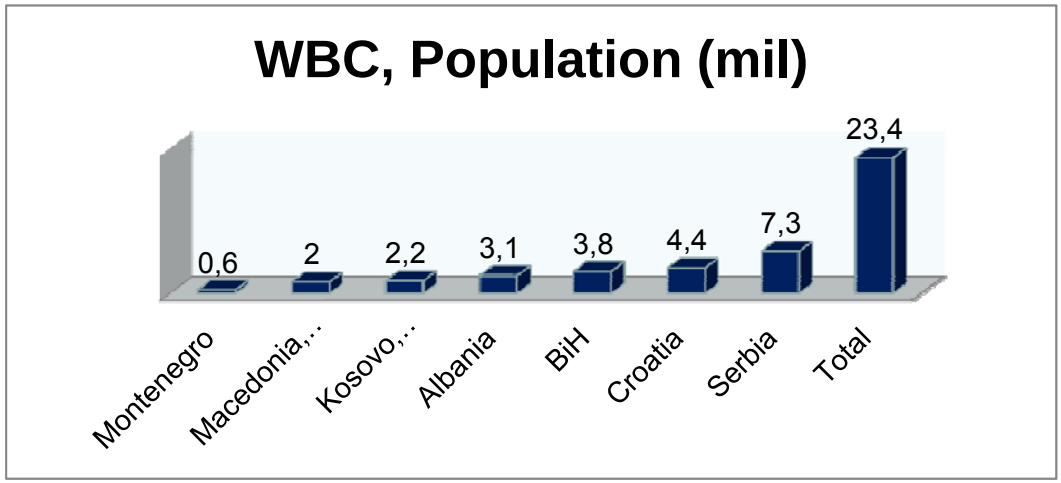

The **common market** of WBC consists of more than **23 million** of people that is a **respectable basis for regional cooperation** in many areas **not only in trade** that is currently the dominant model of cooperation

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:

- Fosteriong **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

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Differences among WBC are significant regarding:

- **Gospodarska razvijenost**
- **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 UN Res.1244)

- **Razvijenost komponenti NIS-a**
- development of the main **components of NIS- institutional set-up or environment for innovation**

Critical subystems of innovation system in WBCs

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SUPPORTING MEASURES AND INSTITUTIONAL SET UP

1.R&D

The **MOST/LEAST** developed,depends on a 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).

The **LEAST** developed in all WBC –mainly in Croatia and Serbia

R&D (sub)systems

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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

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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 g. simplifying registration processes for companies

WBC are dividend into three groups at different stages of development (OECD 2009, pp. 15-16).

- Albania, Bosnia and Herzegovina (BiH) and Kosovo have established institutional and legal frameworks for enterprise policy but active policy intervention remains limited to ad hoc and pilot projects;
- Macedonia, Montenegro and Serbia have progressed further towards more comprehensive and nation-wide enterprise policy implementation;
- Croatia is most advanced in terms of enterprise policy with policy implementation close to that of the new EU

Mapping - Business supporting and innovation infrastructure

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Change in infrastructure (difference between closed and newly established facilities) 2007-2009

Innovation Infrastructures Status 2011 (Absolute change compared to 2007)	ALBANIA	BOSNIA and HERZEGOVINA	CROATIA	FYR of MACEDONIA	MONTENEGRO	SERBIA	Kosovo UN Res.1244
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

There are several hundrets of business supporing institutions in WBC (only Croatia has more than 200)

Serbia has experienced the strongest increase in infrastrucure

- **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

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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 ceters, 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)

- 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 compnies;
- Programme for development of **Venture capital** - only in Croatia
- **Technology foresight** - not applied in any country

Governance of innovation – some common features

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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 entrepreneruship 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

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- **None** of the countries developed innovation strategy **based on analytical studies of local - country-specific** potentials, down-to-earth analysis **(TF)**;
- A **few** WBC has outlined the **industrial policy** although it should have an important role concerning the technological backwardness and need for production sophistication (only 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)
- Never come to realization –lack of monitoring of policy implementation
- Suffer from strong "Europeanisation" due to:
  - strong dependence of the national polices upon EU **monitoring, approval and financing;**
  - Copying of the European strategic documents (e.g. research priorities)

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)

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	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/ programme;
Moderate- establishing several institutions/ programme; **Familiar**-track record in institutions/programmes;
Complex-existing of a system of institutions and programmes

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

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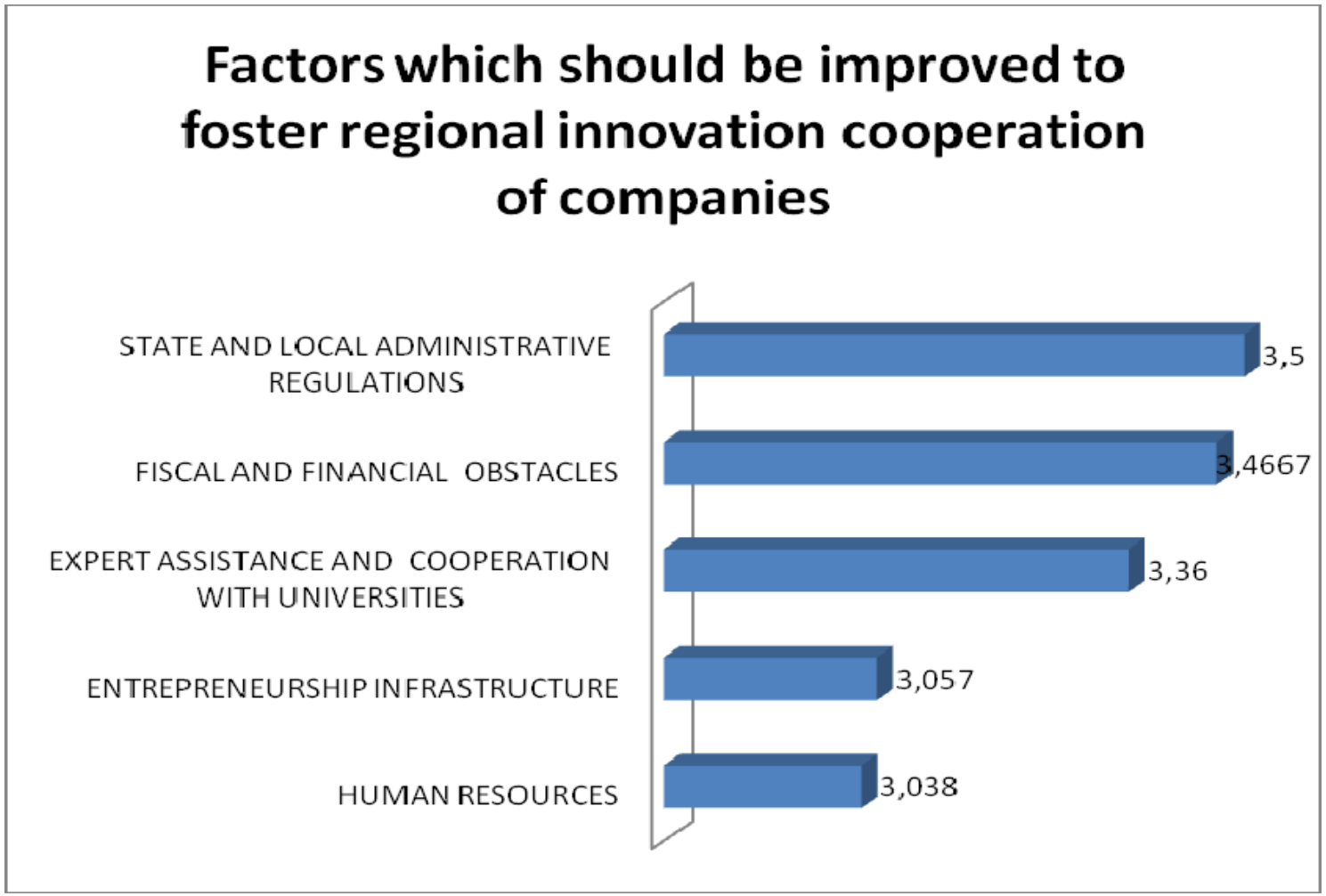

The most important factors for regional cooperation that needs improvements ranked the first and second place by all the countries - Comparison

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Companies

1. GOVERNMENT
Common measures again corruption

1. GOVERNMENT
Removing administrative burdens for regional cooperation

1. FINANCIAL and FISCAL MEASURES
Regional subsidies and programmes for innovation

2.EXPERT ASSISTANCE AND COOPERATION WITH UNIVERSITIES
The overall quality of S-I cooperation in the region

2.EXPERT ASSISTANCE AND COOPERATION WITH UNIVERSITIES
Strengthening the interest of universities for cooperation with businesses in the region and vice versa

Researcheres - today

1. GOVERNMENT
Removing administrative burdens for regional cooperation

2.EXPERT ASSISTANCE AND COOPERATION WITH UNIVERSITIES
Strengthening the interest of businesses for cooperation with universities in the region

2.EXPERT ASSISTANCE AND COOPERATION WITH UNIVERSITIES
Strengthening the interest of universities for cooperation with businesses in the region

Researcheres - 2030

1.HUMAN RESOURCES
The availability of scientists and engineers with the qualifications your business requires - in the region

2.HUMAN RESOURCES
The overall quality of the technical universities and colleges in the region

2. ENTREPRENEURSHIP INFRASTRUCTURE
The overall quality of the region's communications Infrastructure (e.g., telephone, wireless, high-speed internet)

Companies ' 2. place also include:
- harmonisation and reductionof taxes
- Lowering the interest rates
- Improvements of IPR
- Easier access to other markets of WBC

How to improve science-industry cooperation:comparison

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	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.

The **difference** between entrepreneurs and researchers- is the **third most important factor for reserchres that is the least important for companies.**

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

Indications:
Communication barriers between entrepreneurs and scientists and a lack of understanding of each other needs
Calls (again) for dialog between innovation stakeholders in the future:different models like thematic workshops, exchanging of idea, brokerage events, etc.

Most important actions for improving regional innovation cooperation:comparison

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	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.

Despite substantial differences in perceiving the most important factors for improving regional innovation cooperation both the sides recognised 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

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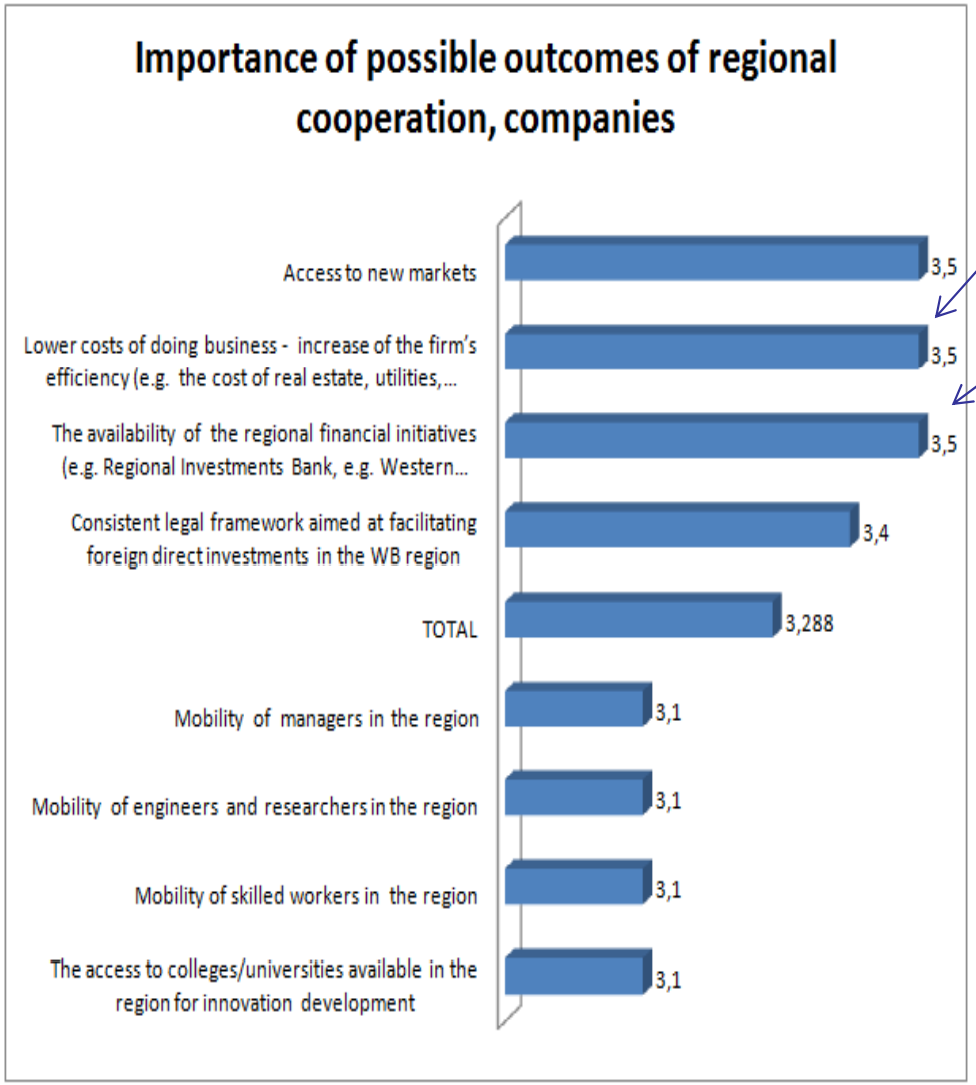
COMPANIES



RESEARCHERS

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 "acces to new markets" (companies)

Measures to improve regional cooperaton:

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1. **Identify and remove state and local administrative burdens** and procedures for regional cooperation

2. **Improve science-industry cooperation by MORE FUNDING for**
   - **a.** collaborative research between universities and businesses
   - **b**. Knowledge and technology transfer and consultations

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**

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)

Task T8.2:
Collection of Good Practice Examples

Deliverable D8.50 finalised (currently undergoing Quality Assurance)
Partners: DLR, BMBF, MPI, UNU-MERIT

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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

Albania, April 4-5, 2012: presentations of selected best practices like:

- Innovation Voucher Scheme (Netherlands)
- Strategic Innovation (Netherlans)
- Knowledge Management Centre (Hungary)
- Soft Landing Platform Services (Germany)
- Etc.

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