

PROJECT REPORT  
BEST PRACTICES ON BUSINESS-ACADEMIA-GOVERNMENT  
CO-OPERATION FOR INNOVATION IN KOSOVO\*

FEBRUARY 2016

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### **OECD SOUTH EAST EUROPE REGIONAL PROGRAMME**

Since 2000, the OECD South East Europe (SEE) Regional Programme has assisted the economies from the region with policy advice on their broad economic reform agenda.

With support from the European Commission and in partnership with the Regional Cooperation Council (RCC) and other regional organisations, SEE governments and the private sector, the OECD has offered recommendations on how to remove sector-specific policy barriers to competitiveness, increase domestic value added, promote innovation and deepen regional economic integration. The work has had considerable impact in the region helping identify reform priorities, fostering implementation and bringing SEE closer to both OECD and EU standards. OECD has supported several governments with the development of their Innovation strategies.

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## *Foreword*

Research, development and innovation (RDI) are together key drivers of economic competitiveness. Benefits of RDI are extremely important for emerging and middle-income economies to diversify and improve competitiveness in their economies. The experience of the OECD (2014) has shown that this helps them move up global value chains and escape the “middle-income trap”. Countries are progressively moving towards “knowledge-based economies”, increasingly depending on knowledge, information and high skills in both the private and the public sectors (OECD, 2005).

Business-academia-government partnerships with the aim to boost innovation can be an effective tool to help economies progress towards a knowledge-based economy. This partnership model, known as the “Triple Helix” partnership, not only facilitates synergies between them, but also helps overcome barriers to developing innovation. By tapping into the advantages of each partner and facilitating both the mobility of human capital and the transfer of knowledge, each partner leverages their areas of expertise: new research from academic institutions, new technology application to market needs from businesses and the overarching innovation policies from the government.

The *Best Practices on Business-Academia-Government Co-operation for Innovation in Kosovo* was specifically developed for policy-makers in Kosovo. The report builds on the *Assessment of the Kosovo Innovation System* and highlights best practices from OECD countries in facilitating the development of Triple Helix partnerships tailored to Kosovo’s current policy context. The policy framework groups best practices into four pillars: enabling environment for innovation, human capital for innovation, innovation support infrastructure and financial instruments for R&D and innovation. The aim of presenting these selected best practices is to support Kosovan policy makers in facilitating Triple Helix partnerships to further develop innovation.

The OECD is providing support to the government of Kosovo within the scope of the Western Balkan Enterprise Development and Innovation Facility (EDIF). EDIF is a European Union facility which aims to improve access to SME finance in the Western Balkan region. Besides financial instruments, EDIF also supports governments in continuing reforms to improve the business environments for innovative and high growth SMEs in particular.

## *Acronyms and abbreviations*

<b>BEEPS</b>	Business Environment and Enterprise Performance Survey
<b>BCK</b>	Business Support Center Kosovo
<b>COSME</b>	Competitiveness of Enterprises and Small and Medium-sized Enterprises Programme
<b>CITT</b>	Centre for Innovation and Technology Transfer
<b>DBR</b>	Doing Business Report (World Bank)
<b>DST</b>	Department for Science and Technology
<b>EaSI</b>	Employment and Social Innovation Programme
<b>EBRD</b>	European Bank for Reconstruction and Development
<b>EC</b>	European Commission
<b>EIP</b>	Entrepreneurship and Innovation Programme
<b>ERA</b>	European Research Area
<b>EU</b>	European Union
<b>FWF</b>	Austrian Science Fund
<b>GDP</b>	Gross Domestic Product
<b>GERD</b>	Gross Expenditures on Research and Development
<b>GICHD</b>	Geneva International Centre for Humanitarian Demining
<b>GIZ</b>	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
<b>HEI</b>	Higher Education Institution
<b>ICK</b>	Innovation Centre Kosovo
<b>ICT</b>	Information and Communication Technologies
<b>IOM</b>	International Organisation for Migration
<b>IP</b>	Intellectual Property
<b>IPO</b>	Industrial Property Office
<b>IPR</b>	Intellectual Property Rights
<b>JIC</b>	South Moravian Innovation Centre
<b>JSI</b>	Jožef Stefan Institute
<b>KAA</b>	Kosovo Accreditation Agency
<b>K-CIRT</b>	Centre for International Cooperation in Higher Education, Science and Technology
<b>KIESA</b>	Kosovo Investment and Enterprise Support Agency

<b>LTP</b>	Ljubljana Technology Park
<b>MEDTTE</b>	Ministry of Economic Development, Tourism, Trade and Entrepreneurship
<b>MEST</b>	Ministry of Education, Science and Technology
<b>MTI</b>	Ministry of Trade and Industry
<b>NCED</b>	National Council for Economic Development
<b>NRP</b>	National Research Programme
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>PRI</b>	Public Research Institution
<b>R&amp;D</b>	Research and Development
<b>RDI</b>	Research, Development and Innovation
<b>RAE</b>	Research Assessment Exercise
<b>REF</b>	UK Research Excellence Framework
<b>SEE</b>	South East Europe
<b>SEF</b>	Slovenian Enterprise Fund
<b>SME</b>	Small and Medium Enterprises
<b>TTO</b>	Technology Transfer Office
<b>UNDP</b>	United Nations Development Programme
<b>USAID</b>	United States Agency for International Development
<b>VAT</b>	Value Added Tax
<b>WB</b>	World Bank
<b>WIPO</b>	World Intellectual Property Organisation

## TABLE OF CONTENTS

<i>Foreword</i> .....	4
<i>Acronyms and abbreviations</i> .....	5
THE PARTNERSHIP MODEL OF INNOVATION DEVELOPMENT .....	9
Theoretical foundations .....	9
Triple Helix partnership development .....	10
STATE OF PLAY - INNOVATION SYSTEM IN KOSOVO .....	12
BEST PRACTICE POLICY FRAMEWORK.....	16
1. Enabling environment for innovation .....	17
1.1. Innovation governance .....	17
1.2. Enabling business environment.....	19
1.3. Open competition policies.....	20
1.4. Intellectual property legislation.....	21
1.5. Innovation promotion .....	23
1.6. Demand-side policy.....	25
2. Human capital for innovation .....	27
2.1. Mobility between business and academia .....	27
2.2. Researcher evaluation.....	29
2.3. Connecting with diaspora for innovation .....	30
3. Innovation support infrastructure.....	33
3.1. Incubators and accelerators .....	33
3.2. Science and technology parks .....	35
3.3. Technology transfer offices.....	36
3.4. Clusters.....	37
4. Financial instruments for R&D and innovation.....	40
4.1. Direct financial support for R&D and innovation.....	41
4.2. Indirect financial support for R&D and innovation .....	42
CONCLUSIONS .....	44
BIBLIOGRAPHY .....	45

### Tables

Table 1. Triple Helix Spaces .....	10
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### Figures

Figure 1. The Triple Helix model of innovation.....	10
Figure 2. Kosovo and SEE Average Doing Business distance to frontier scores .....	13
Figure 3. Structure of the policy framework for innovation .....	16
Figure 4. Innovation governance structure in Kosovo .....	17
Figure 5. Financial cycle of a venture.....	40

## Boxes

Box 1. OECD Triple Helix Competition - Kosovo.....	14
Box 2. Finland's Research and Innovation Council.....	18
Box 3. Starting a business in the Former Yugoslav Republic of Macedonia.....	19
Box 4. The OECD Competition Assessment Toolkit.....	20
Box 5. IPR System and University Research.....	22
Box 6. Triple Helix Partnerships for Innovation in Bosnia and Herzegovina.....	24
Box 7. Dok-Ing, Croatian robots manufacturer.....	25
Box 8. Mobility and Industrial Doctorates in Science and Technology.....	27
Box 9. The UK Research Excellence Framework (REF).....	29
Box 10. Attracting Researchers in the Czech Republic and Slovenia.....	31
Box 11. Technology Incubators and the Ljubljana University Incubator.....	33
Box 12. South Moravian Innovation Centre (JIC) in the Czech Republic.....	34
Box 13. Ljubljana Technology Park.....	35
Box 14. Inovacentrum is attached to the Czech Technical University in Prague.....	37
Box 15. Upper Austrian Food Cluster (“Lebensmittel Cluster”).....	38
Box 16. The Competitiveness cluster establishment process.....	39
Box 17. The Slovenian Enterprise Fund (SEF).....	41
Box 18. R&D Tax Allowances.....	43

## THE PARTNERSHIP MODEL OF INNOVATION DEVELOPMENT

The section below provides theoretical foundations for the partnership model involving business academia and public sector. It helps define the roles of each partner and provides an introduction to establishment of such a partnership. This section will help develop a better understanding of the reader of the concept of the Triple Helix and advantages it can bring while developing innovative ideas.

### Theoretical foundations

The first and most long-standing theoretical framework for understanding the impact of science and technology on the economy has until recently been based on a linear model of innovation (Godin, 2006). In the linear model, basic research is followed by applied research and development, which then results in production and diffusion. Universities, industries and governments constitute interdependent and relatively equal institutional spheres. Each actor can be linked to a specific element of the economy. In this way, universities are responsible for the creation of novelty, industry generates wealth and the government is responsible for the governance of interactions among the actors and is the keeper of societal rules (Leydesdorff, 2006).

The division of the scientific process into basic research, applied research and development was also embedded into national and international statistics standards for measuring science and technology such as the OECD Frascati Manual. It defines research and experimental development (R&D) as “*creative work undertaken in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications*” (OECD, 2002).

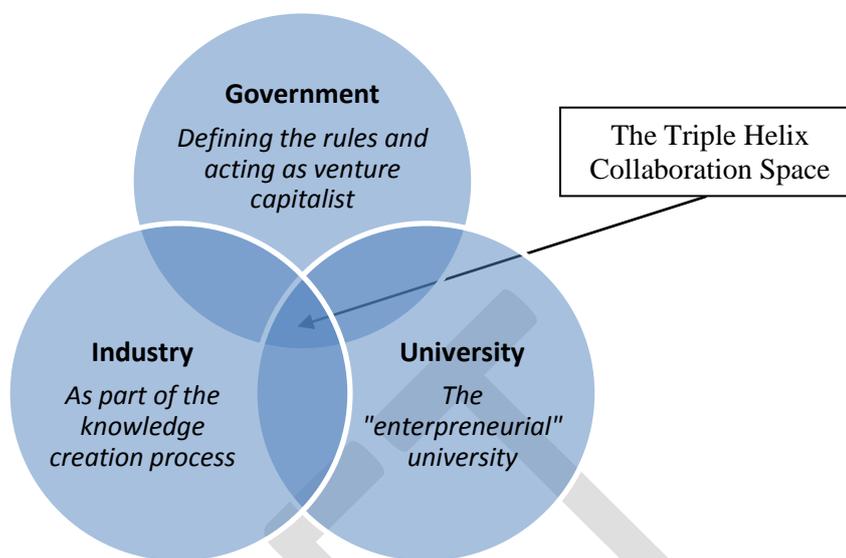
However over the years the linear model has become less relevant with the changing world. Already in 1972 the British collection of case studies of innovation, *Wealth for Knowledge*, distinguished between the “discovery push” and the “need pull” linear models (Langrish, Gibbons, Evans, & Jevons, 1972). Even though these two variations on the linear model recognise the fact that innovation can stem both from new scientific discovery and the need to answer market needs, it still does not take into account the feedback loops that exist between the innovation actors and the different roles they can assume in the process. Feedback process and concept of “open innovation<sup>1</sup>” became even more relevant recently. The Business-Academia-Government Triple Helix model allows different actors leverage the synergies particular actors can create for a particular innovation.

The Business-Academia-Government Triple Helix model of innovation refers to the dynamic co-operation between these actors. This model was developed by Henry Etzkowitz and Loet Leydesdorff in the 1990s and has gained prominence in recent years. It stipulates that the creation of the knowledge base depends on the synergies created between the three main actors of the economy, namely university, industry and government. Instead of focusing simply on bilateral public-private interactions where the university is a producer of knowledge, which is then transferred to the private sector via the publication of articles and the provision of educated people, it encompasses trilateral relationships between the industry, government and universities in the process of knowledge capitalisation (Etzkowitz, 2002). This reflects the dynamics of society, which has evolved from one of boundaries and hierarchy between separate institutional spheres to a more flexible one with often overlapping architecture.

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<sup>1</sup> “Open innovation” is a paradigm that assumes that firms can and should use external ideas, and internal and external paths to market, as the firms look to advance their technology (Chesbrough, 2006).

**Figure 1. The Triple Helix model of innovation**



In the Triple Helix model, the three actors can learn each other’s areas of expertise – for example universities can become more entrepreneurial through creating spin-offs, firms can become more involved in research through testing technology application, and governments can facilitate knowledge creation through government-sponsored research programmes and support knowledge transfer for example through voucher schemes.

**Triple Helix partnership development**

A Triple Helix partnership can be thought to develop through three phases each creating a key space (Table 1).

**Table 1. Triple Helix Spaces**

<i>Triple Helix Spaces</i>	<i>Characteristics</i>
Phase 1: Knowledge Space	Focus on Collaboration among different actors to improve local conditions for innovation by concentrating R&D activities and other relevant operations.
Phase 2: Consensus Space	Ideas and strategies are generated in a “triple helix” of multiple reciprocal relationships among institutional sectors (academia, public, private).
Phase 3: Innovation Space	Attempts at realising goals articulated in the previous phase; establishing and/or attracting public and private venture capital (combination of capital, technical knowledge and business knowledge) is central.

Source: Etzkowitz (2008)

The initial phase consists in *creating the knowledge space which will provide the building blocks for regional growth*. In this phase, a concentration of R&D activities in a region on a specific topic occurs.

Achieving a critical mass of knowledge creation in a certain location is seen as the seed of a potential future cluster of high value-added activities. The critical mass has been seen by governments as a way of simultaneously alleviating resource constraints, increasing the quality of conducted research and facilitating co-operation. Such efforts are often being achieved on trans-national levels. For example, the European Strategic Forum on Research Infrastructures (ESFRI) ensures that investments in high ticket research facilities are pooled into user shared facilities available to the entire European Research Area (ERA). Policies aimed at creating the critical mass are often implemented by focusing funding on selected institutions and selected research fields. The latter are traditionally widely defined. Critical masses which utilise local comparative advantages based on human capital, knowledge institutions, local services and job opportunities, are crucial in attracting firms and talent to specific locations and developing local clusters of activity (OECD, 2010). This also goes in line with the EU guidelines for regional Research and Innovation Strategies for Smart Specialisation (European Commission, 2012, p. 17) with critical mass being one of the “four C’s” of smart specialisation (Choices and Critical Mass, Competitive Advantage, Connectivity and Clusters and Collaborative Leadership).

In the second phase a consensus space is created, during which *different actors in the region can meet and discuss local challenges on a neutral ground*. Key in this phase is to attract sufficient participation at a high level to be able to initiate a viable action plan to provide a solution. Depending on the strongest actors, such neutral ground can be provided by the government, the research university or the private sector. An example of such consensus spaces is the New England Council, which in a series of studies and public discussions in the 1920s and 1930s was instrumental in shifting the focus of regional innovation from developing new products within existing firms to a strategy for forming new firms.

In the third and final phase, *the partners jointly form an innovation space*. In this phase, innovation occurs when the three partners take on parts of each other’s roles, while continuing to exercise their main objective. The aim of the co-operation is to realise the goals articulated in the consensus phase. The innovation space can take on an institutional form, such as a public venture capital firm like the American Research and Development Co-operation (Etzkowitz, 2002).

Other possibilities consist in creating incubators or competence centers or get involved in joint research programmes are also set up. Such programmes have demonstrated that they can produce benefits for all actors. With the creation of this final space, the institutions evolve into triple helix institutions. This implies that they take on part of each other’s role besides their own core role and benefit from synergies. The interdependence between partners increases sharply, and innovations alike.

Triple Helix Partnerships can positively affect the level of innovativeness of economies, not only by developing more competitive products and services, but also by allowing government institutions to better understand the needs of the private sector and academia, while adjusting the incentives in order to respond to those needs. Academia benefits from larger sources of funding, while businesses and governments share the burden and benefit from the training of highly qualified personnel in industry-related research. Finally, industry gains from the reduced cost of innovation, the expansion of long-term and risky research activities and the access to new recruits by collaborating with research laboratories.

## STATE OF PLAY - INNOVATION SYSTEM IN KOSOVO

Kosovo has begun to lay the policy foundations to facilitate greater innovative activities throughout key institutions and areas such as tertiary education, research, industry and businesses. Room to improve remains in stakeholder and policy co-ordination as well as policy implementation.

**The innovation system is underdeveloped, even in comparison with the region.** The research, development and innovation system in Kosovo was neglected over many years and it is only recently that it has been recognised as a precondition for rather than a consequence of domestic economic development. The first policy efforts to support research activities started in 2010 with the adoption of the 2010-2015 National Research Programme (NRP). The implementation, however, has been slow and the responsible agency has often failed to fully spend the modest budget allocations. The Law No. 2004/42 on Scientific Research Activity states that *“up to 0.7% shall be allocated from the budget of Kosovo for the purpose of fulfilling the necessary conditions for scientific research and for providing the means to undertake scientific research”*. This quota is far above what has been actually invested. Indeed, Kosovo’s overall government expenditures on R&D stood at around 0.1% of GDP in 2011 (OECD, 2013). There is an almost complete lack of basic research and technology statistics, making it difficult to evaluate inputs, outputs and outcomes of the Kosovo innovation system and policies.

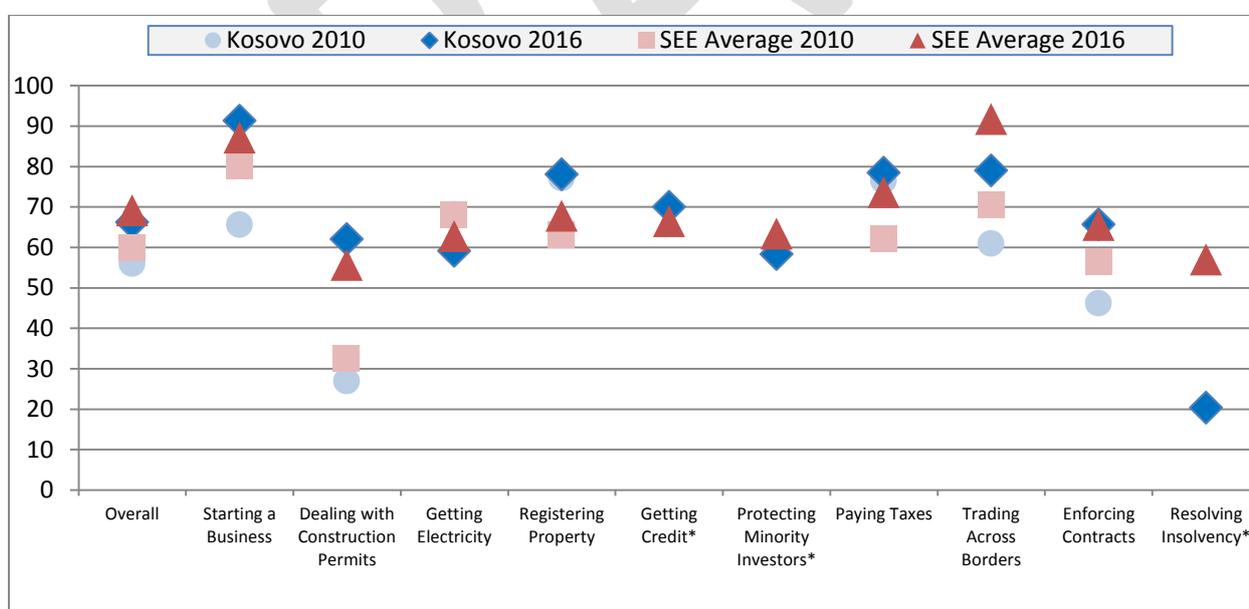
**Public funding and strategic guidance for applied R&D and business innovation are available only to a limited extent.** Relevant government bodies such as the Department for Science and Technology (DST) and the Division for Innovation and Technology Transfer in the Ministry of Education, Science and Technology (MEST) have limited budgets and capacities. There is a shortage of implementing agencies that would design, implement and monitor R&D programmes based on overall policies developed at ministerial level. Business and SME support agencies, such as the Kosovo Investment and Enterprise Support Agency (KIESA) or the Regional Development Agencies (RDAs), do not explicitly focus on RDI and face qualified innovation support staff constraints. Several small-scale innovation support institutions have emerged in recent years; yet, they mostly suffer from low strategic guidance and uncertain and unsustainable funding levels. There are two incubators in Pristina, which heavily depend on donor funding. The ICT Business Association is one of the few business associations that can provide innovation support. Some economic zones, industrial parks and technology parks have been established but most have not reached their ambitious objectives for the time being.

**The higher education system has long been focused solely on teaching as opposed to research and still lacks strategic orientation, funding and capacity for research activities.** The area of higher education, science and technology falls under the Ministry of Education, Science and Technology. The University of Prishtina is the largest R&D performer with about 1,500 researchers and 27 equipment and laboratory facilities. Most research institutions face a shortage of scientific researchers due to the lack of funds, skills, equipment and basic technical infrastructure. Skills availability is also related to the quality of higher education. Kosovo has the lowest production of research publications and the lowest citation index in the Western Balkan Countries and Eastern Europe. Despite the increase of the total number of publications from 11 in 2007 to 93 in 2010 as reported by SCOPUS (SCIMAGO, 2012), the commercialisation of research results, the joint R&D projects with businesses or other channels of technology transfer from science to the economy are not actively pursued by the research institutions. There is a limited activity in patenting and commercialisation, mainly due to the ineffective IPR protection. According to the Kosovo Industrial Property Office (IPO), in 2014, there were more than 22,000 trademark, design, and patent applications on hold.

**The business sector is dominated by micro-enterprises, mostly oriented towards agriculture and services, with low demand for R&D and little capacity to absorb knowledge and technology.** A 2013 survey of 153 innovative companies in Kosovo found that their innovation activities are predominantly incremental and reactive, rather than research driven (OECD, 2013), and revolve around product and service improvements driven by external competitive pressures and customer requirements. Many companies produce products that are not competitive on external markets and lack awareness of potential benefits from innovation. Many fail to perceive their internal deficiencies and obstacles to innovation and consider the financial constraints and the government as key obstacles to innovation. In the absence of fully developed quality standards, informal relationships can be key in generating business opportunities. Companies also have limited interest in engaging with research institutions in actual R&D activities (as opposed to internships or advisory services), while the mobility of researchers between science and industry is practically non-existent.

**Challenges in the overall business environment hinder business innovation development.** The World Bank’s Doing Business Report encompasses key areas of how government regulation affects economic activities, including innovative ones. Kosovo ranked 66<sup>th</sup> of 189 economies in the 2016 Doing Business Report of the World Bank; ahead of Albania and Bosnia and Herzegovina. However, resolving insolvency, enforcing contracts, dealing with construction permits and getting electricity remain extremely cumbersome (World Bank, 2016). The most important advancements were identified in resolving insolvency, paying taxes and dealing with construction permits. Enforcing contracts became more difficult in the last year, while protecting minority investors also deteriorated relative to the other SEE countries. Nevertheless, in a longer term perspective, and following the SEE average trend, Kosovo has improved its performance since 2010 in almost all areas (access to electricity area is an exception). The SEE region’s most significant improvements were in dealing with construction permits and cross-border trading. Kosovo consistently outperforms the regional average in ease of registering property and paying taxes.

**Figure 2. Kosovo and SEE Average Doing Business distance to frontier scores**



1. For the purposes of this figure, SEE average includes Albania, Bosnia and Herzegovina, Croatia, the Former Yugoslav Republic of Macedonia, Kosovo, Montenegro and Serbia.
2. Scores of three indicators (Getting Credit, Protecting Minority Investors and Resolving Insolvency) are not provided for the year 2010 because of incomparability of scores owed to methodology changes.

Source: World Bank Doing Business Database

**The framework components such as the education system, business environment and ICT infrastructure are not very conducive to business R&D and innovation.** Teaching and evaluation methods are often outdated and education outcomes are poor across all levels of secondary and higher education. Higher education graduates often do not have the skills needed by businesses and similarly lack the skills for conducting internationally competitive academic research. Human resource development remains crucial in both academia and corporate sector to improve R&D results. ICT infrastructure and service quality is not sufficiently developed to support a successful ICT industry, foster efficient online services in the private sector or enable R&D and innovation across sectors.

**Overall, industry and academia in Kosovo have little capacity to cope with and exploit technological progress or absorb and utilise new knowledge.** This is mostly due to the absence of R&D funding or support measures in the last two decades. The innovation system is characterised by severe deficiencies in human capital, research capacities, and innovation infrastructure, low levels of government funding, little cooperation between academia and industry and few linkages with foreign companies and research institutions. Research commercialisation and related technology transfer are hindered by the low quality of research, the lack of incentives for researchers, the lack of trust and co-operation between researchers and businesses, as well as the insufficient funding and R&D capacity in Kosovo's SME-dominated private sector.

#### **Box 1. OECD Triple Helix Competition - Kosovo**

In 2015, the OECD together with KIESA initiated an innovation competition to foster co-operation between academia, the public sector and private sector (Triple Helix co-operation) in Kosovo. Individuals or organisations could form consortia to develop innovative ideas or commercialise research. Applicants were offered capacity building for free to help them improve their application form.

A jury of five international experts in the area of innovation incubation evaluated the proposals. Eight proposals received OECD development support. Three winning projects received additional technical assistance for business plan development, legal assistance and market research.

Several observations result from the process of running the Competition:

##### *1) Lack in awareness over innovation*

Low level of participation (10 applications received) highlights a lack in awareness and innovation policies. Kosovo still has to adopt a national innovation strategy and improve co-ordination of innovation policies.

##### *2) Lack of business acumen skills*

Majority of applications received lacked basic information relating to the financial projections and availability of marketing basic research. The low quality of some applications highlighted the need in capacity-building activities to improve project proposals quality for funding programs and competitions. Two applicants applied in order to get support to facilitate access to loans which highlights potential demand for investment readiness support mechanisms.

##### *3) Limited technological potential in Kosovo*

Most of the applications received covered the marketing or managerial innovations. Only 30% of the applications were product innovations and among them only one project could be considered as a commercialisation of research. This is aligned on the data of the Transition report from EBRD indicating that only 10,5% of domestic firms are engaged in product innovation. This highlights a limited technological drive explained by a low level of research base in Kosovo.

##### *4) Innovation is dominated by the private sector*

Of the total, 90% of the applications were submitted by private businesses whereas and only 10% by the public sector. Innovation and R&D are still considered to be matters of the private sector whereas academia's focus is rather on

traditional activities and teaching methods.

*5) Need of sectorial diversification*

Only 3 sectors were represented by all the proposals: ICT, Agriculture, and Manufacturing/textile. Innovation is still seen as a concept mainly linked to ICT technologies in Kosovo (40% of the proposals). However, agriculture represented 30% and manufacturing/textile also 30%. ICT and Agriculture are the sectors where there is a potential for promotion of innovation, however other sectors should be promoted. There is a clear lack of innovation initiatives in the service sector considering that no proposals were made from this sector.

*6) Lack in partnerships*

Initially, prior to coaching support, only four applicants had partnerships established, however following the capacity building received, all but one application forms have established a partnership. However, only 50% of the project proposals were involving the three necessary partners (business-academia-public sector). Perception of need for cooperation between academia and public and private sector remains low and further incentive programmes might be needed in order to improve the cooperation potential.

*7) Lack of access to communicate and find partners*

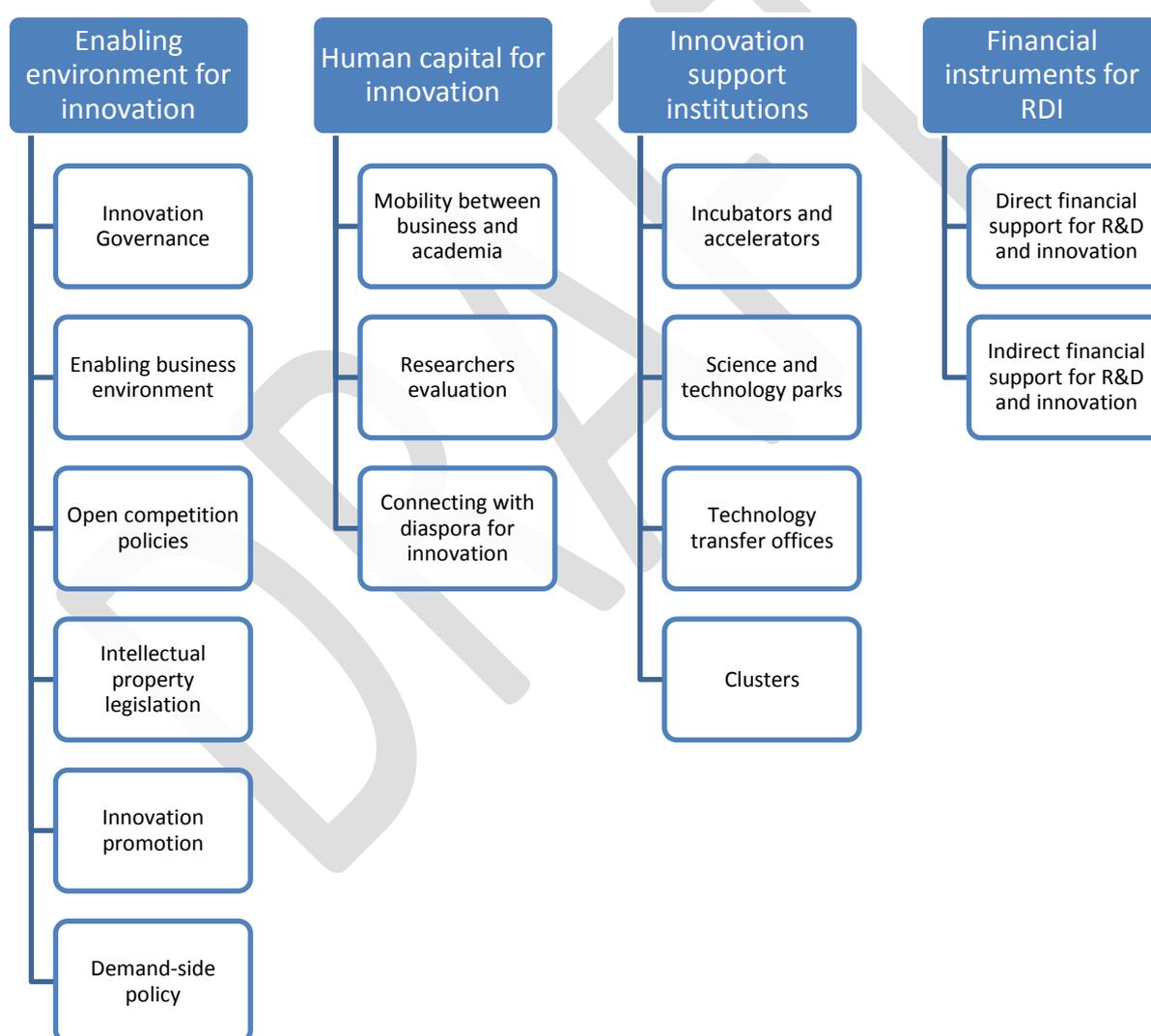
Most of the applicants requested support in helping them identify relevant partners and get access to the best practice examples or similar initiatives at local or international level. There is a demand to create a platform of forum where innovators could share their ideas, find more about existing initiatives through peer-to-peer learning and identify potential partners.

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## BEST PRACTICE POLICY FRAMEWORK

Based on a set of best practices analysed, the OECD SEE Regional Programme developed the best practice framework to promote innovation through business-academia-government partnerships. This framework is focused on set of areas which could be beneficial for Kosovo. The best practice policy framework is structured around four pillars: enabling environment for innovation, human capital for innovation, innovation support infrastructure and financial instruments for RDI. Figure 3 displays how the four pillars and their associated policy areas compose the overall policy framework. In the sections below each of the policy areas is analysed through its relevance to Kosovo and providing a relevant best practice example.

Figure 3. Policy framework for innovation



## 1. Enabling environment for innovation

The enabling environment for innovation pillar includes government-facilitated co-operation between policy makers, businesses, the research community and third sector actors. The pillar considers six policy areas: innovation governance, enabling business environment, open competition policies, intellectual property legislation, innovation promotion and demand-side policy.

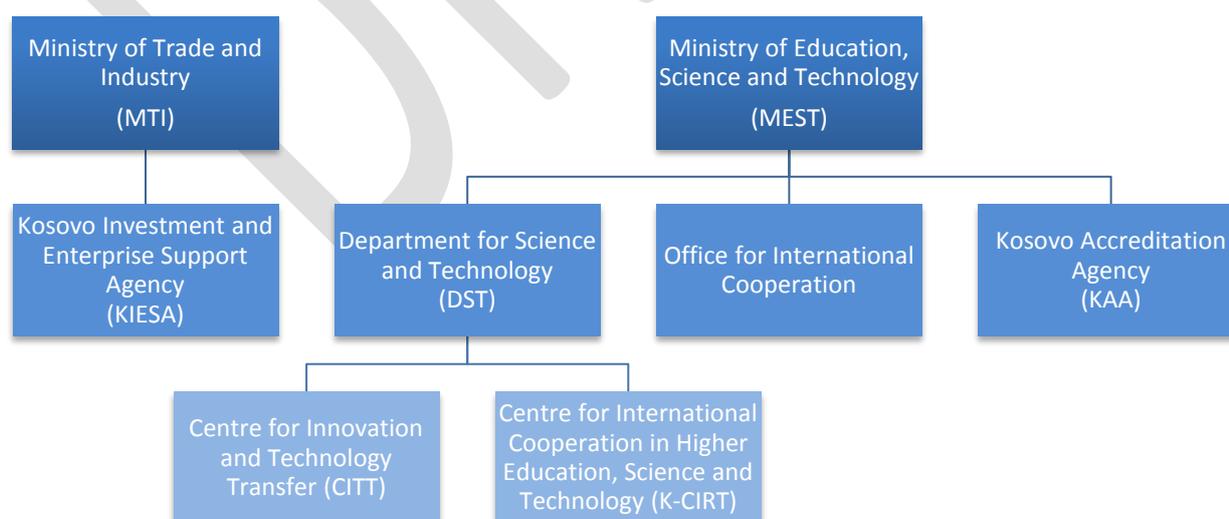
### 1.1. Innovation governance

Innovation policies are complex and involve a significant number of stakeholders from a variety of sectors, such as business, education, research and others. Good governance structures optimise the co-operation of variety of stakeholders (Box 2). Effective structures and practices, such as monitoring and evaluation of policies are needed to address the changing and fast-paced nature of innovation. The system of mechanisms referred as innovation governance aims at allocating resources and assigning decision-making authorities in order to align innovation policy goals.

Both a strategic innovation framework and institutional co-ordination mechanisms are lacking in Kosovo. The Ministry of Education, Science and Technology (MEST) of Kosovo worked closely with the OECD in 2012 to develop a draft national strategy for innovation. However, this draft strategy is yet to be adopted by the government. This means that there is currently no strategic document governing RDI policies. In addition, there are no mechanisms to ensure co-ordination of all relevant stakeholders. Besides MEST, the Ministry of Trade and Industry (MTI) and its implementing agency (the Kosovo Investment and Enterprise Support Agency – KIESA) play an important role in supporting RDI in the private sector.

Some efforts have been made in past years to improve implementation of policies, such as the establishment of the Centre for Innovation and Technology Transfer (CITT) and the Centre for International Cooperation in Higher Education, Science and Technology (K-CIRT). However, neither of the two was sustainable and both have since been absorbed by MEST (with two employees each). Figure 4 presents the innovation governance structure in Kosovo.

Figure 4. Innovation governance structure in Kosovo



Finland's Research and Innovation Council, presented in box 2, may serve as a good example of enhanced co-operation between governmental bodies.

### **Box 2. Finland's Research and Innovation Council**

Governments can establish an innovation council to improve coordination of innovation policy at the highest levels of government. Finland has a Research and Innovation Council, chaired by the Prime Minister, to coordinate science policy at a national level. The membership consists of the Minister of Education and Science (co-chair), the Minister of Economy (co-chair), the Minister of Finance and a maximum of six other ministers appointed by the Government. In addition to the ministerial members, the Council comprises ten other members appointed by the Government for the parliamentary term. The members comprehensively represent expertise in research and innovation.

The Innovation Council in Finland assists the government and its ministries by:

- following national and international developments in research, technology and innovation
- addressing major matters relating to the development of science, technology and innovation policy and the human resources they entail and prepare proposals and plans concerning these for the Government
- addressing matters relating to the development and allocation of public research and innovation funding on a preparatory basis for the Government
- co-ordinating Government activities in the field of science, technology and innovation policy.

Some key success factors are the chairmanship at a high political level (PM in this case) allowing for strong political support and ability to arbitrage between particular interests of ministries and participation of private sector and researchers in the council as the end beneficiaries of innovation support policies. One of the may results of the Council has been the ability to tackle grand (societal) challenges in a more systematic manner.

Source: Finnish Ministry of Education and Culture (2015)

### *Learning from best practices*

#### **A clear national strategy for innovation paves the way for effective innovation policy development and implementation**

An innovation strategy is beneficial to define strategic objectives and activities at a national level. The draft developed in 2012 could be revised and adopted by the government to ensure full ownership at the highest political level. Consensus amongst the key actors is needed for successful implementation and can already be built in through the process of reviewing the draft strategy or organising a public consultation process.

#### **High-level meetings co-ordinate stakeholders and advance innovation policy development and implementation**

To co-ordinate the activities of all actors on implementing strategic programmes, a high-level national council to address innovation policies would be of benefit. The National Council for Economic Development (NCED) which includes representatives from the government, business community, civil society and donor community, could take on this role. NCED would ideally receive expert inputs from an Innovation Council which would prepare policy proposals and specific measures for discussion. The Innovation Council could meet on a regular basis and include actors from government, academia, business, NGOs and others.

## High-quality statistics on RDI optimise RDI policy development

RDI policy in Kosovo could benefit from using more systematically collected high-quality RDI statistics. Currently, data are scarce with output indicators such as gross expenditure on research and development (GERD) and data on funding and outcomes of RDI financial support instruments not available. The statistics office could further align their methodology with Eurostat. Collecting better RDI data further enables governments to monitor innovation programme developments and determine areas in which additional efforts are needed.

### 1.2. Enabling business environment

Enabling business environment seeks to maximise favourable circumstances and conditions supporting the innovative development of organisations and businesses. It also looks at how government can facilitate fruitful co-operation between policy-makers, businesses, research community and civil society.

Kosovo has made significant steps in the past few years in improving its business environment. While the *Overall* and the *Starting a Business* components of the Doing Business ranking (World Bank, 2016) approached the frontier by 10 and 25 points respectively, getting electricity has become more difficult. In the last two years, the cost and time required to start a business decreased from 22.1% to 1.2% of per capita income and from 30 to 11 days, while there is no minimum paid-in capital required to start a business. The number of necessary procedures also decreased from 6 to 5. These were achieved by creating a network of 28 one-stop shops for incorporation, eliminating the minimum capital requirement and business registration fee, and streamlining the business registration process. The private sector has been estimated to constitute around 70% of the GDP in Kosovo. Yet, the number of newly registered businesses declined by 1.8% in 2013, while numerous obstacles to private sector development including weak administrative capacity, underdeveloped infrastructure, deficient rule of law, informal economy and inadequate professional education, still persist (European Commission, 2014).

Kosovo's overall ranking in the 66<sup>th</sup> place of the Doing Business 2016 still comes below the SEE average of 57. Major areas for potential improvement are identified in resolving insolvency (163<sup>rd</sup>), getting electricity (124<sup>th</sup>) and dealing with construction permits (136<sup>th</sup>). At the same time, the economy is characterised by inflation and the highest unemployment in the region, which increase the uncertainty for long term business decisions (OECD, 2013). Moreover, the business environment has been argued to be negatively affected by the high level of corruption in the public sector, which ultimately does not incentivise economic agents to act competitively (Group for Legal and Political Studies, 2012). Example of practices stimulating the ease of doing business in the Former Yugoslav Republic of Macedonia (Box 3) may provide useful insights for Kosovo.

#### Box 3. Starting a business in the Former Yugoslav Republic of Macedonia

**Starting a business in the Former Yugoslav Republic of Macedonia requires only two procedures, takes two days and costs only 0.6% of the income per capita.** The two steps for the establishment of a business consist of notarising the company deeds and articles of association and registering with the Central Registry and obtaining a company seal. At the same time, there is no legal requirement regarding the paid-in minimum capital, constituting thus a good regional example.

Procedures to start a business have been integrated into a one-stop shop (since 2009-2010), the process for obtaining a company seal has been simplified (since 2012-2013), while the online registration of companies is done free-of-charge (since 2014-2015). These measures have helped the Former Yugoslav Republic of Macedonia improve

the business environment and minimise the number of bureaucratic and legal steps an entrepreneur is required to take in order to incorporate and register a new firm. In this category of the Doing Business Report 2015, the Former Yugoslav Republic of Macedonia is ranked 3<sup>rd</sup> globally.

Examples of business facilitating practices from the Former Yugoslav Republic of Macedonia may provide useful insights for Kosovo to continue its pace of reforms aiming to attract foreign investments and reduce the bureaucratic procedures currently needed for firms' establishment.

Source: World Bank (2015)

### *Learning from best practices*

#### **Judicial efficiency is foundational for effective contract enforcement**

Reforms focused on increased judicial efficiency specifically focused on reduction of disposition times and elimination of backlogged cases for the business-related cases. These reforms could improve the legal base on one side, but might also include provision of capacity building to the magistrates.

#### **Transparently enforced regulations ensure public safety without undue burdens on businesses**

Within the wide scope of regulations, it would be beneficial to focus on the most active economic sectors such as construction first.

#### **A steady supply of electricity is a prerequisite for business operations, especially manufacturing**

Investing in infrastructure to reliably generate and distribute electricity would be beneficial.

### **1.3. Open competition policies**

Competition policies have a positive impact on innovation. Firm innovation increases as markets move from monopolistic to competitive structures (OECD, 2014; Scherer, 1967; Aghion et al., 2005). As firms become more competitive domestically, they also become more competitive internationally and increase the level of their exports (Luniku, 2014). Extreme competitiveness however, could drastically lower the profit margin and the ability of firms to embark on innovative investments and R&D, mainly due to loss aversion.

The anti-trust and mergers amendments in the Law on the Protection of Competition further aligned Kosovo legislation with the EU acquis. However, the Kosovo Competition Authority faces capacity challenges regarding the investigation and decision-making in cases of breach of competition laws, abuse of dominant position and scope for block exemption. Despite its reorganisation and the creation of the Competition Commission as a decision-making body, there has been slow progress in staffing, internal control and information systems. The Competition Commission has not been operational since November 2013 (European Commission, 2014).

#### **Box 4. The OECD Competition Assessment Toolkit**

The OECD Competition Assessment Toolkit can help governments reduce the level of anti-competitive regulation. It does this by showing how to identify regulations that unduly restrict market activities and providing guidance on how to design regulations that more actively promote competition. This toolkit examines the following four government restrictions on competition: restrictions on starting new businesses, regulation that affects the ability of

businesses to compete, changing incentives of businesses and restricting consumer actions or information.

In the case of the East European economies which joined the EU in 2004, the three main common pillars of competition policy were identified (Gruda & Milo, SMEs development and competition policy in Albania, 2010):

1. **Competition protection and promotion** constitutes issues, which concern not only the abuse of dominant position and concentration by private or public companies, but also when obstruction, limitation or market power distortion is caused by the public administration and regulators. Besides its implementation, the law also imposes fines and sanctions for non-obedience.

2. **Competition advocacy** and the incorporation of the principles of competition authority experts have been used as recommendations and regulatory policies in infrastructure networks privatisation. Due to the transition status of these economies and the absence of adequate regulatory expertise, this constitutes a practice which needs to be embraced and supported.

3. **The institutional effectiveness and independence of the national competition authorities** was enhanced in order to foster the country administrative capacities and transparency, and the effectiveness of the appeals process in the courts, which in turn encourage innovative activities.

The access to the Single Market required special attention to the legal harmonisation with the Articles 81 and 82 of the Treaty of Rome and the EU Competition Law; especially to administrative procedures related to investigation, law enforcement, institutional independence and effectiveness.

Source: The OECD Competition Assessment Toolkit (OECD, 2011)

### *Learning from best practices*

#### **Competition Authority capacities are key to policy implementation**

Competition Authority capacities can be strengthened by hiring sufficient and properly qualified staff and providing market investigation staff training. At the same time, the internal control systems could be strengthened and all information should be classified, recorded, maintained and reported in compliance with legal requirements. Cartels and monopolistic market structures should be addressed, while fines and sanctions should be imposed for non-obedience. The OECD Competition Assessment Toolkit could facilitate identifying key barriers to a competitive environment.

#### ***1.4. Intellectual property legislation***

The national legislation on IP protection is important in enabling and incentivising the knowledge transfer between academic institutions and the private sector. Strong patent protection is positively and significantly associated with domestic innovation, at least in emerging industrialised economies (Hassan, Yaqub, & Diepeveen, 2010).

The legislation on Intellectual Property (IP) remains a crucial issue for the support of Kosovo's innovation economy. Kosovo's laws on patents, trademarks and industrial design were amended in July 2011, with the aim of making them compliant with EU legislation (OECD, 2013). At the same time, progress was made with the digitisation of data for over 10 000 applications, which was finalised in May of the same year. As for June 2015, the Trademark Database was established, but is not yet functional. In 2010, the Industrial Property Office received 550 trademark applications, 85 patent applications and 4 applications on industrial design, while 1 480 decisions on trademarks and 147 on patents were taken. The backlog of applications remains very high (OECD, 2013). The BEEPS 2012-2014 survey indicated that only 12 enterprises (out of 202 interviewed) were granted a patent in the last three years (BEEPS, 2012-

2014). Procedures remain lengthy as the Industrial Property Office is still understaffed and its premises are not adequate.

An Intellectual Property Rights Unit was established within the Kosovo Customs Office and became fully operational in January 2011. Risk profiles on goods that may infringe property rights were drafted and awareness activities on intellectual property rights have increased. In general, Kosovo has started efforts to align its legislative framework with European standards, but counterfeiting and piracy remain serious issues. For example, local suppliers of the automotive sector acknowledged that the protection of intellectual property rights should be further enhanced in order to encourage investment in research and development, innovation and technology transfers (OECD, 2009), while punitive measures against industrial property rights infringements are not fully clarified (OECD, 2013).

In addition, there is no clear legislation regulating how IP coming from publicly funded research is to be treated. This is governed in general by the labour law which states that all IP belongs to the employer which does not in any way incentivise researchers to commercialise the results of their research. Incentivising legislation can be adopted at both a national and institutional level (at universities and research institutes). According to the OECD Research Institutions Survey, one of the three main barriers preventing research institutions from commercialising their research is the lack of incentives on the side of researchers. Other major barriers identified are insufficient financial resources and lack of co-operation with the private sector.

Development of an IPR system and a university research model (Box 5) may be a useful example for Kosovo's expansion of IP legislation to ensure inflows of high-tech products and provide incentives to companies to move there without facing excessive informal competition. Academic research could be also facilitated and promoted if a clear system of royalties sharing were introduced. This could subsequently create the fertile environment for a sound platform for sustainable business-academia collaboration.

#### **Box 5. IPR System and University Research**

**A strong IPR system is key for those catching up to the innovation frontier, and it is particularly important for developing countries** (Tan & Phang, From Efficiency-Driven to Innovation-Driven Economic Growth: Perspectives from Singapore, 2005). Empirical evidence shows that IPRs can affect innovation in developing countries in various ways. Stronger levels of patent protection are positively and significantly associated with the inflows of high-tech products, like pharmaceutical goods, chemicals, aerospace, computer services, information, and office and telecom equipment. Developing country patent applications (by both residents and non-residents) and expenditure on R&D (as a percentage of GDP) tend to have a positive and significant relationship to the strength of patent rights.

**The introduction of patents transforms innovations into transferable assets.** By adopting a legal system which protects knowledge creators, they are more likely to engage themselves and embark on innovative activity. Lamoreaux and Sokoloff (2002) document early examples of the benefits of legal protection of intellectual property rights in the United States. As they highlight, one of the most notable effects of IPR protection after the adoption of the relevant US legislation in 1836 was the significant increase in trade.

**Intellectual Property Legislation can enable knowledge transfer between academic institutions and the private sector.** The Bayh-Dole Act of the 1980s in the US legalised the licensing of the patents of universities to firms. According to OECD (2003), "*between 1993 and 2000, US universities were granted some 20 000 patents.*"

In general, IP based technology transfer policies need to be carefully designed as they come with both potential benefits as well as potential costs (Paraskevopoulou, The Adoption of Bayh-Dole Type Policies in Developing Countries, 2013):

Potential benefits: increased IP ownership facilitated entrepreneurship and economic specialisation, faculty-industry cross-fertilisation, increased student intake and ability to place students in firms, easy access of businesses to university inventions, creation of a market for ideas, new product commercialisation generating

profits and growth;

Potential costs: diversion of time away from academic research, IP-related costs and resource requirements, blocked access to university inventions unless license or contract is secure, increased transaction costs and tensions in industry-university relationships.

### *Learning from best practices*

#### **Various components contribute to enforcing intellectual property rights legislation**

The punitive measures against intellectual property rights infringements need to be clarified, implemented and made transparently public. Equally important is the development of an effective system of violation identification and law enforcement through clear procedures and punishment provisions for non-obedience.

#### **Legislation can incentivise publicly funded research commercialisation**

The law on research activities, law on innovation or within different IP related laws can address IP resulting from publicly funded research. Most importantly, such legislation should at the same time protect the government as the main investor in research but also incentivise private sector usage of new knowledge for overall economic benefits. Both the ownership of the IP and the distribution of royalties must be defined. In parallel, universities need to prepare their own IP guidelines in line with this new legislation and to disseminate this information to their researchers.

#### **Pilot knowledge transfer activities can raise awareness of IP importance in the research community**

Pilot activities in leading faculties, or at university level, increase awareness amongst researchers on the importance of protecting intellectual property and on how to do this. These activities can also inspire researchers to engage more with the private sector. One pilot activity or hub can provide support to other institutions once established.

### **1.5. Innovation promotion**

Innovation promotion within the general public empowers citizens and organisations to become innovators who can develop new innovative solutions to tackle societal and business challenges. Sharing existing concepts more widely can on one hand inspire new talents, and on the other hand make existing social innovators more demanding towards the solutions they develop.

The approach towards innovation promotion in Kosovo has been rather sporadic than holistic. Innovation promotion activities are at an early stage and mostly funded by international donors. The Business Support Centre Kosovo and USAID have been active in organising practical training courses and seminars intended to help eligible and potential participants to apply for business plan competitions sponsored by the USAID Advancing Kosovo Together programme (USAID, 2015). These trainings are open to all Kosovo citizens who wish to establish or advance their business based on a business plan. Similar Business Plan Competitions have been organised in the past by the World Bank-International Finance Corporation and the OSCE as well; however, an integrated approach and strategy by the government authorities is not yet in place.

The Kosovo Investment and Enterprise Support Agency (KIESA), under the auspices of the Ministry of Trade and Industry, promotes and supports young entrepreneurs through business plan competitions. A EUR 4 million SME Grant Scheme encourages young entrepreneurs to compete with their business ideas in order to implement them and start their own business. Out of the 36 projects selected in 2014, a great majority included innovative components. KIESA started to implement a voucher grant scheme covering 80% of technical assistance fees including advice on innovation. Furthermore, it organises annual events promoting women entrepreneurship and awards prizes in recognition of business growth and innovation (KIESA, 2015).

Start-up weekends have been organised in Pristina with great success. The main actors in promoting and organising these events have been the Association for ICT in Kosovo – STIKK and the Innovation Centre Kosovo (ICK). Finally, the Triple Helix Competition organised by OECD in 2015 aims to improve collaboration between academia, business and public sectors.

Other initiatives are implemented by international donors (ex. EBRD) and private actors but innovation is mostly treated in an ad hoc manner (Promoting Private Sector Employment has an Opportunity Fund exclusively for innovative business activities). There were also attempts from the government to promote financial support-services for innovative SMEs, notably through an Innovation Voucher Scheme but uptake was very low with only three vouchers utilised. There was no progress made with the adoption of the national strategy for innovation. Currently, there are no financial instruments available specifically to promote innovation within SMEs in Kosovo.

An example Triple Helix partnership competition is described in Box 6. The OECD South East Europe Regional Programme carried out a similar Triple Helix Competition in 2015-2016 in Kosovo. It aimed to spur innovation and raise awareness on the model by establishing business-academia-government partnerships and consortia.

#### **Box 6. Triple Helix Partnerships for Innovation in Bosnia and Herzegovina**

The Triple Helix model advocates accelerated value creation in innovation through synergies arising between its three stakeholders: businesses have first-hand access to new technologies, scientists receive feedback from entrepreneurs about the commercial viability of their research and governments obtain insights into the types of policy interventions that spur industry-research cooperation. Bosnia and Herzegovina constitutes an economy with low penetration of innovation activities in business and academia. Additionally, R&D spending is among the lowest in the region and stakeholders often have little capacity and resources for research.

The OECD implemented the triple helix model in Bosnia and Herzegovina through five main components: seminars to showcase international good practices, the competition launch, the project proposal evaluation by an expert jury, tailor-made product development and market research support awards to winning projects, and project promotion through the “InnoBiH” conference in Sarajevo on 3 May 2013.

The focus of the triple Helix Competition in Bosnia and Herzegovina was on the agro-food sector. Out of a total of 23 project proposals, ten were shortlisted and the top three were awarded implementation support. The support focused on product or service development (technology transfer, laboratory tests and field tests), innovative product market potential estimation or regulatory environment analysis. These activities were conducted in collaboration with international and local experts. The three winning projects envisaged the cooperation between academia, businesses and government and concerned creating Omega-3 enriched products, processing field peas into ethanol, animal feed and proteins, and developing an ecological disinfection product. Apart from the innovations these

*Source:* Triple Helix Partnerships for Innovation in Bosnia and Herzegovina (OECD, 2013)

### *Learning from best practices*

#### **Awareness raising programmes can increase the number of people engaged in innovation**

National awareness programmes sharing innovation success stories can empower organisations and citizens to get involved. It can include a TV show or a national business plan competition. The business plan competition is an excellent starting point for raising awareness on the importance of entrepreneurship and innovation.

#### **Competitions can incentivise business-academia-government co-operation**

To raise awareness on the importance of Triple Helix co-operation and to help establish first linkages between the three actors who do not have frequent opportunities to meet and interact, an annual Triple Helix competition could be organised. This competition would support the best business-academia-government consortia to develop their innovative ideas.

#### **Awareness events focused on Horizon 2020 programme can increase the number of applicants and innovative projects and ideas**

Kosovo is eligible to participate in the EU Research and Innovation Programme – Horizon 2020. Participants of these events could be private sector companies, academic institutions, associations and researchers. Further awareness on the subject, the procedures and potential benefits is needed. Creation of online and on-site platforms to raise public awareness would be beneficial.

### **1.6. Demand-side policy**

Demand-side innovation policies have been receiving increasing interest over the last years especially in the context of slow growth and lagging productivity performance. Pressures on fiscal budgets in the aftermath of the financial crisis have also motivated governments to seek ways to boost innovation without necessarily engaging in new programme spending, primarily to meet social demands in areas such as health, energy or the environment. Public procurement is at the centre of recent demand-side innovation policy initiatives. Because of their large purchasing power governments can pull demand for innovation and can create a signalling effect as lead user and influencing the diffusion of innovations more broadly (OECD, 2011).

Although demand-side policies are generally instruments that governments implement in relatively sophisticated innovation systems, some examples could be relevant to Kosovo. Examples of demand-side policies include innovative public procurement, regulations for strategic sectors, and standardisation. Such policy instruments in support of innovation have not been used in Kosovo. Successful growth of Dok-Ing, Croatian robots' manufacturer (Box 7) exemplifies a successful implementation of public procurement policies.

#### **Box 7. Dok-Ing, Croatian robots manufacturer**

Dok-Ing is a privately owned Croatian company, established in 1991 and registered for the production of robotised and special purposes systems and equipment. The company started its production of robots on a public procurement contract (arising from Croatia's need for demining robots after the war). Over the decades it has expanded the scope of its services and products provided. It now offers robots for demining and firefighting purposes. Moreover, Dok-Ing provides industrial services, such as Laser sheet metal cutting, engraving and tube cutting, as well as maintenance and repairs. Finally, based on gathered experience, DOK-ING has developed a comprehensive training program

enabling the customers to easily acquire the knowledge how to operate and service our systems.

Highlights:

- successful co-operation with government through a public procurement contract
- 220 employees across offices in Zagreb, USA and South Africa
- products sold across more than 20 countries worldwide
- active involvement in a broad range of R&D projects
- co-operation with various international and domestic organisations, including Croatian Ministry of Science, Education and Sport and State Maritime Institute, Faculty of Electrical Engineering and Computing of the University of Zagreb, and Geneva International Centre for Humanitarian Demining (GICHD).

Although demand-side policies are generally instruments that governments implement in relatively sophisticated innovation systems, some examples could be relevant to Kosovo. Examples of demand-side policies include innovative public procurement, regulations for strategic sectors and standardisation. Such policy instruments aimed at supporting innovation have not been used in Kosovo. The successful growth of Dok-Ing, a Croatian robot manufacturer exemplifies a successful public procurement policy case.

Source: Dok-Ing.hr (n.d.)

*Learning from best practices*

### **Tenders and public procurement schemes with innovation criteria functional requirements facilitate innovation**

By introducing functional requirements in calls for tender, rather than specification requirements, governments can encourage contractors to develop and include innovative deliverables. For example, for construction projects tenders, specifications can be made to require certain characteristics such as office temperature during working hours rather than explaining in detail the technical characteristics of the desired heating/cooling system. In this way, companies can propose and develop innovative solutions that may increase the energy efficiency of the building. When properly used, introducing product quality and other aspects of innovative products, can help promote competitive pricing and help against corruption in procurement procedures (OECD, 2013).

## 2. Human capital for innovation

Human capital plays a key role in spreading knowledge, improving skills and developing a culture of social innovation. The section below provides further analysis of human capital actions which might be taken to promote innovation.

### 2.1. Mobility between business and academia

Business and academia operate on different time-scales, with different motivation and priorities. Individuals who have both experiences are needed to bridge the cultural gap between these two spheres. Such mobility could be fostered through different instruments, such as incentives, entrepreneurial leave of absence, industrial PhDs.

While some legislation and support programmes concerning the mobility of academics and researchers do exist in Kosovo, mobility between academia and the private sector is very limited. Article 12 of the 2013 Law on Scientific-Research Activities (Kosovo Government, 2013) stipulates that “Scientific-research institutes and higher education institutions shall cooperate with purpose of interconnection and use of experiences of scientific-research and educational work and use of experiences of each other for multidisciplinary research.” Grants amounting up to EUR 3 000 are awarded to scientists from Kosovo to work in universities and research institutions abroad or present their research findings in international conferences. The Brain Gain Grant programme also provided financial incentives for Kosovar researchers to pursue scientific careers in Kosovo. However, this academic type of mobility is more likely to promote research outcomes rather than their transfer from academia to the private sector. On the other hand, according to OECD analysis, the business-academia mobility and cooperation is mainly hindered by the lack of trust in the quality and commercial value of research outcomes, the small firm dominated private sector, the lack of incentives from both sides and the limited communication.

The links between higher education and the real economy were the focus of the 2010-13 TEMPUS project which created the Kosovo Interdisciplinary Knowledge Triangle Centre (KIKT). Its main goal was the improvement of capacity building and conditions in research and innovation for the development of professional research capacities, PhD studies, curriculum development and training programmes, primarily for medical and natural sciences, at the University of Pristina (OECD, 2013). While the interest in studying and researching IT related fields and attending certified learning curricula programmes offered by private companies such as CISCO and Microsoft is also rising (Aruqaj, 2014, p. 5), the skills, education and knowledge of the working force is not corresponding to the needs of the market. This conclusion was reached after an overwhelming 76% of Kosovar businesses identified this lack of human resources as a major problem of doing business in a BEEPS survey (Aruqaj, 2014). The research culture is still very limited in Kosovo, and researchers are only evaluated based on their teaching and research activities for the purpose of career development at universities.

In 2008 the Centre for Innovation and Technology Transfer (CITT) was established. It aimed at strengthening the science-industry relations in Kosovo, and filling the institutional gap in the area of technology and innovation centres. However, the CITT has been facing constraints in its operations due to staffing issues and the limited budget, which significantly decreases its ability to implement actual projects. In the meantime, it has been merged into MEST as a division.

#### **Box 8. Mobility and Industrial Doctorates in Science and Technology**

The OECD Science, Technology and Industry Outlook 2006 advocates policy actions are necessary for improved mobility for young researchers, resulting in a match between demand and supply. The double need for soft as well as technical skills by researchers makes partnerships between academia and firms valuable. In this context, such

partnerships have led to the development of Industrial PhD programmes. Complementary skills as competencies are also fostered by the EC Horizon 2020, such as the “Marie Skłodowska-Curie” actions.

For more than four decades, the Danish Industrial PhD Initiative has aimed at enhancing R&D in the Danish business sector. It provides funding for 200 fellowships for candidates to work on a project jointly defined by a company and a university (which may be a foreign one). The subsidy covers 50% of the salary of the researcher and the university supervision costs, training and supplementary business-targeted courses.

Another best practice example can be found in Austria. Austrian firms which have the technical and financial capacity to implement outcomes of research conducted by scientists can file for government yearly awards (up to EUR 50,240) to cover personnel costs and hire, with substantial subsidies, scientists who wish to switch from a university to an Austrian company. Typical companies are those with up to 500 employees wishing to expand their R&D activities. Researchers must have completed their PhD within the last ten years and their proposals are assessed by the Austrian Science Fund (FWF).

*Source:* OECD Science, Technology and Industry Outlook (OECD, 2006)

### *Learning from best practices*

#### **Removing administrative barriers supports business-academia mobility**

These barriers can be typically found at the level of universities which dictate what activities their professors and research staff can embark upon. Mobility grants such as those of the Brain Gain Programme cannot be used outside the research institution which means that part of the work cannot be outsourced to the private sector (for testing a new solution for example). In addition, the financial aspects of collaborating with the private sector are not regulated in a clear manner which is why many professors choose either not to engage with companies at all or not to report such activities. Some flexibility should be allowed for researchers to spend a portion of their time on collaboration with the private sector and university regulation should clearly stipulate which types of activities are allowed and how research staff is financially compensated for this work. Longer leave in the form of entrepreneurial leave of absence should also be permitted, for example allowing teaching staff to spend up to two years in the private sector, while guaranteeing their posts upon return. The university’s recruitment policy can be altered to allow for the hiring of entrepreneurial academics and giving them a leadership role, autonomy and incentives to collaborate with industry. These staff members could act as pioneers to bridge the culture gap that exists in the universities with regards to engaging with industry and society.

#### **Joint Masters and PhD programmes and technical education position graduates for industry**

A scholarship scheme can, even with limited resources, select a few of the best joint proposals made by a research team and a company to support a Masters or PhD student whose research will be focused on the needs of the private sector. The selection process needs to be clear and transparent and to value both the quality of the research proposal but also the potential economic impact. Students’ placements and internships should be strengthened as a way to support the mobility. While pure academic education can provide the platform for basic research, it is essential to have students focusing their studies and research on the applied side of it. Technical and technological schools can be fostered in order to deal with applied research and give solutions to industry problems. This would allow reducing the large flow of students entering overcrowded faculties, like the ones of law and economics, while it would bridge the business-academia gap.

## 2.2. Researcher evaluation

Following a trend of using the number of publications as a main criteria for evaluating the output of researchers (the “publish or perish” objective), many countries have introduced additional quantitative and qualitative criteria to determine research output. The first step is to examine the quality, not just quantity, of publications through looking at impact factor, citations or the h-factor. In addition, qualitative criteria can be introduced which focus on the scientists involvement in conferences, scientific journals, training younger researchers, publishing books and similar. Finally, to foster knowledge transfer into the private sector and increase business-academia linkages, many countries include the number of patents and level of cooperation with industry as criteria for assessing the work of individual researchers. By valuing such results in a researcher’s career development, individuals are motivated to pursue cooperation with industry.

Currently, there is no regulatory framework for evaluation of individual researchers or research institutions in Kosovo and nor is it foreseen in the Law on Scientific-Research Activities (Kosovo Government, 2013). The UK Research Excellence Framework (Box 9) may provide useful insights concerning the development of researcher evaluation policies in Kosovo.

### **Box 9. The UK Research Excellence Framework (REF)**

The UK Research Excellence Framework (REF) comes from a long tradition of evaluation which started with the Research Assessment Exercise (RAE) launched in 1986. The REF is supervised by the Higher Education Funding Council which allocates funding and the result of the evaluation affects research funding. The main shift from the RAE to the new evaluation framework comes from the introduction of criteria to measure the wider impacts of research on society and the economy. The REF evaluated 154 Higher Education Institutions in the UK and 36 sub-panels per research field have been established to do so. These are the three main elements to be assessed:

- quality of research outputs (65% of total score) – mainly based on bibliometric data (the exact criteria are determined per research field and may also include citation data) followed by peer review to determine originality, rigour and significance of results
- impact of research (20%) –based on impact statements and case studies provided by HEI, complimented by quantitative data such as patents
- vitality of the research environment (15%) – based on the research strategy, staffing strategy and staff development, infrastructure and facilities, collaboration and contribution to the discipline (mainly qualitative assessment).

The 2014 assessment included 1 911 submissions made by 52 061 research staff who have produced 191 150 research outputs. Overall, 30% of HEIs in the UK were evaluated to be world-leading and an additional 46% to be excellent in comparison with other international institutions. The REF also identified productive engagements of UK universities with a wide range of organisations and the public resulting in significant overall impact of the research that is being conducted.

*Source: OECD Reviews of Innovation Policy 2014; Measuring Research: Guide to Research Evaluation Frameworks and Tools (RAND Europe, 2013)*

### *Learning from best practices*

#### **Research performance evaluation frameworks increase transparency in research grant allocation**

Evaluation of research performance can be conducted at either the institutional level or individual research level (or both). Evaluating institutions can help influence the way block funding is being implemented, whereas evaluating individual researchers can influence their salaries or project funding.

Either way, the evaluation has to include both quantitative and qualitative criteria, has to take into account the specificities of some research fields (such as humanities or social sciences for example) and should foster research excellence but also address the wider impact of the research (on economy and society).

### ***2.3. Connecting with diaspora for innovation***

Diaspora has proven to be a great enabler for innovation either through acting as a pool of potential investors or through its potential for mentorship and internationalisation of new ideas and new products. Diaspora can play even a bigger role in areas covering innovation for several reasons. First, diaspora members are often those who have succeeded abroad and have a good understanding of international practices to manage business, organisation, and hence they are excellent mentors or coaches for the initiatives, even more so if they have a social or environmental goal. Second, diaspora has an ambassadorship function abroad, as it is the easiest way for an initiative to scale up internationally, using the links and connections it could achieve through the community members living abroad.

In Kosovo, the value of remittances as a percentage of GDP has been decreasing annually since 2009 at an average of 0.62%. Nevertheless, the importance of remittances remains significant as they accounted to 15.8% of GDP in 2013.

The Strategy for Diaspora and Migration 2013-2018 (Kosovo Ministry of Diaspora, 2013), which constituted a path-breaking policy document, stresses the importance of economic links with diaspora. The inclusion, empowerment and engagement of the diaspora in the socio-economic development of Kosovo foresees innovation- and business-related actions such as the mapping and functionalisation of business networks abroad and their consultation in the development policies and strategic plans. To this aim, the Diaspora Register was created and activated in early 2015. The online portal [Kosovodiaspora.org](http://Kosovodiaspora.org) allows the voluntary registration of diaspora businesses according to their professional profile, while each administrative unit (31 in total) has appointed a contact person to deal with diaspora related issues in local level. The strategy further aims at promoting the investment opportunities to the diaspora businesses through various networking activities, where consultation services will be offered to them regarding the business environment and legislative changes. The diaspora will be encouraged to get involved into public-private partnerships and invest in the industrial zones, business and technology parks, as well as business incubators which are expected to be functionalised. A special guarantee fund will facilitate their investments in Kosovo. The government plans to issue diaspora-targeted financial securities, provide administrative facilitations and tax incentives for investments and continue the knowledge transfer through the Brain Gain Programme and the initiation of “open call” practices, as also foreseen in one of the most important diaspora related projects in Kosovo, the Diaspora Engagement in Economic Development (DEED), which is funded by the Finnish Government and being implemented by the International Organization of Migration and the United Nations Development Office.

The Brain Gain Programme and Grant constitute an important step towards the connection of diaspora to support innovation in Kosovo. They aim at the attraction of the best Kosovar researchers living abroad and in order to pursue professional scientific careers in Kosovo. The applicants can be awarded the grant through regular work at a host public university or a public research institution, where they have to be actively involved in research, teaching and mentoring. They need to be able to lead the selected project autonomously, even before obtaining a tenured position. The host organisation should guarantee that it will employ the candidate after the end of the support provided by the BGG for at least twice the duration of the original programme. Outstanding researchers may apply if they have at least a doctorate and if they want to return to Kosovo. Candidates must have stayed and worked abroad in a dedicated scientific research environment for at least three years after finishing their PhD. The total amount foreseen for the grants in

2010 was limited to EUR 250 000. The maximum annual grant is EUR 70 000, but the beneficiaries can be granted an additional EUR 30 000 a year for research equipment or personnel costs for team members. Proposed projects have to last for a minimum period of 12 months and a maximum of 24 months.

#### **Box 10. Attracting Researchers in the Czech Republic and Slovenia**

The Czech Republic and Slovenia have established several programmes to reward, attract, and retain leading national, EU and third country researchers. In the Czech Republic, funding programmes for the re-integration of researchers into Czech research organisations provide them with satisfactory conditions for the realisation of already approved and funded projects.

Key components of the Czech programmes for researchers:

- installation grants for certain disciplines (biotechnology among others) for incoming researchers by the Czech Ministry of Education, Youth, and Sports
- mobility support funding for outgoing researchers that remain employed by their home/sending organisations, for a period of up to 2 years
- reintegration support of top researchers by lobbying for Czech research abroad, motivating Czech research organisations to attract highly skilled personnel, and ensuring career progress, career growth, as well as good quality of working conditions for researchers after their return from abroad by the NACRAT Programme (2012-2019)
- South Moravia funding programme to attract distinguished foreign researchers and reintegrate Czech scientists into the South Moravian region (funded by the Frameworks Programme 7).

For Slovenian researchers accomplishing significant achievements in research activities abroad, the Ministry of Education, Science and Technology awards Certificates of Recognition, announcing the researchers Ambassadors of Science of the Republic of Slovenia.

Key components for the Slovenian programmes for researchers:

- The Slovenian Science Foundation annually provides 6 to 10 research grants to support researcher co-operation activities in the international or domestic scientific communities.
- Organisation of working visits of internationally renowned Slovenian researchers to Slovenian research groups in the country for periods of three months (partially financed through grants provided by the Slovenian Research Agency).
- Action Plan on co-operation with Slovenian scientists and other top experts abroad' adopted by the Office of the Government of the Republic of Slovenia for Slovenians Abroad. Its primary objective is the creation of 'global brain circulation' through the establishment of research teams led by a top-quality scientist ("Satellite Groups") composed of young scientists and experts of Slovenian origin living abroad.

The role of the public sector in these practices remains crucial. Through the creation and support of these networks and clusters, transaction and coordination costs are reduced which provides economic rationale for government intervention.

*Source: Competitive Regional Clusters: National Policy Approaches (OECD, 2007); Researchers' Report 2013, Country Profile: Slovenia (Deloitte, 2013);*

### *Learning from best practices*

#### **Alumni outreach programmes keep alumni and universities connected**

Universities can create a database with contact details of alumni (potentially to be expanded to all diaspora). Individuals would indicate on a voluntary basis whether they accept to be contacted with requests for information or contacts from Kosovo. Potentially it could be organised within existing social media (e.g. LinkedIn), as a special group. Such a network would allow getting in touch with contacts valuable to Kosovo businesses and research institutes alike.

#### **Visiting diaspora researchers can enrich local research events**

Bringing diaspora researchers to their home country to share their work and expertise in lectures enrich the local community and can lead to further opportunities.

#### **Research projects between diaspora and local researchers bring expertise from both parties**

An additional fund can further facilitate the best research projects to be implemented jointly between diaspora and local researchers.

#### **Diaspora researchers can temporarily stay at local research institutions to share their expertise**

Sabbatical leaves of diaspora to be organised in local research institutions; the scientists would still be paid by their foreign institution, and they would be available to work in Kosovo. Some logistical arrangements should be made to welcome them, including change management (making sure they are welcomed by colleagues).

#### **Support programmes facilitate diaspora transition to return**

Preparing the ground for returnees - such as securing housing solutions, and work for spouses. There can be 50% arrangements whereby the returnee is still part time abroad, preserving part of his higher remuneration, and also the network.

### 3. Innovation support infrastructure

Innovation support infrastructure is crucial for providing innovation actors with additional content to fuel their development and scaling up. In sections below we focus on the most crucial infrastructure, such as incubators and accelerators with dedicated programmes focused on innovation, as well as science and technology parks, technology transfer offices, and clusters.

#### 3.1. Incubators and accelerators

Incubators and accelerators provide much needed technical, managerial and accounting advice for starting businesses. Incubator schemes provide workspaces for start-up firms to benefit from shared facilities and a range of business support services on preferential and flexible terms that would otherwise be unavailable through markets. The main difference between an accelerator and an incubator is that business accelerators compress the timescale for starting up by focused and concentrated effort or a programme. Business accelerators can help entrepreneurs leapfrog and directly just to a next phase, while business incubators nurture the business in its start-up phase, allowing it to develop at its own pace. Often business accelerators are linked to the dedicated venture capital fund or initiative.

Kosovo currently has three business support institutions with functioning incubators in Drenas, Gracanica and in the Gjakova Innovation Centre (the latter is operational since 2014). Pristina's Innovation Centre Kosovo (ICK) also provides incubator services. The ICK lacks sustainable financing, which constantly endangers the continuation of its operations and services. It is funded by the Norwegian Ministry of Foreign Affairs, but funding will cease by the end of the year. The ICK incubator focusses on ICT companies and offers a range of pre-incubation and incubation services, office space and networking infrastructure. It currently houses more than 17 companies with over 60 employees. ICK also manages an innovation fund to invest in start-ups, financed by USAID and other donors.

Additionally to the aforementioned incubators, the Business Support Centre Kosovo (BSCK) offers business support services in Kosovo. The BSCK is funded by the Government of the Netherlands and supports aspiring entrepreneurs with training, advisory services and micro-loans.

Examples of incubators (Box 11 and Box 12) at the Ljubljana University and South Moravian Innovation Centre may prove useful for the development of the business support institutions in Kosovo.

#### **Box 11. Technology Incubators and the Ljubljana University Incubator**

Technology incubators in OECD and EU countries are often attached to a University or Technology Park and fill a specific link in the innovation eco-system: the transfer of research results into a new commercial entity and the continuous support of this innovative start-up company. Incubators are instrumental in encouraging a general culture of entrepreneurship. Successful incubators require experienced management with strong expertise in business and technology; as well as strong linkages with the local economy and research institutions. For a successful incubator, a critical mass of innovative ideas and R&D activity needs to be present in its immediate environment. Companies in a technology incubator should be technology-oriented, they should have the potential to grow in a short period of time and employ skilled workers. The provision of support services should be the main objective of the incubator.

The *Ljubljana University Incubator (LUI)* in Slovenia can serve as a useful example for further developing BSCK and ICK. The incubator is attached to the university, but managed independently and funded from government and EU funds. With only three full-time employees and EUR 100 000 of annual budget they host around 20 companies per year in their premises, offer the full range of business support services (business plan development, networking, and finding investors). Since 2007 they have supported around 100 companies in total, 95% of which still exist and 40% of which are highly successful on both national and international markets.

Source: (Ljubljana University Incubator , n.d.)

### Box 12. South Moravian Innovation Centre (JIC) in the Czech Republic

JIC was created in 2003 with financing from EU accession funds in the context of the South Moravian regional innovation strategy. JIC is a public agency, the main stakeholders being the South Moravian Region, the City of Brno, Masaryk University, Brno University of Technology, Mendel University in Brno and University of Veterinary and Pharmaceutical Science Brno. JIC has around 40 employees across three buildings in the city of Brno (a 4<sup>th</sup> one will open soon). Many of them are support staff (facility management, IT support, finance) and around 20-25 key staff provide services to the companies. JIC focuses on biotechnology, nano and micro technology, new materials, communication and control technologies; and other technology intensive sectors. The annual budget is around 2.2 million EUR; half of it from the regional government and the other half from revenues (e.g. rent).

JIC operates an *accelerator* programme during which individuals with a business idea receive 3 months of intensive training, technology scrutinising, match-making and team forming support, as well as business plan advising – with the objective of establishing a company and finding the first customer at the end of the programme. They subsequently may be accepted to the *incubator* which admits companies that already have a paying client and a valid business plan. They accept around 5-10 companies every year (out of 50 applications), following an intensive assessment by a technology board (regarding technological novelty) and a business board (regarding commercial viability). In the incubator companies receive strategic advice, technology consulting, and support in applying for financing and organising marketing, PR and accessing new markets – all free of charge. Legal and tax consultancy services are mostly offered through external partners. Companies are regularly being assessed and those who underperform over a longer period of time have to leave.

More mature companies in the region (“growth companies”) can benefit from innovation, development and expansion counselling. JIC facilitates for example *technology audits* of a company, performed by external experts who help them look for opportunities for new innovative projects and improved products or services and offers support during the development and implementation phase of a new solution or innovative process/product/service. Another service they have been offering for five years now are *innovation vouchers* (more on this in the Chapter on R&D financing).

Key components of JIC have been:

- strong strategic approach: the first regional innovation strategy of South Moravia was drafted in 2002 (first among Central European countries), and regularly updated (2005, 2009, 2014)
- strong political consensus which identifies innovation as the answer to challenges of de-industrialisation;
- strong networking services (since 2010, almost 700 participants gained more than 2 400 new contacts and arranged 1100 new co-operations.)
- ability to effectively tap into EU structural funds
- ambition: become one of Europe's top 50 innovative regions.

Source: Czech Republic: *National and Regional Innovation Policies* (Kocourek, 2012), *RIS of South Moravia & Masaryk University* (Bares, 2015); (Kocourek R., 2012); (Bareš M., P. Chládek, n.d.)

#### *Learning from best practices*

### **Financial sustainability of existing initiatives is key to future operations**

Considering the success of current initiatives such as ICK into which international good practice has already built in through donor support (Norway in this case), further efforts should be made to ensure the financial sustainability of these actions. Both central and local governments, as well as the University of Pristina and other academic institutions could find their roles in the future of ICK, Gjakova Innovation Centre or other innovation centres, incubators or accelerators in Kosovo. International best practices suggest, that when designing or promoting incubators special attention should be made to their business

models, and how they would ensure their financial sustainability. Inflows of revenues might come from the provision of office space, financial support to the tenants or other organisations, expertise and other means.

### **Incubators can expand operations through linkages with higher education**

ICK and BSCK could strengthen their links to the innovation eco-system. There is potential for increasing their co-operation with the University of Pristina and other academic institutions in Kosovo through promoting entrepreneurship among researchers and students and encouraging spin-off companies. In addition, technology advising for start-ups by academics and researchers could be facilitated through the incubators.

### **Co-operation between incubators and other support institutions can strengthen activities**

Projects that encourage closer cooperation between ICK, BSCK and other organisations can lead to greater capacity, knowledge and success in the Kosovar innovation support infrastructure. Potential activities include joint trainings for staff, joint execution of start-up competitions, and joint establishment of start-up funds. Similarly, the government should encourage interaction with institutions abroad to facilitate peer-learning and knowledge transfer of good practices in business innovation support.

## **3.2. Science and technology parks**

Science and technology parks are business support schemes offering infrastructure and various support services to high-tech SMEs. They tend to have formal and operational links with centres of research excellence, such as research universities or PRIs, which enable technology transfer, and are viewed as a means to create dynamic regional clusters of innovation (The Innovation Technology Platform, 2015). Technology parks offer a number of services to the firms that use their space, including technical trainings, financial services, advanced power supply and networking activities.

Currently, there are no science or technology parks in Kosovo. Business parks (economic zones) exist in Drenas and Mitrovica and there are plans by MTI to create technology parks in Shtime and Skenderaj but these have not yet been established. Examples from other countries, such as Ljubljana Technology Park (Box 13) may provide insights into the development of Science and Technology Parks and it could be treated as a useful example of expansion of innovation support infrastructure in Kosovo.

#### **Box 13. Ljubljana Technology Park**

**Development:** Ljubljana Technology Park (LTP) was established as a public-private partnership in 1995, after a two year planning and pilot period during which the park was financed and operated by Ljubljana's Jožef Stefan Institute. Founding members include the Jožef Stefan Institute (JSI), the Institute of Chemistry, the National Biology Institute, the Technology Development Fund (today Slovene Development Corporation), as well as leading ICT and pharmaceutical companies such as LEK or ISKRATEL. The city of Ljubljana joined later by capitalising the park with industrial land and is today the main stakeholder.

**Financing:** The park financed itself through grants and credit lines from its members, several rounds of subsidies from Ministries and (later on) EU accession and structural funds. Today, 10% of annual operations are funded by government subsidies; with a total budget of EUR 600 000 per year for operations. Including the cost of infrastructure, the total budget is around EUR 6 million per year. The park currently has 9 key full-time employees, delivering business development services, networking events and selecting the start-ups to be admitted into the incubator.

**Activities:** The focus of activities lies on knowledge and technology transfer, international collaboration, support for start-ups and innovative companies, as well as commercialisation of patents and facilitation of contract research.

The park offers excellent business infrastructure with 35 000 sq. metres of office space and state-of-the-art labs. Their biggest asset however is the vibrant intellectual community with currently around 288 companies and more than 1 500 professionals that comes together for networking events, competitions, or just a lunch break. Furthermore, LTP offers full entrepreneurial support services (business plans, technology advice, mentoring, searching business and strategic alliances and financial support), and educational and training opportunities.

**Achievements:** LTP's incubator produces around 20 to 30 companies a year (out of 40-50 applicants), a total of 280 so far. Main areas are ICT, clean-tech, industrial technologies, life science, creative industries, automatization and production, health and medicine and new materials. LTP organises an annual start-up and entrepreneurship week to encourage entrepreneurs and identify promising new start-ups among the 900 visitors they see for this event. They also hold a competition for best start-up every year which is an occasion for start-ups to receive additional help in improving business plans and market position – and in accessing financing.

Source: (Ljubljana Technology Park, n.d.)

### *Learning from best practices*

#### **Regional technology park experiences can inform the feasibility of creating a new technology park**

The viability and latent demand for a technology park in Kosovo could be assessed. Based on the international best practices factors to consider include private sector interest, sustainable sources of funding and financial long-term sustainability of the park. Regional technology parks can be consulted to share good practices when designing the assessment and designing the park. Technology Park Ljubljana and Varazdin Technology Park, for example, are two parks that may be interested in co-operation and knowledge sharing. The management board of the technology park should combine stakeholders from business, academia and government. It is also advisable to establish the park in the vicinity of a university in order to ensure access to research and skills.

### **3.3. Technology transfer offices**

Technology Transfer Offices (TTOs) assist public research organisations in managing their intellectual assets and transforming them into benefits for the wider economy and society. TTOs are therefore important instruments to bridge the gap between research and innovation – and between researchers and businesses or researchers and government actors (OECD, 2011). TTOs facilitate the transfer of knowledge into the private sector either through spin-offs or licensing agreements. They also facilitate contractual research and assist in the protection and management of intellectual property. Additionally, TTO activities generate revenues for the affiliated universities (Thomas, 2007). For these activities to function, it is crucial that TTO staff has prior industry experience.

A more recent role of TTOs has also been to finance proof-of-concept type activities through their own seed funds (OECD, 2013). Such a model could be challenging to implement in the WB region as it requires TTO's to have the capacity to implement such financial instruments. Also, such seed funds are often supported through revenues generated by the universities through royalties. Still, TTO's sit on the source of new ideas and would be well positioned to also financially support innovative projects.

Unlike in other countries, there are no technology transfer offices in Kosovo. Moreover, there are no funds or expertise available to support researchers to protect their IP and commercialise the results of their research. Example of the Technology Transfer Office at Masaryk University (Box 14) may provide insights into the development of innovation through close collaboration between the TTO, incubator services and academia.

#### **Box 14. Inovacentrum is attached to the Czech Technical University in Prague**

Inovacentrum is attached to the Czech Technical University in Prague and functions both as a Technology Transfer Office and an Incubator. Inovacentrum has the status of an organisational unit within the University and an annual budget of around 720,000 EUR. Financing still stems mainly from EU structural funds as opposed to self-financing; but they are also starting to generate income through contract research. They have 20-30 employees (part-time and full-time); currently four working on technology transfer (evaluation, market analysis, offering to businesses), one lawyer specialised on IPR, seven people in marketing and sales, one fundraiser, eight public funding officers (writing grant application, administrating funds and others), and three advisors and managers for the incubator. The patent office is still separate from the TTO, but the integration is underway.

Inovacentrum started to strengthen contract research at the university. So far they actively reach out to businesses and explain what they can offer in terms of technologies and services. If they facilitate a contract they take around 20% in fees; this share might be lower if it is a very expensive contract. Last year they facilitated contract research amounting to around EUR 150 000. For the future they plan to further expand this service and also facilitate sponsored research. For reaching out to businesses they maintain a website with an overview of specific technologies that are available for sale and services they can offer. The university website also gives more detailed information about the faculties but is not easy to navigate for companies.

New IPR guidelines of the university were adopted in February 2014, after strong lobbying from Inovacentrum, which are designed to encourage researchers: researchers receive the first EUR 30 000 of income from royalties through e.g. licensing, and they continue getting the largest share even later on (Inovacentrum receives max. 20%, and a similar share goes to the university and faculty). On the other hand, researchers are now obliged to go through the TTO.

Source: (Inovacentrum, n.d.)

#### *Learning from best practices*

#### **A technology transfer office facilitates connecting research with the private sector**

Existing research projects at universities that could be of great interest to the private sector are not advertised and therefore remain underdeveloped. A technology transfer office could inform firms leading to more ideas becoming financed and developed in the market. The first step in establishing a technology transfer office would be to conduct a feasibility study to determine the demand for such an institution and the most relevant operational model. The best practice above proposes an option of creating a TTO linked to the incubator.

#### **3.4. Clusters**

Clusters can be defined as geographic concentrations of interconnected companies, specialised providers, service providers, firms in related industries and associated institutions in particular fields that compete but also co-operate. They are rooted in a single locality (even if this “locality” spans across national borders such as in the case of clusters that lie on the borders between Denmark and Sweden or between Switzerland, France, Luxembourg, and Germany). Empirical evidence suggests that clusters have benefits such as increasing productivity and innovation. For example, studies have shown that cluster firms tend to be more innovative than other firms. In addition, there is evidence that clusters foster growth, while increasing firm productivity, entrepreneurship, local employment and wages. However, sub-optimal clustering or interaction with clusters which are a consequence of market failures, justify and incentivise policy interventions. There are three main categories which cluster development policies are usually divided into: the engagement of actors in events and networking; the collective services like counselling, training or joint marketing; and the large scale collaborative research and development (OECD, 2009).

According to the OECD (2007), policymakers should be particularly careful when choosing the appropriate policy tools to meet targeted goals, which should not just foster competitiveness and innovation in broad terms. The targeted cluster programmes are usually part of regional, science and technology, or industrial policies. Examples of clusters, such as the Upper Austrian Food Cluster (Box 15) offer valuable insights into the development of such innovation support infrastructures in Kosovo.

Even though no cluster support programme currently exists in Kosovo, a recent study conducted by the UNDP and supported by the Ministry of Foreign Affairs of Finland (UNDP, 2014) analysed the need for clusters in Kosovo in key industry sectors and recommended the formation of clusters in the areas of Leather goods and footwear, agribusiness (with a focus on soft fruits) and wine. Additional sectors such as mining, ICT and others were examined with specific recommendations for each.

#### **Box 15. Upper Austrian Food Cluster (“Lebensmittel Cluster”)**

The Upper Austrian Food Cluster is the largest food cluster in Austria and a key driver of economic activity in the Upper Austrian region. The food cluster has more than 270 members, most of them SMEs. The knowledge side includes 2 universities of applied sciences, as well as public research institutes for nutrition, chemistry, agriculture and biodiversity, meat technology, crop processing, process technology, management and marketing; and several vocational colleges. Key objectives of the cluster are the intensification of horizontal, vertical and diagonal relationships between members, the exchange of specialist knowledge and generation of new knowledge through R&D projects, and overall strengthening the economic power without endangering the partners’ autonomy and flexibility.

The cluster is financed by the regional government and the chamber of commerce, as well as through contributions from member companies. Management of the cluster is performed by a dedicated unit within the Upper Austrian Chamber of Commerce. The management unit provides a range of services, including internal and external information and communication services, marketing and public relations for their member companies, and support with internationalisation (e.g. screening of export markets, establishing international contact, promoting products on international trade fairs).

With regard to R&D the cluster acts as a facilitator, mediator and connecting tool. The management unit is able to put potential project partners in contact with each other by understanding who is working on what and could be interested in which project. In addition, they hold regular round table meetings to screen interest for certain projects. The cluster management unit also advises on grant application processes and available funding instruments. In addition, they facilitate specialised trainings, company tours and study trips and know-how transfer from research institutions.

R&D projects of the cluster focus on the development of food with specific benefits for the consumer (convenience food, functional food, organic food), research on traditional local raw materials, development of quality and hygiene standards for raw materials and additives and packing materials, as well as the development of innovative storage, freshness and packaging technologies. One project for example developed a “BistroBox” – a high-performance pizza oven for vending machines. Many R&D projects include a close cooperation between the farming and the food industry – over 1 200 farmers have been involved in research collaborations.

Key factors of the Upper Austrian Food Cluster have been:

- broad sectorial and geographical scope of focus: Heterogeneous projects managed on regional, national and international level
- effective relations within the food industry and development of the regional food competitiveness through the Culinarix competition launched in 2008
- network of 263 partners.

Source: (Upper Austrian Food Cluster , n.d.)

*Learning from best practices*

**Clusters with built in Triple Helix co-operation tools can facilitate value-chain development**

Cluster development demands a strategic approach closely aligned with the market. A hybrid model of a two-sided and simultaneously top-down and bottom-up approach to cluster development has been applied Croatia (Maxwell Stamp PLC, 2013). Existing research and market studies can guide policy makers in identifying sectors most suitable for cluster development.

**Box 16. The Competitiveness cluster establishment process**

Strategic Action Process Map written by the Croatian Ministry of Entrepreneurship and Crafts provides useful insights in the formation of competitive clusters. This cluster establishment process is described under a hybrid model of simultaneously top-down and bottom-up approaches.

The Strategic Action Process Map action plan:

1. Cluster mapping and sector selection
2. Triple Helix partner engagement
3. Business idea generation
4. Establishment of leadership group and board of management
5. Development of projects of national importance
6. Formation of business competitiveness clusters
7. Development of 3-year strategic and operational plan.

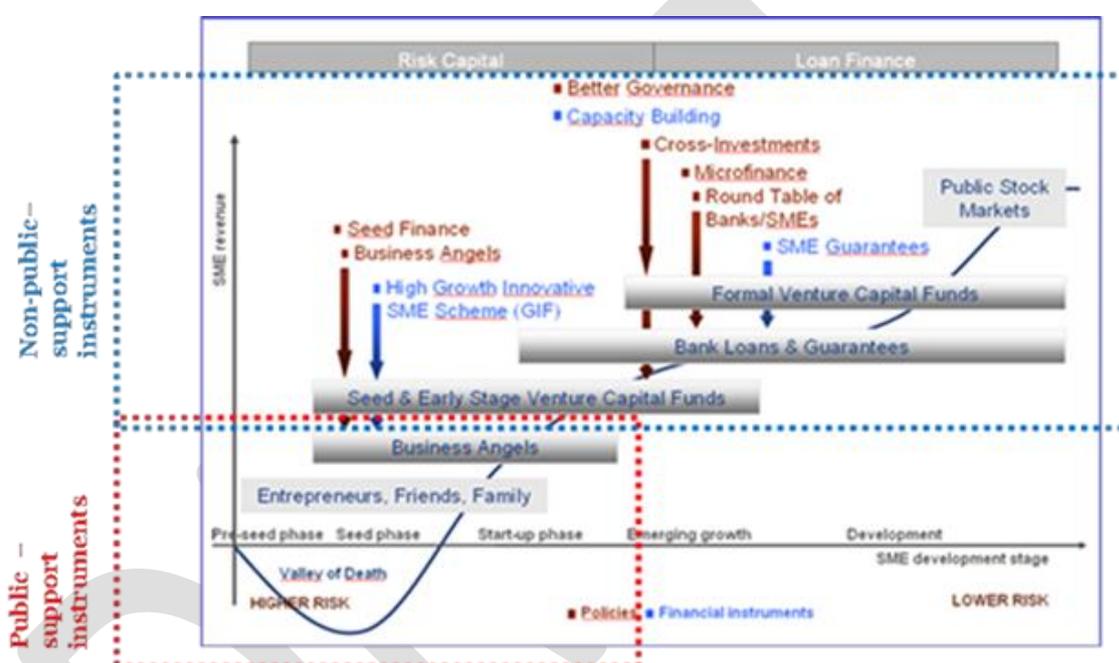
The success of the proposed model is currently being tested in Croatia.

Source: Croatian Ministry of Entrepreneurship and Crafts (n.d.)

#### 4. Financial instruments for R&D and innovation

Financing is extremely important for innovation and growth, in particular at the seed and early stages of business development (OECD, Financing business R&D and innovation). Evidence has shown that access to finance is one of the most pressing problems for innovative SMEs in the post-sovereign debt crisis euro area (EC, 2011a). The BEEPS Survey from 2012-2014 indicated that access to finance is the 2nd most prominent obstacle to business environment in Kosovo (BEEPS, 2012-2014). Entrepreneurial start-ups and small and medium-sized enterprises (SMEs) face financial constraints largely because of their inherent riskiness and weaknesses. Additionally they face several barriers for accessing finance, such as asymmetric information and financing gaps between investors and entrepreneurs. Moreover resource constraints, insufficient collateral, and lack of a track record often prove problematic.

Figure 5. Financial cycle of a venture



Source: European Commission (adapted by OECD experts)

Following the rationale it illustrates, different types of financial support are typically provided at different stages of the development of innovation initiative. This support could originate either from public or private sources. Lacking a formalised and institutionalised capital market, Kosovo still faces severe issues in efficiently allocating the savings and channelling finance towards innovative businesses. A whole range of financial instruments in either banking or non-banking sectors is to be developed. These include crowdfunding, leasing options, seed or venture capital financing, private equity and other innovation-enabling financial instruments, that require not only a profitable private sector, but also, and most importantly, a stable macroeconomic environment.

Potential market imperfections and further market building provide justification for public intervention in entrepreneurial financing. In addition to establishing the framework conditions that foster investment in R&D and innovation, governments also use a variety of instruments such as subsidised loans, grants, tax incentives and public support to venture capital. The importance of direct and indirect support for R&D and innovation in is discussed below (OECD, Financing business R&D and innovation).

#### **4.1. Direct financial support for R&D and innovation**

Governments can offer direct financial support to innovation. The European Commission offers direct funding to support social innovation through the Employment and Social Innovation Programme (EaSI) or Horizon 2020, particularly under the SME Instrument which is also open to social enterprises, cooperatives and non-for profit organisations.

At a national level governments (national and regional level) can offer direct financial support through their own funds or/and integrating the EU structural and investment funds which since 2014 have a dedicated focus on promotion of social innovation.

A package of financial instruments could be offered to firms to stimulate innovation at various stages of development. These instruments should target firms in their early, start-up and expansion phases. In the early phase, seed grants should be available to help entrepreneurs build their business model and support market analysis. Once entering the start-up phase, firms may need equity financing venture capital firms. Governments can support these initiatives with guarantee schemes that take on part of the default risk of investors. Once the firm has entered the expansion phase scaling becomes a priority and forms of financial support may include mezzanine capital and private equity. Finally, as a firm begins to internationalise, support to standardisation becomes a priority. However, all these instruments require significant financial resources and the pros and cons of each need to be first considered and instruments carefully designed.

In 2014, MEST implemented the first pilot innovation voucher scheme in Kosovo. The plan was to provide vouchers for 40 companies. However, only three vouchers were awarded as the interest for the instrument was limited and most applicants did not meet the required conditions. Besides this recent initiative, there have been no additional efforts made by the government to finance private sector R&D and innovation activities. Furthermore, the Kosovo Investment and Export Promotion Agency is currently implementing a voucher grant scheme for TA with companies covering 20%. This voucher scheme can also cover innovation.

#### **Box 17. The Slovenian Enterprise Fund (SEF)**

The Slovenian Enterprise Fund is a national public financial fund, used as a trusted vehicle by the European Investment Fund and other organisations to support SMEs investment projects by providing long term loans, guarantees and counter-guarantees. SEF fulfils Slovenia's national strategy seeking to accelerate the development of an equity capital market, new venture capital companies, and to increase the overall volume of venture capital for innovative companies.

##### **Key factors:**

- Active in guarantee-credit line, grant line, venture capital line.
- Provision of research vouchers. Vouchers of EUR 30 000 to EUR 100 000 aimed to incentivise businesses to invest in R&D. Micro and small firms could receive the co-financing vouchers for up to 70% of total project costs, medium-sized firms up to 60% and large ones maximum 50%.
- The call for business R&D subsidies in 2012 attracted over 300 applications on the first day alone. However, the funding was available only for 186.

SEF is a relevant example providing insights on how government can distribute funds in order to promote innovation.

Source: The Slovenian Enterprise Fund (n.d.)

### *Learning from best practices*

#### **Innovation vouchers directly link researchers to defined business challenges**

This instrument does not require significant financial resources but can create significant impact. Vouchers of EUR 2 000 to 3 000 can be considered for businesses to engage local researchers in solving specific problems. The application procedure should be kept very light and a significant number of vouchers should be allocated to help create many linkages;

#### **Co-operative grants facilitate projects between researchers and businesses**

Once researchers and businesses have established contacts through vouchers (or other forms of policy instruments discussed in this document), they will need financial support to embark on joint projects. Further support mechanisms such as co-operative grants with small amounts of money could further stimulate cooperation between academia and business;

#### **Grants directly support RDI activities in businesses**

Companies which have an innovative idea find it difficult to get financing for the first stages of developing this idea. This is why grants should exist for prototyping and proof of concept type of activities (seed financing). These grants should require companies to match a certain percentage of the project value and projects should be selected based on their market potential. According to the best practice examples this could take a form of the co-financing vouchers for up to 70% of total project costs, medium-sized firms up to 60% and large ones maximum 50%;

#### **Bank financing can be tailored to support riskier innovative business activities**

A credit guarantee scheme established by the government could encourage banks provide further credits and enlighten the collateral requirements for companies. Through this it would be easier for new and existing firms to access bank financing through lower guarantees and collateral requirements.

### ***4.2. Indirect financial support for R&D and innovation***

Indirect support in innovation suggests that funds are not transferred directly to the final beneficiaries – social innovators, but rather to the organisations providing financial support to them, or as technical assistance seeking to develop more favourable environment to financial support.

OECD provides overviews of R&D tax incentive schemes in OECD and selected other countries on a regular basis. The most recent report that focuses on investment in knowledge capital, growth and innovation, concludes that R&D tax incentives are effective in promoting more R&D investment, but that the impact is sensitive to policy design and implementation (OECD, 2013b).

Fiscal incentives can be a useful way of indirectly encouraging firms to perform R&D activities by reducing their costs. Providing such tax incentives allows the company to decide on their own what the nature and scope of their activities will be. Different types of tax incentives can be developed to target different groups of companies, different types of expenditures and other factors.

Currently, there are no fiscal incentives for R&D and innovation provided in Kosovo.

### Box 18. R&D Tax Allowances

**The design of fiscal support for R&D must take into account a number of factors, each with advantages and drawbacks. These include:**

- The target group – the fiscal support can be accessible to all companies, a selection of companies or be more generous for specific groups of firms. One success factor in this regard is the application of minimum thresholds, which can increase efficiency as administrative costs can be high for small applications.
- The eligibility of R&D expenditures – three types of expenditures may qualify for R&D tax credits: expenditure on wages (reduces social security and wage taxes and gives an incentive for investment in human capital); current R&D expenditure (includes wages and consumables used in the R&D process), current and capital R&D expenditure (enlarges the incentive for companies, but increases the public cost of policy).
- Volume-based or incremental-based credits – volume-based tax credits apply to all of the qualified R&D expenditures of firms whereas incremental credits only apply to additional R&D expenditure above a certain base amount. Incremental tax credits may be more efficient as they minimise subsidies for R&D that would have been undertaken even in the absence of support. However, they are also more complex to implement. Meanwhile, volume-based schemes are more straightforward, but costlier and may favour larger firms. In OECD countries, the general trend has been a move away from relatively complex hybrid volume- and increment-based schemes to simpler and more generous volume-based schemes.
- Claiming the tax credit – the definition of R&D is typically based on the *Frascati Manual*. However, most countries have produced their own lists of types of R&D that qualify.
- Carry over provisions and cash refunds – these provisions allow unused portions of the credit to be carried forward or backward to previous fiscal years. Carry forward provisions are particularly important for SMEs, as these tend to have limited current corporate income against which the credit can be applied, while many younger firms are carrying losses from previous periods. Delays in effecting cash refunds need to be avoided in order to make this tool efficient (OECD, 2010).

**Policymakers should also be aware of the number of possible risks related to the use of R&D tax incentives. These include:**

- A windfall effect if public money subsidises business R&D that would have been committed anyway;
- An increase in the demand for research skills and (given the inelastic supply of researchers in the short-term) a subsequent increase in researcher wages to the detriment of the volume of R&D;
- The application of a single rule to different business situations at the detriment of firms that might need more support (e.g. small firms that may have less resources and capacity to process complex tax claims, domestic enterprises that may not be able to elaborate tax optimisation strategies across borders, young firms that may need more or differently designed financial support due to their intrinsic difficulties to access funding and their higher probability of being in a financial loss position).

*Learning from best practices*

### **A cost and benefit analysis optimise tax incentives for private sector RDI activities**

While direct R&D grants/subsidies target specific projects, tax credits reduce the marginal cost of R&D activities and allow private firms to choose which projects to fund. Nevertheless, the limited additionality and marginal uptake by SMEs can have potentially negative side-effects. R&D tax credits are also often offered to attract R&D centres of multinational enterprises but in practice they turn out to play only a marginal role in the location decisions of multinationals (UNCTAD, 2009). To ensure that tax credits benefit all types of companies, the application procedures should be simple and more generous tax credits could be envisaged for small firms.

## CONCLUSIONS

The innovation system in Kosovo faces numerous challenges. Its performance is hampered by a combination of various factors ranging from policy coordination to lack of resources dedicated to supporting innovation. Five key best practices are particularly relevant to further develop Kosovo's innovation ecosystem through business-academia-government co-operation.

**A clear national strategy with high-level co-ordination meetings for innovation paves the way for effective innovation policy development and implementation.** Following the revision and adoption of the existing draft innovation strategy, innovation policies could be discussed at the highest political level. The National Economic Development Council could be a platform option to facilitate political support, inter-ministerial co-ordination, and innovation policy design and implementation. This council should have a clear co-ordination mandate with numerous institutions involved in innovation and would be essential in order to move the innovation strategy forward towards an ecosystem approach and ensure its successful implementation. Expert input for the NEDC could be provided by the Innovation Council – which would include actors from government, business, academia and others.

**Strong, commercially relevant public research institutions create marketable technology.** Financing instruments for research could be re-examined. Financing decisions need to be made based on clear, publicly available criteria which include both quantitative and qualitative assessment standards. Researchers and their project proposals could be evaluated not only based on their scientific impact but also on their potential for co-operation with the private sector. Putting the right incentives in place can strongly motivate researchers to undertake more applicable research in co-operation with businesses.

**Business sector and academia co-operation facilitate innovation.** Institutional support for the development and commercialisation of innovative ideas could be further developed. This type of support does not require the construction of new buildings but rather would benefit from government backing of existing successful initiatives and the generation of expertise in this area. One technology transfer office located at the largest university could be sufficient to support all researchers in Kosovo if it appropriately supported and staffed. Similarly, one successful incubator in which all key actors participate (academia, local and central government, and private sector) would be a good place to start. Each additional incubator initiative needs to be preceded by a detailed feasibility and market needs assessment.

**A range of financial instruments support different phases of business development.** Innovation voucher schemes would enable private sector get valuable professional advice and services to develop their innovations. The next step is to ensure that financing is available for joint business-academia projects with clear market prospects. Finally, direct financial support in the form of seed funds would support new innovative businesses and developing prototypes. Additional instruments such as guarantee support schemes, along with venture capital and private equity, would provide companies with easier access to funds needed for scaling and internationalisation. Different forms of government support are needed in each of these steps through a mixture of grants, loans and indirect support. If limited resources are available, then the focus should be on creating a small number of instruments developed on international and regional good practices.

**National innovation awareness raising activities engage more people.** An annual Triple Helix competition would help promote business-academia-government co-operation in the long-term and would help spur the generation of ideas through the co-operation of these actors. Though a number of events like business-plan competitions and start-up weekends have taken place, it is important to involve population at large into innovation through creation of awareness TV shows, sharing successful cases with general public, and creating a will to take part in the process.

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