

December 2011

Mini Country Report/Montenegro

**under Specific Contract for the Integration of INNO Policy
TrendChart with ERAWATCH (2011-2012)**

Mini Country Report

Thematic Report 2011 under Specific Contract for the Integration of
INNO Policy TrendChart with ERAWATCH (2011-2012)

December 2011

Author: Edin Jahic, Technopolis Group

Table of Contents

Preface	ii
Executive Summary	iii
1. Innovation policy trends	1
1.1 Trends and key challenges for innovation policy	1
1.2 Innovation governance	3
1.3 Recent changes in the innovation policy mix	4
1.4 Internationalisation of innovation policies	5
1.5 Evidence on effectiveness of innovation policy	5
2. Innovation policy budgets – an overview	6
2.1 Trends in funding of innovation measures	6
2.2 Departmental and implementing agency budgets for innovation policies	7
2.3 Future challenges for funding of innovation policy	7
3. Thematic report: Demand-side innovation policies	8
3.1 Trends in the use of demand-side innovation policies	9
3.2 Governance challenges	9
3.3 Recent demand-side innovation policy measures	9
3.3.1 Sectoral specificities	9
3.3.2 Good practice case	9
Appendix A Research and innovation policy measures for Montenegro	10

Preface

The European TrendChart on innovation is the longest running policy benchmarking tool at European level. Since its launch in 1999 it has produced annual reports on national innovation policy and governance, created a comprehensive database of national innovation policy measures and organised a series of policy benchmarking workshops. The databases of INNO Policy TrendChart and ERAWATCH have been merged and a joint inventory of research and innovation policy measures has been created by the European Commission with the aim of facilitating access to research and innovation policies information within Europe and beyond.

With a view to updating the innovation policy monitoring, the European Commission DG Enterprise and Industry commissioned a contract with the objective to provide an enhanced overview of innovation and research policy measures in Europe and to integrate the INNO Policy TrendChart with the complementary ERAWATCH platform. This contract is managed by the ERAWATCH Network asbl. (<http://www.erawatch-network.com>) coordinated by Technopolis Group (<http://www.technopolis-group.com>).

During each of the two years of this specific contract three reports will be produced to complement data collection and to update the research and innovation policy measures: a trend report on innovation policy in the EU, an overview report on innovation funding in the EU and an analytical thematic report (the selected theme for 2011 is demand-side innovation policies). To this end, the objective of the present mini country report is to furnish those three reports with country specific information.

Executive Summary

After gaining independence in May 2006 Montenegro is still in the process of establishing research and innovation policy and structures. The legal and institutional frameworks for stimulating innovation are yet to be established. To date, three strategic documents have been adopted, reflecting the future national strategy for innovation: the Strategy for Scientific Research Activities 2008-2016 (including an action plan); Strategy for Development of SMEs 2011-2015; and the Strategy for Promotion of Competitiveness at the Micro Level 2011-2015.

The policy mix for promoting private investment in R&D has yet to be developed. The main source of research and innovation funding is the government. On the whole, the business sector undertakes limited R&D and enjoys limited support from government. SMEs mostly finance operations from own sources, rather than restrictive and costly bank loans. With continuing economic recovery and growth, it is expected that the business enterprise sector will contribute more to research and innovation.

In such an innovation policy vacuum, there is no specific support measure targeting innovation. Instead, there is, within the 2010 Ministry of Science measure for co-financing scientific research activities, a call “Support to inventors and innovative solutions”¹ that supports individuals and companies who have registered a patent or developed innovative products, services and processes. The planned funding for this call in 2011 amounts to €15,000². From 2012 the Ministry of Science and Ministry for Information Society and Telecommunications will provide a total budget of €600,000³ during the period 2012-2014 for technology related projects. The Ministry of Economy is expected to launch an innovation policy related measure in 2013.

The higher education sector is largely government funded. The Montenegrin Academy of Sciences and Arts is the most significant public research and scientific institution in the country, covering natural sciences, humanities and the arts. There are three scientific institutes: Institute of History, Institute of Marine Biology and Institute for Foreign Languages. The State University of Montenegro, comprises of 19 faculties and three research institutes, and has about 10,600 students⁴. The privately-owned University Mediterranean also engages in research through its independent faculties for scientific research. The University of Donja Gorica (UDG), accredited in April 2010, is the second private higher education institution.

Innovative enterprises and start-ups receive support from the European Information and Innovation Centre Montenegro (EIICM), two business incubators and a national network of regional and local business centres. Technology centres, science and research parks and specialised agencies for technology transfer have not yet been established.

Montenegro is progressing on the internationalisation of innovation policies through the EU's Competitiveness and Innovation Programme (CIP), becoming a member in March 2008. Moreover, Montenegro participates in “The Regional Competitiveness Initiative for the Western Balkans”, a project financially supported by the European Commission and implemented by the Organisation for Economic Co-operation and Development (OECD). The main project objectives are to support competitiveness in the region and strengthen capacity building of public administrations by pilot projects in order to foster innovation in the private sector and eliminate skills gaps.

There is no demand-side innovation policy in Montenegro.

¹ Ministry of Science of Montenegro, <http://www.mna.gov.me>

² Konkurs za sufinansiranje naučnoistraživačke djelatnosti u 2011. godini, <http://www.mna.gov.me>

³ Konkurs za sufinansiranje nacionalnih naučnoistraživačkih projekata počev od 2012. godine, <http://www.mna.gov.me>

⁴ http://www.ucg.ac.me/eng/o_univerzitetu.htm#danas

1. Innovation policy trends

1.1 Trends and key challenges for innovation policy

Montenegro is at the beginning of the creation of a legal and institutional framework for innovation.

Strategic documents reflecting the future national strategy for innovation are:

- Strategy for Scientific Research Activities 2008-2016 (including an action plan, adopted in July 2008)

Increased research cooperation with the EU and reform of the national scientific community have been identified as key priorities in order to facilitate integration into the European Research Area. The strategy's action plan includes a roadmap for increasing investment in science and research, both by the public and private sectors, aiming at reaching an investment level of 1.4% of GDP in research by 2013. The strategy defines:

- objectives and tasks of scientific/research activities;
- harmonisation of scientific/research activities with other laws and strategic documents;
- institutional framework for development of scientific/research work;
- research, innovation and technological development;
- international cooperation;
- financing of scientific/research activities; and
- realisation of objectives and monitoring of implementation of the strategy recommendations.

- SME development Strategy 2011 – 2015 (adopted in January 2011)

The strategy focuses on creating better business conditions and entrepreneurship for SMEs and includes several measures to stimulate and monitor research activities of SMEs, which, in turn, will contribute to the Innovation Union. The Strategy defines four objectives: improving the business environment, strengthening financial support, strengthening SME competitiveness and promoting entrepreneurship and support for start-ups.

- Strategy for Promotion of Competitiveness at the Micro Level 2011-2015

Based on three priorities - development of existing and creation of innovative industry/ capacity, strengthening the export performance of enterprises and promotion of Montenegro's potential (economy, brands, etc.) - the strategy aims to develop productive and export-capable SMEs that provide a significant contribution to overall economic growth and competitiveness.

The establishment of links between the scientific and research institutions, and SMEs is still at an early stage. There are no examples of inter-company clusters or networks.

The issue of intellectual property protection has still to be fully resolved. While the legislative framework on intellectual property (IP) is partially aligned with the EU *acquis communautaire* remaining discrepancies need to be timely addressed, with particular attention to civil judicial remedies. Significantly strengthening the administrative capacity, not least through development of necessary competences, especially for judges, is vital for further progress in this area. The effective enforcement of intellectual property rights will require further substantial efforts based on political determination and the allocation of adequate human, financial and technical resources to the relevant agencies and to the judiciary. Strengthening and rationalisation of resources and capabilities of the responsible authorities need to be accompanied by an efficient mechanism for coordination. Intellectual property issues of arising from publicly funded research have not been regulated so far. All of the scientific and research institutions in which IP is created need to create relevant structures, procedures and regulations governing intellectual property management.

Support organisations for innovative companies and start-ups are: the European Information and Innovation Centre Montenegro (EIICM), two business incubators in the cities of Bar and Podgorica and a national network of regional and local business centres.

In 2007 the Directorate for Development of Small and Medium Sized Enterprises formed a consortium with the Chamber of Commerce of Montenegro, the Faculty of Mechanical Engineering of the University of Montenegro and the Business Start-up Centre from the city of Bar for the purpose of preparing a project for establishment for the Centre for Promotion of Innovation in the business sector. The project proposal was submitted for funding under the CIP programme and after positive evaluation the European Information and Innovation Centre Montenegro (EIICM) was formed. It commenced activities in November 2008. EIICM is a member of the Enterprise Europe Network. The target groups for EIICM services are: SMEs, institutions which undertake research and development, innovators, government bodies, professional organisations and educational institutions. The EIICM, among other things, provides services for fostering innovation, the transfer of technologies and knowledge, as well as services which encourage the participation of SMEs in EU Framework Programmes for research and technological development.

The business start-up centre in Bar was established and officially opened in July 2007. The Dutch NGO Spark signed a Memorandum of Understanding with the Municipality of Bar and nine other Montenegrin project partners. In December 2008, the Directorate for Development of SMEs and the city of Podgorica established the first business incubator in the field of information technologies (IT). The incubator plays an important role in company start-up, intensification of transfer of know-how and creating highly qualified personnel.

In partnership with various donors, the Directorate for Development for SMEs has created eleven regional/local business centres around the country, providing a number of subsidised services for existing enterprises and would-be entrepreneurs. More than 70% of the territory is now covered by these regional centres. On average, around 2,000 entrepreneurs avail of centre services on an annual basis.

Technology centres, science and research parks and specialised agencies for technology transfer have not yet been established in Montenegro.

SMEs mostly finance operations from own sources, rather than restrictive and costly bank loans. Favorable credit lines are provided through public institutions, for example, the Directorate for Development of SMEs. Other forms of financing such as venture capital and business angels are still not present. Financial resources (€91m) obtained through the European Investment Bank (EIB), which were intended for long-term loans to SMEs through commercial banks, have not been sufficiently utilised.

1.2 Innovation governance

Figures 1 and 2 below outline the governance structures of the research and innovation systems.

Research, innovation and higher education policy is governed by the Parliament, which appoints various committees to oversee national policy and strategy.

The Ministry of Science (formerly the Ministry of Education and Science), created in December 2010, is the principal administrative body responsible for planning, funding and monitoring the entire research system. The highest advisory body is the Council for Science and Research Activities. It consists of 11 members, four from the government and seven from the research community.

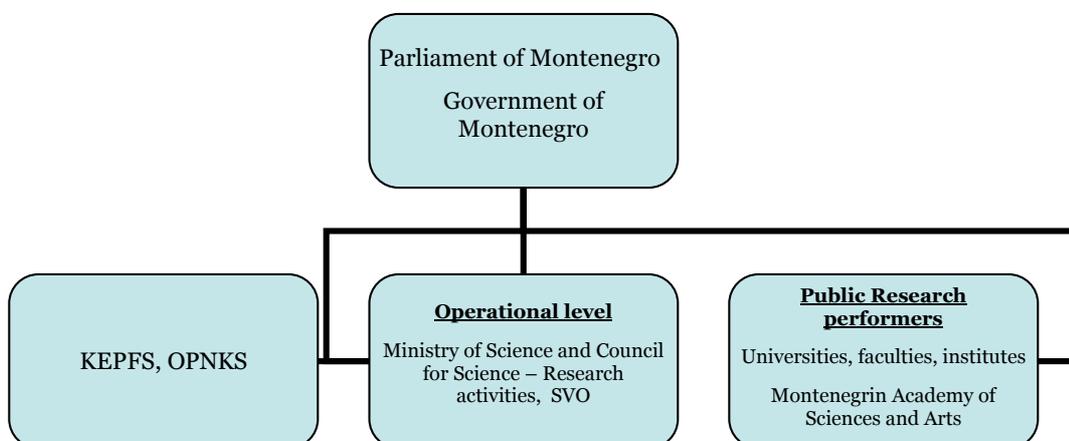
The Department for Industry and Entrepreneurship in the Ministry of Economy, is responsible for the organisation, coordination and preparation of draft laws and other regulations in the field of industry and entrepreneurship. The Ministerial Unit for Industrial Development is responsible for the development of national strategies, goals and measures in industrial policy, conducting analysis of the industrial sector and for modern technologies. The Unit of Small and Medium Enterprises and Entrepreneurship focuses on the SME sector, elaborating strategies and programmes to support SMEs and foster entrepreneurship.

For the purpose of drafting, coordinating and monitoring the Strategy for Development of SMEs 2011-2015, the Ministry of Economy established a coordination team comprising of representatives of local stakeholders and international donors.

Research is mostly conducted in the public sector, in institutions such as the University of Montenegro and the Montenegrin Academy of Sciences and Arts. The Montenegrin Academy of Sciences and Arts is the most significant public research and scientific institution in the country, covering natural sciences, humanities and the arts. The State University of Montenegro, founded in 1973, consists of 19 faculties and three research institutes. The privately-owned University Mediterranean also engages in research through its independent faculties for scientific research. The private University of Donja Gorica (UDG), accredited in April 2010, is the second biggest higher education institution.

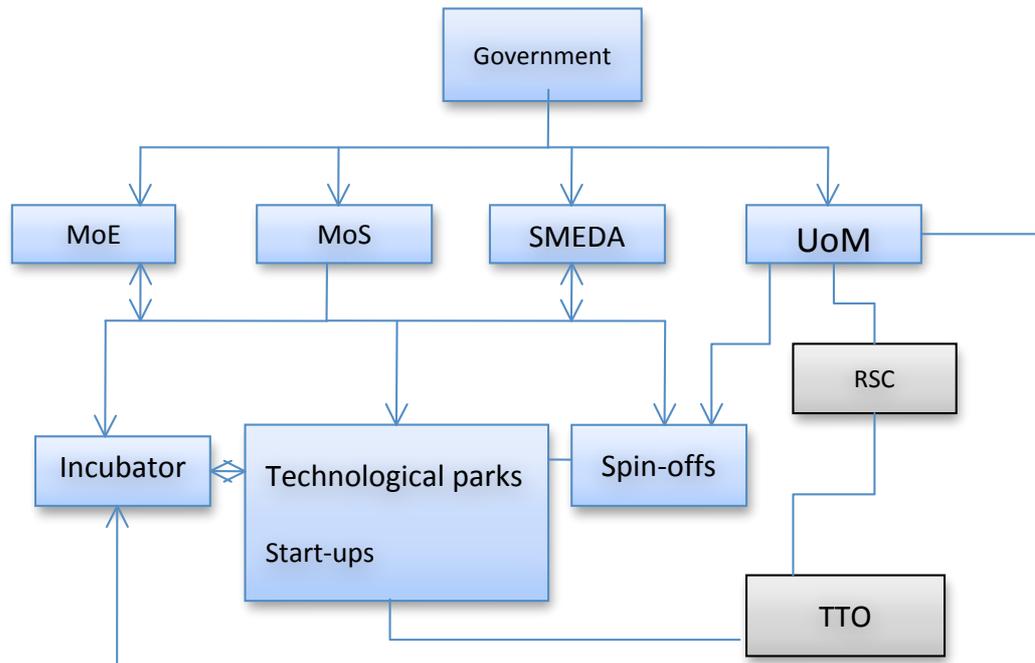
The Agency for International Scientific, Educational, Cultural and Technological Cooperation plays an important role in research cooperation with third countries by planning, programming and implementing scientific, educational, cultural and technical cooperation between Montenegro and other states, regional communities and international organisations.

Figure 1 Overview of the governance structure of the Montenegrin research system



KEPFS - The Commission for Economic Policy and Financial System
 OPNKS - The Committee for Education, Science, Culture and Sports
 SVO – Council for Higher Education

Figure 2 Governance of the National Innovation System



Source: Prof. dr. Mira Vukcevic, ppt presentation at the 9th Meeting of the Steering Platform on Research for the Western Balkan countries, Becici, Montenegro, 11 November, 2010.

MoE – Ministry of Economy
 MoS-Ministry of Science
 UoM-University of Montenegro
 SMEDA - Directorate for Development of SMEs

1.3 Recent changes in the innovation policy mix

With innovation policy in its infancy there are no changes in the policy mix.

Research, technological development and innovation in industry is promoted by the Ministry of Economy, the Ministry of Science, the Directorate for Development of Small and Medium Sized Enterprises, the Chamber of Commerce of Montenegro and the Montenegrin Employers Federation, as well as through activities of international organisations and NGOs. The main instrument of the Ministry of Science is the call for co-financing scientific and research and developmental projects, in which industrial teams are allowed to apply in partnership with research institutions (see Case 1 below).

The National Programme for Food Production and Rural Areas Development 2009–2013 contains special measures for education, R&D and economic analyses. This measure entails a budget increase from €300,000 in 2009 to €520,000 in 2013.

Case 1 Support to inventors and innovative solutions

This call helps individuals and companies that registered a patent or developed innovative products, services and processes in 2011. The overall aim is to support inventors and promote innovation culture. Competition for the call is open the whole year or until the planned budget has been exhausted. Planned funding for this call amounts to € 15,000.

This is a new call launched in 2011 and evidence on impact, novelty of implementation methods, partnerships needs to be seen. The call is part of “Programme for co-financing scientific and research activities in 2011” launched by the Ministry of Science with a total budget of €300,000.

For further information: <http://www.mna.gov.me/ministarstvo> (only available in local language)

1.4 Internationalisation of innovation policies

Internationalisation of innovation policies is undertaken through CIP programme funding, a German government bilateral aid programme and the Regional Competitiveness Initiative for the Western Balkans, an EC funded measure implemented by the OECD.

Montenegro joined the EU's Competitiveness and Innovation Programme (CIP) in March 2008. It is now associated to programme components one (EIP) and three (ICT PSP). The Directorate for Development of SME is the responsible institution for the first component, while the Ministry for Informational Society and Telecommunications is responsible for the third component. CIP financially supported the establishment of the European Information and Innovation Centre Montenegro.

The German government funded (and GIZ implemented) “Economic Development and Employment Promotion in Montenegro” project supports the creation of a conducive business environment and the development and implementation of support policies for SMEs. This includes an adjustment of framework conditions to the requirements of the EU Internal Market. Furthermore, it supports business associations and other private sector service providers in setting up business support services, facilitates start-ups and promotes exporting companies.

The Regional Competitiveness Initiative (RCI) for the Western Balkans is a three-year project (2010-2013), financially supported by the European Commission and implemented by the OECD. The main goals are to support competitiveness in the region and strengthen capacity building of public administrations through pilot projects in order to foster innovation in the private sector and eliminate skills gaps. The RCI focuses on three areas of activity: human capital development, innovation, and specific sector policy reform. A pilot voucher scheme facilitating access to research by SMEs is envisaged in Montenegro.

1.5 Evidence on effectiveness of innovation policy

No evaluations of innovation policy have been undertaken to date.

2. Innovation policy budgets – an overview

2.1 Trends in funding of innovation measures

So far, the budget for RDI (research, development and innovation) is distributed only by the Ministry of Science in the form of competitive grants. However, from 2012 the Ministry of Science in cooperation with the Ministry of Agriculture and Rural Development, Ministry of Health, Ministry for Information Society and Telecommunications, Ministry of Sustainable Development and Tourism, Ministry of Education and Sport as well as the Ministry of Culture will launch and finance a new programme for scientific and research projects covering the period 2012-2014 with a total budget of €5m. This will be the first collaborative public research funding exercise in Montenegro.

In the action plan of the Strategy for development of SMEs 2011-2015, the Directorate for Development of SMEs together with the Ministry of Economy is responsible for creating and implementing a support measure for the SME sector, which will be called “Programme for co-financing research and development projects” in which SME participation will be obligatory. This programme is envisaged to commence in 2013

Aiming to realise scientific and research policy, the Ministry of Science publishes calls for financing of scientific and research activities according to Article 39 of the Law on Scientific Research Activities (Official Gazette of the Republic of Montenegro 71/05) in respect to:

- scientific and research projects (national, bilateral and participation in multilateral projects);
- professional development of researchers in the country and abroad; and
- procurement of scientific and research equipment.

Once per year, the Ministry of Science announces a call regarding professional development of researchers in the country and abroad. The Ministry also co-finances procurement of equipment for those scientific/research institutions fulfilling various conditions. Research institutions also acquire scientific equipment on the basis of donations of foreign governments, foreign institutions and organisations or cooperative institutions within bilateral cooperation on projects, as well as by purchasing from own funds.

Figure 3 Broad share of available budgets by main categories of research and innovation measures

Broad category of research and innovation policy measure	Approximate total annual budget for 2010 (in euro)	Commentary
1. Governance & horizontal research and innovation policies	<ul style="list-style-type: none"> • Measure for scientific and research projects • Last call was in 2008: allocated budget was €1.15m 	<ul style="list-style-type: none"> • Only public resources are committed to this measure. • The Ministry of Science in cooperation with the Ministry of Agriculture and Rural Development, Ministry of Health, Ministry for Information Society and Telecommunications, Ministry of sustainable development and tourism, Ministry of Education and Sport as well as the Ministry of Culture will launch new measure for scientific and research projects in 2012 for period 2012-2014 with the total budget of €5m.

Broad category of research and innovation policy measure	Approximate total annual budget for 2010 (in euro)	Commentary
2. Research and Technologies	<ul style="list-style-type: none"> No such programme exists 	<ul style="list-style-type: none"> The Ministry of Science and Ministry for Information Society and Telecommunications will provide budget of €600,000 for period 2012-2014 for technology projects.
3. Human Resources (education and skills)	<ul style="list-style-type: none"> Last call was in 2008: allocated budget was €0.28m 	<ul style="list-style-type: none"> Only public resources are committed to this measure. New measure envisaged as outlined above.
4. Promote and sustain the creation and growth of innovative enterprises	<ul style="list-style-type: none"> No such programme exists 	
5. Markets and innovation culture	<ul style="list-style-type: none"> Last call was in 2011: Allocated budget was €15,000 	<ul style="list-style-type: none"> Call for competitive grants “Support to inventors and innovative solutions”. This is a new call launched in 2011.

2.2 Departmental and implementing agency budgets for innovation policies

Figure 4 Innovation budgets of the main government departments and agencies

Name of the organisation (with link)	Number of staff responsible for innovation measures (% of total)	Innovation budget managed	Estimated share of budget earmarked for specific policy measures
Ministry of Science (http://www.mna.gov.me/ministarstvo)	n/a	<ul style="list-style-type: none"> € 15,000 	<ul style="list-style-type: none"> none

Policies in other areas (such as agriculture, competition policy, public administration, transport, etc.) do not have a major impact on R&D policy. Also, Montenegro does not have special programmes or action plans for research and innovation from ministries other than the Ministry of Science.

2.3 Future challenges for funding of innovation policy

Montenegro is in its infancy in terms of research and innovation policy with much work to be undertaken on all fronts.

Aside from incomplete legislative and institutional frameworks and insufficient financial resources allocated to innovation, weak linkage between the research, educational and economic spheres is another obvious deficiency that negatively impacts upon human resources development, technological development as well as enterprise competitiveness.

3. Thematic report: Demand-side innovation policies

For the purposes of this report, the following categorisation of demand-side innovation policy tools is adopted:

Figure 5 Categorisation of demand-side policies

Demand side innovation policy tool	Short description
Public procurement	
Public procurement of innovation	Public procurement of innovative goods and services relies on inducing innovation by specifying levels of performance or functionality that are not achievable with 'off-the-shelf' solutions and hence require an innovation to meet the demand. ⁵
Pre-commercial public procurement	Pre-commercial procurement is an approach for procuring R&D services, which enables public procurers to share the risks and benefits of designing, prototyping and testing new products and services with the suppliers ⁶ .
Regulation	
Use of regulations	Use of regulation for innovation purposes is when governments collaborate broadly with industry and non-government organisations to formulate a new regulation that is formed to encourage a certain innovative behaviour. ⁷
Standardisation	Standardisation is a voluntary cooperation among industry, consumers, public authorities and other interested parties for the development of technical specifications based on consensus. Standardisation can be an important enabler of innovation. ⁸
Supporting private demand	
Tax incentives	Tax incentives can increase the demand for novelties and innovation by offering reductions on specific purchases.
Catalytic procurement	Catalytic procurement involves the combination of private demand measures with public procurement where the needs of private buyers are systemically ascertained. The government acts here as 'ice-breaker' in order to mobilise private demand. ⁹
Awareness raising campaigns	Awareness raising actions supporting private demand have the role to bridge the information gap consumers of innovation have about the security and the quality of a novelty. ¹⁰
Systemic policies	
Lead market initiatives	Lead market initiatives support the emergence of lead markets. A lead market is the market of a product or service in a given geographical area, where the diffusion process of an internationally successful innovation (technological or non-technological) first took off and is sustained and expanded through a wide range of different services ¹¹ .
Support to open innovation and user-centered innovation	Open innovation can be described as using both internal and external sources to develop new products and services ¹² , while user-centered innovation refers to innovation driven by end- or intermediate users. ¹³

⁵ NESTA (2007) Demanding Innovation Lead Markets, public procurement and innovation by Luke Georghiou

⁶ http://ec.europa.eu/information_society/tl/research/priv_invest/pcp/index_en.htm

⁷ FORA, OECD: New nature of innovation, 2009, <http://www.newnatureofinnovation.org/>

⁸ Commission Communication: Towards an increased contribution from standardisation to innovation in Europe COM(2008) 133 final 11.3.2008

⁹ Edler, Georghiou (2007) Public procurement and innovation – Resurrecting the demand side. Research Policy 36. 949-963

¹⁰ Edler (2007) Demand-based Innovation Policy. Manchester Business School Working Paper, Number 529.

¹¹ COM 2005 "Industry Policy" http://ec.europa.eu/enterprise/enterprise_policy/industry/index_en.htm and Mid-term review of industrial policy

¹² Chesbrough (2003) Open innovation. Harvard Business School Press

¹³ Von Hippel (2005) Democratizing innovation. The MIT Press, Cambridge

3.1 Trends in the use of demand-side innovation policies

There is no demand-side innovation policy in Montenegro.

3.2 Governance challenges

The Government of Montenegro needs to:

- introduce tax incentives for the undertaking of research and innovation;
- accelerate the transition of researchers from the academic sphere to enterprises through a greater emphasis on mobility;
- encourage the establishment of Science and Technology Parks with activities to promote networking¹⁴;
- encourage industrial clusters to move to internationalisation so that they develop an outward exporting orientation and link up with international systems of innovation¹⁵; and
- encourage Universities to: (i) focus on applied research activities; (ii) increase collaboration with other research institutions and the private sector; (iii) boost their incubation centres to provide more support to researchers create new spin-off enterprises; (iv) establish Technology Transfer Centres; and (v) encourage patenting and licensing of technologies to enterprises.

3.3 Recent demand-side innovation policy measures

There is no demand-side innovation policy in Montenegro.

3.3.1 Sectoral specificities

There are no demand-side innovation policy measures in Montenegro.

3.3.2 Good practice case

There are no demand-side innovation policy measures in Montenegro.

¹⁴ Prof. dr. Mira Vukcevic, ppt presentation at the 9th Meeting of the Steering Platform on Research for the Western Balkan countries, Becici, Montenegro, November 11, 2010.

¹⁵ *ibid*

Appendix A Research and innovation policy measures for Montenegro

Name of the Support measure	1 st Priority	Start date	End date	Status	Estimated public budget in 2010 in euro	• Comment
1. Support to an author of a patent and innovative solutions	<i>5.1 Measures in support of innovation culture</i>	2011	No fixed end date	New to be created	€15,000	