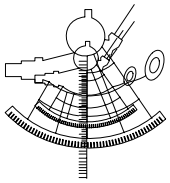
European Trend Chart on Innovation



Annual Innovation Policy Trends and Appraisal Report

SLOVENIA

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European Commission
Enterprise Directorate-General

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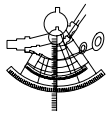

Innovation is a priority of all Member States and of the European Commission. Throughout Europe, hundreds of policy measures and support schemes aimed at innovation have been implemented or are under preparation. The diversity of these measures and schemes reflects the diversity of the framework conditions, cultural preferences and political priorities in the Member States. The 'First Action Plan for Innovation in Europe', launched by the European Commission in 1996, provided for the first time a common analytical and political framework for innovation policy in Europe.

Building upon the Action Plan, the *Trend Chart on Innovation in Europe* is a practical tool for innovation organisation and scheme managers in Europe. Run by the Innovation Policy Directorate of DG Enterprise and Industry, it pursues the collection, regular updating and analysis of information on innovation policies at national and European level.

The Trend Chart serves the "open policy co-ordination approach" laid down by the Lisbon Council in March 2000. It supports organisation and scheme managers in Europe with summarised and concise information and statistics on innovation policies, performances and trends in the European Union (EU). It is also a European forum for benchmarking and the exchange of good practices in the area of innovation policy.

The Trend Chart products

The Trend Chart on Innovation has been running since January 2000. It now tracks innovation policy developments in all 25 EU Member States, plus Bulgaria, Iceland, Israel, Liechtenstein, Norway, Romania, Switzerland and Turkey. It also provides a policy monitoring service for three other non-European zones: NAFTA/Brazil, Asia and the MEDA countries. The Trend Chart website (www.cordis.lu/trendchart) provides access to the following services and publications, as they become available:

- a database of innovation policy measures across 33 European countries;
- a news service and related innovation policy information database;
- a "who is who" of agencies and government departments involved in innovation;
- annual policy monitoring reports for all countries and zones covered;
- background material for four annual policy benchmarking workshops;
- the European Innovation Scoreboard and other statistical reports;
- an annual synthesis report bringing together key of the Trend Chart.

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CONTENTS

Exhibits

Executive Summary

1. Introduction: innovation performance and policy objectives

Slovenia is gradually closing its development gap with EU: preliminary estimates for 2005 indicate that Slovenian GDP per capita in PPP was 81 % of EU average. The growth rate in 2005 was only slightly lower than the year before (3.9 in 2005 and 4.6% in 2006). Even so, the Development report (IMAD, 2006) concludes that the ambitious goals set in Slovenian Development Strategy 2006-2013 will not be achieved at the current pace of development. The report stresses the relatively impressive progress Slovenia has made in terms of macroeconomic and social stability, but warns that competitiveness indicators are less satisfactory. In particular, the institutional role of the government is not sufficiently supportive of entrepreneurship, and the business sector often faces lengthy bureaucratic procedures and high indirect labour costs.

Slovenia prides itself for its sound macroeconomic policy which was instrumental in making the country the first new Member State to be admitted to the eurozone in 2007. The final decision of the EU Ministers of Finance was taken on 11 June 2006 following favourable reports from both the Commission and the EBRD in mid-May. On the other hand, situation in terms of microeconomic indicators is less favourable. Several international reports (EBRD, WEF, IMD) consider the Slovenian institutional environment as unfavourable for economic development and competitiveness. The transition index[1] calculated by the EBRD has remained unchanged for the past three years (2002-2005), thus putting Slovenia at the very bottom of the list of transition countries who joined EU. The most significant gaps are in the area of competitiveness, business environment (long registration procedures, significant court delays, lack of suitable building grounds for investments), reforms of the non-banking financial sector and privatisation of large enterprises.

In the EIS 2005, Slovenia is in 14th position out of the 25 EU Member States and in 19th if all 33 countries covered in the stud are considered. Slovenia is the second-best performer among the new member states, after Estonia, partly because its performance is relatively well-balanced with no major discrepancies on the different innovation categories, with the exception of IPR. Slovenia is making progress in certain indicators monitored by EIS, particularly in the area of increased business R&D investment. Business sector R&D investment accounted for more than 60% of total R&D costs. In spite of several measures introduced to address this, the general perception of a lack of cooperation between public research and the business sector remains one of the main challenges for innovation policy. Given a rate of public R&D expenditure (as a share of GDP) close to the EU25 average (9th position in the EU25), a key challenge for the Slovenian innovation system is its insufficient rate of commercialisation of research activity, which is exemplified by the extremely low, although improving, rates of patenting (particularly by the public/academic sectors). Even in terms of new-to-firm products Slovenia performs very weakly (29 percent of the EU25 average, 21st position in the EU25).

2. Major innovation challenges and policy responses

Challenge 1: Better exploitation of R&D inputs & closer links between public R&D and business sector

Slovenia scores badly in terms of effectiveness of use of resources and application of the findings of R&D activity for faster economic and social development. This has been identified as a challenge in all strategic documents, including the Slovenian Development Strategy, the National Research and Development Programme and the National Lisbon reform programme. Several policy measures are designed to meet this challenge. In terms of their content, all of the policy measures are correct, but their implementation is more problematic. This has been characterised by irregular issuing of calls, fluctuation in terms of available resources and eligibility criteria and relatively demanding administrative procedures (especially true for the measures co-financed from ERDF). At the level of

[1] The index measures the implementation of the transition reforms in six key areas: liberalisation, privatisation, enterprises, infrastructure, financial institutions and business environment

indicators, there is not much evidence to be found that better use is made of R&D results. Since this issue remains one of the top challenges, further discussion is needed with stakeholders on the proper format to support cooperation between business and public R&D.

Challenge 2 : Increase innovation activity, especially in SMEs
An increase in innovation expenditures in other sectors and especially in small enterprises is an important challenge for Slovenian innovation policy, since every consecutive Innovation Survey showed a declining share of SMEs involved in innovation activity. Addressing this issue is stated as one of the objectives in the National Reform Programme for Achieving the Lisbon Goals (increase the number of high tech and innovative enterprises; NRP. 2005: p.22). So far three measures have been introduced to stimulate innovation activity in SMEs: the voucher scheme, subsidised credit and technology/ equipment subsidies for SMEs. The key problem with the measures addressing this challenge is insufficient funding. The resources of JAPTI (previously to PCMG) to finance the voucher system and the resources of the Entrepreneurship Fund have always been insufficient in comparison to the demand. The evaluation of the measures are rather complex in this area, since the innovation activity of SMEs depends on a wide number of factors, not all of which are within the scope of the measures designed so far. Additional and especially more flexible forms of financing or co-financing specifically developed for SMEs are often suggested. These would include venture and start-up capital, further extension of guarantees, etc.

Challenge 3: Development of human resources to support innovation activity
Slovenia has rising numbers of students in tertiary education and the average level of education of the employed population is gradually improving. The trends in the number of graduates in S&T are a cause for concern, however, as the bulk of students register in social sciences disciplines. In view of the planned increase in investment in R&D it can be expected that both the business and the public sector R&D will face a shortage of R&D personnel. There is thus a need to promote engineering and natural science studies, which has been recognised in the NRDP and in the NRP.

The expansion of the Young Researchers programme to researchers for industry was relatively successful even though there are fewer candidates than for the general Young Researchers programme. Per year, 50 new candidates are accepted. Should they continue to work in the industry this should improve the personnel structure of industrial R&D units in Slovenia considerably. Several other measures were proposed or are planned for this area, including the promotion of science and technology studies at the university level, more scholarships for S&T students, additional mobility programmes, etc. The reform framework has an ambitious programme of changes in higher education, the minister of higher education and science is preparing a special law with an integrated policy for higher education and research. The aim is to increase the level and the quality of available human resources for R&D and innovation.

Exhibit 1: innovation challenges, policy responses and impact

Challenge	Relevance of policy response	Evidence of impact
Better exploitation of R&D inputs for more dynamic technological restructuring of business firms by establishing closer links between public R&D and business sector	4	3
Increase innovation activity, especially in SMEs	3	2
Development of human resources to support innovation activity	4	2

Policy response ranking scored from 1 to 5 : 1 No specific measures addressing the challenge (possibly a debate but no evidence of any real policy development); 2 Policy development under way to respond to challenge (policy debate or design launched, e.g. announced in National Lisbon Reform Plan, etc.); 3 Specific measures existing for some time but insufficient to respond fully to challenge; 4 Existing measure plus one or more newly launched measures (during last 18 months) 5 A comprehensive set of measures which potentially responds fully to the challenge.
Evidence of impact scored from 1 to 5: 1 trend for indicators has worsened since measure(s) introduced, 2 no observable change in trend since measure(s) introduced, 3 too early to appraise (measures introduced in last 24 months), 4) trend for indicators has improved since measure(s) introduced, 5 Evaluation or study indicates measure(s) has clearly contributed to improving performance of country.

3. Innovation governance and policy trends

3.1 Innovation governance: key changes and issues

Following the recent government reorganisation, aspects of innovation policy that are closer related to research is now within the remit of the Ministry of Higher Education, Science and Technology (MHEST). Aspects related to entrepreneurship are within the responsibility of the Directorate for Entrepreneurship at the Ministry of Economy. Due to the reorganisation and in view of the current overlap in responsibilities for innovation policy, policy measures are designed both at the MHEST and at the Ministry of Economy. A special Office for Growth was set up in January 2006, headed by a Minister without portfolio, to implement the Slovenian Development Strategy and the reform programme, which are both closely connected also to the implementation of the Lisbon NRP. The Office should also take responsibility for the Technology Agency, thus ending a period of uncertainty about the latter's status.

The new institutional set up is unlikely to resolve the problem of the low rate of implementation of government innovation policies or to improve the coordination of measures focused on the promotion of innovation and entrepreneurship. In fact the current situation is characterised by poor transparency of policies pursued by different departments and has no apparent coordination. No systematic evaluation of innovation policy measures is undertaken by the implementing actors, in spite of the fact that in the preparation of the strategic policy documents (like the Slovenian Development Strategy, the National Research and Development Programme or the Reform Programme for Achieving the Lisbon Strategy Goals) several benchmarking exercises were carried out and an extensive evaluation of the deficiencies of innovation system was made.

3.2 Trends in innovation policies

The organisational changes in the area of innovation policy and the fact that Slovenia was able to draw on Structural funds are reflected in the current innovation policy mix. Some of the old measures were modified or replaced by new ones and a set of new measures was introduced. In terms of overall levels of funding allocated to innovation measures, a gradual and not very dramatic shift in towards innovation may be observed, especially in terms of the funds allocated through the Structural Funds (measures SI_ 26; SI_24, SI_19; SI_18; SI_10; SI_3).

The new or renewed measures focus on different challenges which are rather standard for the Slovenian innovation system and have been identified by several international or national analyses. They follow the objectives if SDS, the NRDP and, more recently, the NRP. An important set of measures addresses the lack of cooperation between public R&D and the private sector (SI_26; SI_25; SI_18, SI_3), providing different forms of subsidies to joint research/ development projects or for upgrading the research infrastructure in technology centres/parks. In addition, measures of the Slovenian Entrepreneurship Fund and the ERDF to boost the financial resources of SMEs with subsidised credits (SI_19) and technology equipment subsidies (SI_24), directly assist SMEs in modernising their activities. The established measure of the voucher system for consultancy and training (SI_10) is also open to SMEs. A set of measures deals with improving human resources in R&D. One of the oldest measures, which initially focused more on the public research sector, is the Young Researchers programme (SI_1, see Trend Chart Report on Slovenia 2004-2005). It has been expanded to include a special strand for young researchers joining the industry sector. The programme assists the employment of 50 new young researchers per year in the industry sector. A new measure introduced by the Ministry of Economy supports the transfer of researchers from public research institutions to business R&D units. The measure co-finances the salaries of researchers working in public R&D for at least three years and also supports additional training abroad. However, the response was not as enthusiastic as hoped: a first call attracted only 15 candidates.

4. Conclusion: future actions and opportunities for policy learning

At the level of new strategic documents like the Slovenian Development Strategy, National Research and Development Programme or the Reform Programme for Achieving the Lisbon Strategy Goals, a common understanding prevails that research and development and increased innovation efforts by

the business sector are the keys to increase Slovenian competitiveness and therefore help the country to achieve more dynamic economic growth. This clear linkage of R&D, innovation and economic policy has not been pronounced so explicitly in the past. Several objectives and policy priorities address the field of knowledge creation, research and development and innovation. Problems arise in translating these objectives and priorities into specific measures and instruments in a coordinated way.

The key challenge for innovation policy is to build a coherent and stable national innovation system and to increase the transparency and coordination of government innovation support measures. The current state of affairs with unclear definitions of responsibilities, disregard for some of the bridging institutions, a lack of coordination when introducing new measures and a tendency to try and resolve existing problems by creating new institution is not in line with the statements and objectives of the strategic documents.

The Slovenian innovation system seems to be characterised by a high quality of innovation policy documents, but a less-than-effective implementation process. Also, policy documents tend to recognise the need for a horizontal implementation of innovation policy and to understand the concept of innovation in its broadest sense. In contrast, the scope of the actual policy measures falls back to the outlived concept of innovation restricted to new technology which is solely the result of research done by engineers and natural scientists. Soft innovation or innovation in services is hardly paid any attention in the innovation support measures.

Several of Slovenia's policy actions have so far been inspired by measures of other Member States, but with limited success. One needs to carefully assess local conditions, especially the interests of different stakeholders, before transferring good practice cases from abroad. Underestimating or disregarding local factors can diminish the potential positive impact of such a transfer, as several examples of incomplete and/or insufficient adjustments of instruments/measures to the local circumstances in Slovenia have shown.

1 The Innovation governance system

1.1 Overview of the innovation system

1.1.1 The national innovation system

In spite of a relatively well-designed innovation policy, which in rhetoric follows the contemporary trends in innovation theory, the Slovenian national innovation system in practice reflects a continuous search for the most suitable institutional setup. This results in problems of coordination and deficiencies in the implementation of the measures to support the designed policy. Several best practices seen in other more innovative countries were introduced over the years, with mixed results.

The most influential actors, though, remain the same and the main challenges have not changed much either. The science lobby influences the research policy significantly and protects its status quo relatively successfully. No bridging institution put in place so far has been able to overcome the problem of insufficient cooperation between knowledge-creating institutions (universities and research institutes) and the users of new knowledge and innovation - the business sector. The latter is far less successful in voicing its demands and is less active in the field of innovation policy[2].

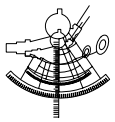
The institutional framework of innovation policy has gone through several changes since Slovenia's independence, reflecting in part the search for the most efficient division of tasks between different ministries and in part the influence of the science lobby and, to a lesser extend, business communities. Each of the past elections had brought forward new ideas on how to best organise the government to be more supportive to science, technology and innovation (for details, see Trend Chart Report: Slovenia, September 2003- October 2004; 2004-2005 and earlier).

After the 2004 general election, Slovenia re-established a ministry in charge of science and technology. Many staff members previously assigned to the Ministry of Economy's Department for Technology Development and Innovation 'returned' to the new Ministry for Higher Education, Science and Technology, which also took over most of the responsibilities of this Department.

During the preparation of the Law on Research and Development (2002) extensive policy learning took place and models of other, especially Nordic countries were examined. As a result, two agencies were established: the Agency for Scientific Research and the Agency for Technology Development (Trend Chart Report: Slovenia, September 2003- October 2004). The Agency for Scientific Research began its operation in 2004 and issues public calls for financing various activities, including the Young Researchers programme (SI_01), in accordance with its annual programme. The situation of the Technology Agency (TIA), however, is more complex. When the Law on Research and Development was passed, technology-related issues were within the responsibility of the Ministry of Economy. Accordingly, the legal provisions for the establishment of the Technology Agency defined this Ministry as the managing authority for the TIA. However, following the subsequent government reorganisation, technology - and therefore also for the TIA – became the responsibility of the Ministry for Higher Education, Science and Technology (MHEST). This was contested by the Ministry of Economy and finally, it was announced in January 2006 that the TIA should belong to the so called "Lisbon ministry", the Government Office for Growth. By May 2006 this decision had not been implemented yet and the TIA had only been able to secure funds from the Ministry of Defence to run one of their research calls.

The National Science and Technology Council is still the premier policy body for science and technology policy, although its composition has changed after the entry into force of the Law on R&D (2002), which increased the representation of the business community. It was believed that this shift would make it easier to bring science policy closer to economic needs. The current composition of the

[2] This can be attributed in part to the fact that the number of firms involved in innovation activities is low (20% according to CIS III) and in part to a general lack of interest among the business sector in public R&R policy.



Council according to the law foresees six members to come from research sector, six from business sector, one representative of the public and one representative of the union representing the researchers. As a general rule, the Minister of Finance and the Minister of Higher Education, Science and Technology are automatically members of the Council, as are the president of the Chamber of Industry and Commerce, all three rectors of the universities and the President of the National Academy of Science and Arts. In spite of the high level membership, the visibility or the impact of the Council is limited, both in the science and in the business community.

The current government formed a Strategic Council as a consultancy body on economic issues (early 2005). As members of the Council, several younger economists were invited along with several successful businessmen. The appointment of the Strategic Council as well as their first public statements caused significant media attention as the majority of members are known for their neo-liberal stance and propose a more dynamic liberalisation of the Slovenian economy, a retreat of the government from the national economy (particularly from ownership shares in enterprises), more aggressive and ambitious development policies, and opening to foreign investment and new technology. The recommendations of the Strategic Council were taken up by a special Committee for Reforms, appointed by the Government. This Committee prepared a white paper called "The Framework of Economic and Social Reforms for Increasing the Welfare of Slovenia". This Framework was adopted by the government in November 2005. A special Office for Growth was set up, headed by a Minister without portfolio, to implement the reforms, which are also closely connected to the implementation of the Lisbon strategy. Since this framework was prepared, the Strategic Council has not met, but its president has accepted the position of the minister heading the Office for Growth. However, after only three months, he stepped down. A new head has not been appointed yet.[3]

The basic document specifying the R&D policy (and implicitly also innovation policy), its objectives, scope and means of financing and the evaluation criteria remains the *National Research and Development Programme*, which is to be prepared by the government and adopted by the parliament every five years. The current NRDP was accepted by the government in September 2005 and adopted by the Parliament in December 2005. Key objectives of the NRDP include:

- increasing public R&D investment to 1% of GDP by 2010
- shifting the balance of public research funds from basic non-targeted research to targeted (and applied) research,
- introduction of support measures to stimulate growth of investment of business sector in R&D to help achieve a 2% target
- increasing the number of researchers with Ph.D.s in business sector,
- achieving a higher rate of establishment of new high-tech firms, including promotion of spin-offs from universities,
- continuous participation in the international research, especially in ERA
- support to the growth of patents, as an indicator of business relevance of research.
- growth of high-tech exports and growth of value-added in Slovenian economy.

The relatively wide set of research priorities set in NRDP closely follows the priorities set in the 6th Framework Programme (Information and communication technologies, advanced (new) synthetic metal and non-metal materials and nano-technologies, complex systems and innovative technologies, technologies for sustainable development and health and life-sciences), while also adding research areas of specific importance for the Slovenian culture and history.

The three universities[4] and public research institutes[5] constitute the main research capability. Most of the financial resources still come from the government, even though it has been suggested for several years now that business R&D funding needed to be better integrated into the public sector than at

[3] An example of the declining influence of the Council may be the reform of the pensions law, where - in spite of the warning from the Strategic Council and several other economists - the government re-introduced full indexation of pensions in line with the average wage increases. The warnings that this may have a snowball effect on public finances and thus jeopardise the requirements of the ERM2 was not taken into account by the ruling coalition, which includes a party representing retired people.

[4] Current regulations allow regular teaching staff with a 100% pedagogical assignment to participate in publicly funded research for 20% of their full time equivalent working time. This explains the difference between the head count of the number of people employed in R&D in higher education and the figure expressed in FTE. While the former is 2999 researchers, the FTE count only shows 1379.

[5] There are 47 research institutes in government sector, employing 1939 researchers (head count).

present. The business sector is a source of funding for approximately 9% (2003) of R&D expenditures in the government sector and the higher education sector. The percentage has only changed marginally - 1% higher than in 2000 in spite of several attempts of the government to stimulate cooperation between the two sectors. Even though there are some examples of good practice at some of the research institutes, the general climate is still one of poor co-operation.

The Slovenian Chamber of Industry and Trade as well as the Chamber of Small Businesses and Crafts have in recent years become more vocal in their demands for support to a more dynamic technological restructuring of businesses. Their activities mostly focus on lobbying the government to adjust the financial resources for R&D to give higher priority to applied research and co-financing R&D projects with a direct partner or customer in the business sector. The Chamber of Industry and Trade has taken on board the initiative of the Ministry of Higher Education, Science and Technology and has been very active in support of so called technology platforms, where partners from industry and public R&D sectors have initiated cooperation in certain technology areas - in line with initiatives of the EU Framework Programmes[6]. Positive examples of closer public-private cooperation can be found also in the cluster initiative and in some of the technology centres, where networks of partners from both sides were developed gradually.

In the past decade, Slovenia has established a complex scheme of bridging institutions within the national innovation system, involving technology parks and centres, incubators (2003), clusters (from 2001 onwards), technology networks (2003 onwards), different business information units like the Small Business Development Centre[7], Innovation Relay Centres, Euro-Info-Centres, regional development agencies, the Slovene Enterprise Fund, etc. All of these were set up with the ambition to provide for as complete an innovation system as possible. Yet sometimes it seemed as if the main emphasis was more on the number of different instruments and institutions than on the quality of their work. Funding has often been insufficient and irregular and several institutions spend much of their energy on survival instead of on carrying out the tasks they were established for.

Further improving the innovation environment is one of the key development priorities of the Single Programming Document. Based on the European Regional Development Fund (ERDF) call in summer 2004, eligible projects within the first priority (better environment for innovation activities-SI_18) were supported. In practice this meant that initiatives connecting the private and public sectors could use the resources to upgrade their infrastructures and implement several R&D projects. In total, €16 million will be spent on the selected actives over the next three years.

The first ERDF priority had two action lines. Under the first line, public and private institutes formed Centres of Excellence. This form of network represented joint efforts of several research institutes operating in similar areas coupled with efforts from the industry sectors. Eight centres of excellence received support.

Under the second action line, organisations supporting industrial R&D activities were able to apply for R&D infrastructure funding. These organisations (for example technology networks, industrial clusters, technology centres or technology parks) have a considerable tradition in Slovenia. However, their infrastructures were recognised as insufficiently developed[8]. Since the projects were quite demanding, both from the financial and from the administrative point of view, the first contracts for project proposals involved lengthy negotiations.[9] These projects are, however, expected to give an additional incentive to public research/ industry cooperation.

[6] Technology platforms have been supported by a special call of MHEST in June 2006.
[7] Integrated in 2005 into JAPTI, Public Agency for Entrepreneurship and Foreign Investment (see details in section 2.2.)
[8] The following organisations received funding:

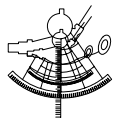
- Technology centre of the textile and spinning industry
- Technology centre of air conditioning, heating and cooling (www.rtc-i-kgh.si)
- Automotive cluster of Slovenia (www.acs-giz.si)
- Process technology network
- Technology park Ljubljana (www.tp-lj.si)
- Technology centre of electric machines (www.teces.si)

[9] Particularly the latter was heavily criticised for requiring an enormous amount of paper work for the application procedure and the signature of the contract, often requiring last minute changes (sometimes conflicting with established practice in other government co-financed projects).

Exhibit 2: Selected key organisations within the National Innovation System

Type of organisation	Name of organisation (in English)	Website (where available)
Government and legislative bodies		
Ministry	Ministry of Higher Education, Science and Technology (directorate for technology)	www.mvzt.si
Ministry	Ministry of Economy (directorate for entrepreneurship)	http://www.mg.gov.si/index.php?id=2159&L=1
Special government office	Office of the government for local self-government and regional policy	http://www.svlsrp.gov.si/index.php?id=558&L=1
Special government office	Office of the government for growth	http://www.svr.gov.si/index.php?id=874&L=1
Agency	Slovenian Research Agency	http://www.arrs.gov.si/en/index.asp
Agency	Slovenian Technology Agency	http://www.tia.si/
Agency	National Agency for Regional Development	http://www.gov.si/arr/aindex.html
Agency	JAPTI- National Agency for Entrepreneurship and Foreign Investment	http://www.japti.si/
Private sector organisations and entrepreneurship promotion		
Business association	Slovenian Chamber of Industry and Trade (section for tech. development & innovation)	www.gzs.si
Business association	Chamber of Small Business and Crafts of Slovenia	http://www.ozs.si/eng/
Knowledge institutes (R&D and education bodies)		
Higher education	University of Ljubljana	www.uni-lj.si
Higher education	University of Maribor	www.uni-mb.si
Higher education	University of Koper	http://www.upr.si/sl/
Higher education	Polytechnics Nova Gorica (private)	http://politehnika.50megs.com/
Science	Academy of Arts and Sciences	www.sazu.si
Association	Association of Researchers of Slovenia	http://www.zdr-raziskovalcev.si/
Industrial research centres and innovation intermediaries (sample)		
Innovation Relay Centre	IRC Slovenia (at Institute of Jozef Stefan) and University of Maribor, Centre for Interdisciplinary and Multidisciplinary Research and Studies – CIMRS	http://www.irc.si/slo/welcome.asp
Technology Centre[10]	TECOS- technology Centre for Tools Industry of Slovenia	http://www.tecos.si/
Centre of Excellence[11]	ICT centre of excellence and technology network	http://ict-slovenia.net/default.aspx
Technology park	Technology park of Ljubljana	www.tp-lj.si
Regional Development Agency	Maribor Development Agency	http://www.mra.si/
University incubator	Ljubljana's University incubator	http://www.lui.uni-lj.si/inkubator.asp
University incubator	Venture factory Maribor	http://www.tovarnapodjemov.org/intro.htm
Financial system		
Financial institution (SMEs)	Slovene Enterprise Fund	http://www.podjetniskisklad.si/About.html
Venture capital fund	Horizonte Venture Management d.o.o.	http://www.horizonte.at/offices/offices.htm#slovenia

[10] There are currently 27 technology centres across Slovenia, most of them organised according to the needs in their industrial branch.
[11] There are 8 centres of excellence, established with the support of European Regional Development Fund in 2004/5. Only one of them is mentioned here.



All in all, there is a long list of different types of institutions forming the Slovenian Innovation System. What may still remain insufficiently developed is the financial support system, especially in terms of different type of more specific financial services provided to SMEs and high-tech start-ups. Overall, achieving a better coordination and improving information sharing between existing institutions are the some of the main challenges. Improvements in these two areas could contribute significantly to a better exploitation of innovation inputs and to a better implementation of innovation policy.

As observed in Trend Chart report 2004-2005, several successful companies have established links with public research either at universities or research institutes and formed permanent teams with researchers from both sides. Some of these partnerships have used the funds available from different innovation support measures (clusters in the past, technology centres and centres of excellence currently); some have relied exclusively on their own funding. According to their statements, it took some time to find a common language and to develop fruitful cooperation, but in the end, the result is beneficial to both sides. The same can be said of some of the bridging institutions: those that were able to "weather it out" have found their place and work in spite of occasional financial or technical difficulties[12].

1.1.2 National innovation policy making and delivery structures

The institutional framework of innovation policy has gone through several changes since independence, reflecting in part the search for the most efficient division of tasks between different ministries and in part the influence of the science and business communities. Each of the past two elections brought forward new ideas on how to best organise the government to be more supportive to science, technology and innovation.

Following the 2004 elections, Slovenia re-established a sectoral ministry for science and technology, although this time, the new ministry also took on full responsibility for the area of higher education and some of the tasks of the abolished Ministry for the Information Society. This shift and consequent budget allocation difficulties have resulted in a delay of the implementation of any new measures in the area of technology support, while the science programme was carried out by a designated public agency (Slovenian Research Agency) with no interruption. The technology directorate under the Ministry of Higher Education, Science and Technology is in charge of technology centres, support to research and development projects in SMEs, technology programmes (a new measure to be introduced in 2006), and support to the participation of business enterprises in international R&D activities.

The Ministry of Economy is in charge of entrepreneurship promotion programmes and several activities in the area of innovation policy. So far these include: support for technology parks and university incubators, voucher programme (executed by JAPTI), financial assistance to SMEs (provided via the Slovenian Entrepreneurship Fund) and internationalisation support. A new programme for the support of entrepreneurship and competitiveness was accepted by the government in July 2006. According to the programme[13], several existing measures are to be continued and new ones are proposed. This year the calls for the support measures were not issued in a package as in previous years, but each measure was issued separately. So far, calls have been issued for the support of technology parks (most of the funds come from ERDF), the promotion of FDI, a new measure for co-financing employment of researchers in business sector and for the joint development research projects (also under ERDF).

The Law on Research and Development (2002) provides for the establishment of two public agencies: the Agency for Scientific Research and the Agency for Technology Development (Trend Chart Report: Slovenia, September 2003- October 2004).The underlying rationale is that the agencies (each in its own sphere) would be responsible for a permanent, professional and independent selection process of projects and programmes to benefit from public financing. While the Agency for Scientific Research is

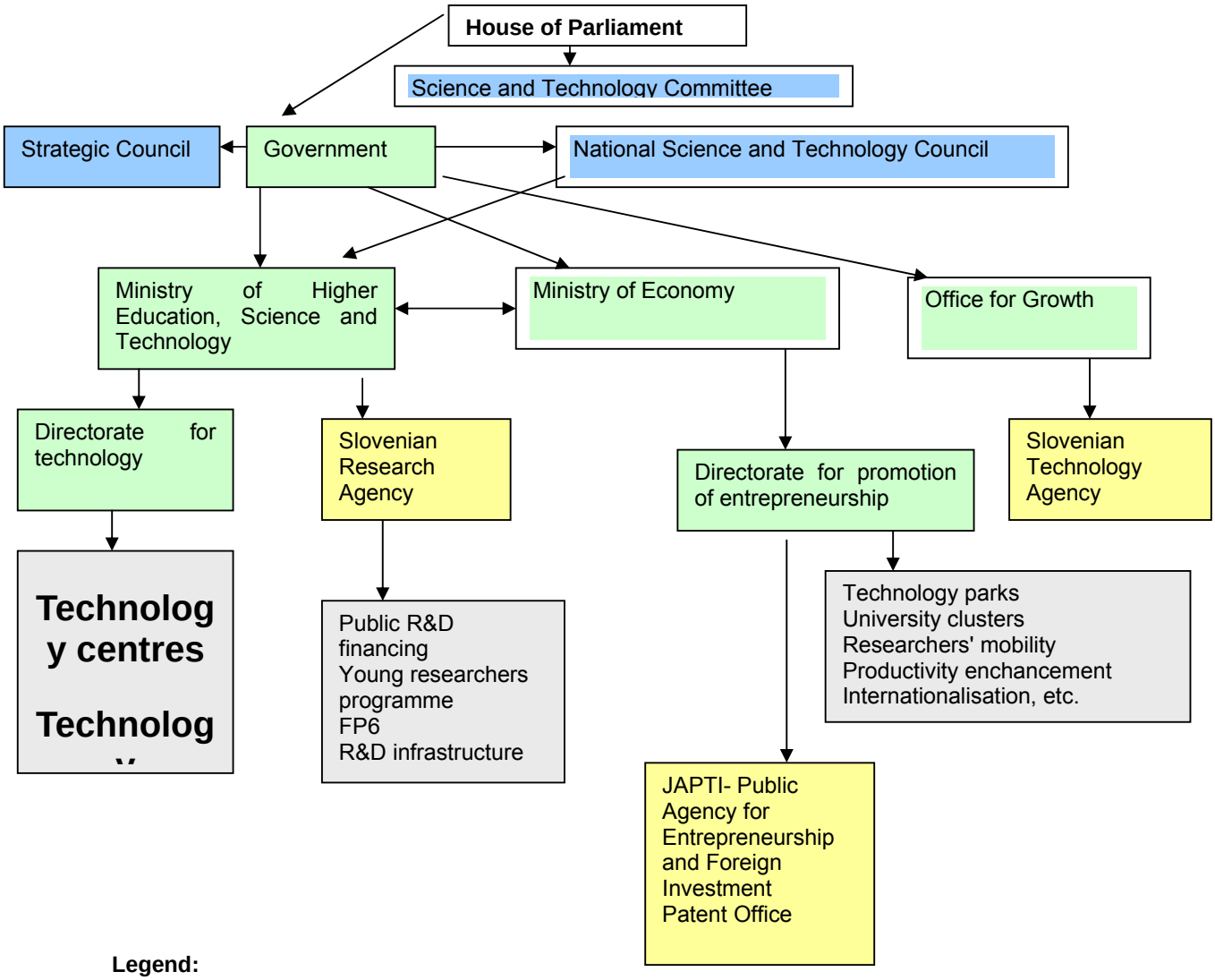
[12] A positive example is Ljubljana's Technology Park, where companies successfully developed from the start-up stage into regular SMEs in spite of the unsuitably small size of the premises and the irregular nature of financial support from the state.
[13] The programme can be found in Slovenian on http://www.mg.gov.si/fileadmin/mg.gov.si/pageuploads/DPK/PROGRAM_UKREPOV_ZA_PODJETNI__TVO_IN_KONKUREN__NOST_2007-2013___.pdf

fully operational with the staff, several key programmes and the financial resources of the former Ministry of Science, Education and Sport, the situation of the Technology Agency (TA), remains to be settled.

As explained in Trend Chart report Slovenia 2004-2005, when the new Law on Research and Development was passed, technology-related issues were the responsibility of the Ministry of Economy, rather than of the Agency. Accordingly, the legal provisions for the establishment of the Technology Agency defined this Ministry as the managing authority for the TA. However, the law has subsequently been amended to the effect that the responsibility for technology now lies with the newly formed Ministry for Higher Education, Science and Technology (MHEST). Managing the TIA should consequently be a part of this Ministry's portfolio. Since no agreement on transfer was reached between the two Ministries, it was announced in February 2006 that the TIA should belong to the so called "Lisbon ministry", the Office for Growth set up by the government to implement the Slovenian development strategy. Since this calls for certain legal amendments, the proposal was cancelled and in July 2006, the TIA was assigned to the MHEST. The Agency's programme was then submitted to the government for approval, but many of the planned activities will have to be postponed due to budgetary problems.

This issue points to another problem: innovation policy should be closely coordinated by both Ministries and the Office for Growth. The prolonged lack of agreement about the role of the Agency was not a good sign that a productive dialogue can be developed. This, however, is essential for the measures introduced by various bodies to be harmonised and for synergies to be found.

Exhibit 3: Organisational chart of the innovation governance system



Legend:

Blue: advisory bodies
Green: government
Yellow. Executing agencies
Grey: measures

1.1.3 Governance of regional innovation systems

Slovenia is considered as a single NUTS region due to its small size and low level of population (2 million inhabitants). During the last years, several attempts were made to organise Slovenia in two or three regions. The current government prepared a proposal to divide Slovenia into two regions for the purpose of the EU Structural Funds. The proposal was debated at length and has been taken onboard for the purpose of the negotiations on the 2007-2013 financial perspective. The national Development Programme 2007 -2013 and the priorities proposed are based on the principle of two cohesion regions. Officially, the Parliament approved the government's proposal to amend the constitution to facilitate the potential formation of two regions at NUTS 2 level, so it is expected that further discussions and the search for the optimal solution for the regionalisation of Slovakia will continue.

Currently, the issues concerning regional development as well as the preparation of all related documents are entrusted to the Government Office for Local Self-Government and Regional Policy. The main activities of the Office as stated on its website (http://www.gov.si/svrp/2kab/a1k.html) are:

- Local Self-Government
- Regional Development
- EU Cohesion Policy

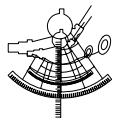
The Office performs the following tasks:

- coordinating the inter-ministerial preparation and harmonisation of framework agreements with the EU, on the basis of which Slovenia can receive funds from the EU budget;
- managing the Structural Funds and the Cohesion Funds in Slovenia;
- coordinating, monitoring and evaluating the work of the ministries, government services as well as other public bodies and services involved in the implementation of structural policy tasks and reporting the findings to the government
- establishing and maintaining a functioning information system for the purpose of monitoring and evaluating the National Development Plan and the Single Programming Document;
- performing other expert tasks in accordance with the rules and decisions of the Slovene government.

At NUTS 3 level, Slovenia has 12 statistical regions. These regions differ in terms of size and population and of both the level and composition of value added.[14] The largest in size is Southeast Slovenia (Jugovzhodna Slovenija) with 2675 km^2, the smallest is Zasavska with 264km^2. In terms of population, the largest region is Central Slovenia (Osrednjeslovenska) with 493,000 inhabitants. The smallest region is again Zasavska with a population of 46 000. Differences also exist in terms of economic and social indicators, including human resources and the level of economic, R&D and innovation activity. In fact, as recognised by UMAR's analysis of regional development (Pečar, 2005), the differences in the development level have increased throughout the time the Strategy of Economic and Social Development 2001-2006 was in place. This happened in spite of the explicit objective of the strategy to pursue a more balanced development.

Since the division into regions only serves statistical, rather than administrative, purposes it has no implications on innovation policy (with the exception of the Regional Development Agencies (RDA), which were established in most regions). RDAs follow different organisational schemes (set up by local communities and business firms, with different level of financial support from different entities). The role of RDAs in the promotion of innovation was expected to increase during the SPD implementation, but in practice their suitability to assist in projects, funded from the Structural Funds, was underexploited. Still, the role of the RDAs is not so explicit that it would result in special regional innovation policies, for which Slovenia as a country is too small. RDAs could play a more important role in helping entrepreneurs in the region tap into national as well as international schemes for regional development promotion. This requires a systematic coordination of the activities carried out at the national and the regional levels respectively, but no such programme or activity is in sight.

[14] All data on regions comes from UMAR, Working paper 9/2005.



From an administrative point of view, Slovenia has more than 200 local communities[15] with limited legislative and budgetary powers. Their focus is on local matters, but they can have an impact on economic development, primarily by making decisions related to infrastructure and location (planning/building permission, permits for the type of activity that can be carried out in a particular location, etc.).

Exhibit 4: regional governance of innovation policy matters

Level of regional/local government	Legislative &/or administrative authorities	Powers related to innovation policy, if any
NUTS 3 Statistical Regions	No legal and/or administrative authority, only statistical reporting units	In some regions, regional development agencies have been established, but not under coherent institutional or programme scheme.
NUTS 5 200 local communities	Responsible for provision of certain state- regulated services to citizens, plus autonomous powers as local authorities: primary education and child care facilities, culture, communal roads, urban planning, etc.	In some communities, local support to SMEs by establishing business zones is provided. Particularly larger communities (so called township municipalities) have their entrepreneurship/innovation support infrastructure, like information points, Small business centres, etc.

In principle, it cannot be argued that Slovenia has a regional approach to innovation policy. The programmes and measures are designed at national level and specific regions or regional challenges are not taken into account. However, there is a differentiation on the basis of the origin of the applicants (business firm, knowledge institution, bridging institution). Several projects, funded by European Regional Development Fund, favoured applications from outside the Central Slovenian region (e.g. if certain amount of co-financing is required, applicants from Central Slovenia would have to provide a higher financing share than applicants from other regions).

More differentiation and more attention to specific regional innovation challenges are planned for the next national operational programmes under the Structural Funds 2007-2013, both in view of the longer period and higher financial support provided as well as in view of increased attention given to overcoming differences in regional development.

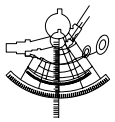
1.2 Appraisal of the governance system

1.2.1 Policy making and evaluation practices

Following the recent government reorganisation, aspects of innovation policy that are closer related to research is now within the remit of the Ministry of Higher Education, Science and Technology (MHEST). Aspects related to entrepreneurship are within the responsibility of the Directorate for Entrepreneurship at the Ministry of Economy. Due to the reorganisation and in view of the current overlap in responsibilities for innovation policy, policy measures are designed both at the MHEST and at the Ministry of Economy. Taking only the measures introduced by each, a clear distinction between the two would be difficult to define. Due to the extensive analytical work carried out in preparation of the strategic documents adopted in 2005, the quality of the indicators and benchmarks to back the introduction of new policy measures is impressive. On the other hand, evaluation results or past experience (both positive and negative) with similar measures are scarce at best.

It may be expected that the Office for Growth will introduce measures relevant for innovation policy as well, since the Framework of reforms also includes technology development, innovation and R&D. This is even more true as the Office is the responsible for the Technology Agency. While the two main actors now call on the SDS and the NRDP as the basic framework of their policies, it is expected that the design of policy measures will increasingly have to take into account the National Strategic Reference Framework and within it the Reform Programme for achieving the Lisbon Agenda.

[15] Several new municipalities were created in spring 2006, raising their number to over 200.



Under the Ministry of Higher Education, Science and Technology, four basic lines of action are to be supported (www.mvzt.si):

- Horizontal support of R&D projects of small and medium-sized enterprises
- Technology programmes in priority technology fields & technology platforms
- R&D infrastructure and development of human resources (technology centres)
- Participation of the business sector in international projects (EUREKA and FP6)
- Young Researchers' from industry

Under the first action line, focused support of R&D activities of SMEs is to be provided (SI_25). Funding amounts to approximately 25 –50% of the total eligible cost of the project. The support provided is in line with the EU Innovation Action Plan and addresses Slovenia's specific weakness of the low number of SMEs involved in innovation activity. A similar support measure was available in the past as well, focusing on industrial research and pre-competitive development activities in enterprises (modified to R&D projects in manufacturing SMEs [SO_2 in TC 2004]). However, the new measure places more emphasis on the R&D component.

Most of the support of the Ministry is directed at the so-called "technology programmes"[16]. The selected technology programmes follow the priorities of the NRDP (adopted in Dec 2005) and the new Slovenian Development Strategy 2006-2013. Within these still relatively broad fields (like for example information-communication technologies), programmes are to be prepared by researchers and representatives of the business sector, active in the same in the field, so as to identify narrow technology areas that are likely to be of interest for the business community within the next five years. The measure is modelled on a Finish example, carried out by the Finnish innovation agency TEKES (see details at www.mvzt.si). The technology platforms are encouraged to participate actively in the formation of the platforms at EU level.

The innovation infrastructure support programme envisages the continuation of existing support to technology centres, which currently receive support via the Structural Funds for infrastructure and are eligible to respond to MHEST's public call for operational costs. Furthermore, support to human resource development is to be provided in order to prepare researchers for participating in EU technology platforms.

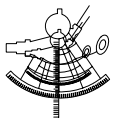
The participation of the business sector in international projects, especially in EUREKA, is the fourth line of action. It is likely that Slovenia will chair EUREKA during the period 2006-2007, which will call for additional resources to be assigned.

In May 2006, the Ministry of Economy's Directorate for Entrepreneurship presented a new official document called "Programme of Measures supporting Entrepreneurship and Competitiveness in the period 2007-2013". The programme is open for public debate and remains open to input from different government departments, so the precise nature of the policy or the final decision of the measures cannot be specified yet. However, the proposal brings forward certain new measures or institutions designed to foster entrepreneurship. The programme of support measures is based on four main chapters:

- Fostering of entrepreneurship and the creation of an environment conducive to entrepreneurship;
- Knowledge for development
- Development and innovation in the business sector
- Financial mechanisms.

The first chapter deals with measures focusing on a supportive environment for enterprises: administrative simplification via strengthening VEM (a one-stop shop for the registration of a new business unit), a voucher consultancy scheme, Euro Info Centres and special support for specific target groups (women, social entrepreneurship, countryside entrepreneurship). The second chapter addresses the upgrade of the human potential within business firms for innovation and R&D by facilitating the employment of highly educated personnel, especially with S&T degrees as well as increased mobility of research personnel from public research sector to business units. In the third

[16] EU terminology would call them "technology platforms".



chapter measures to stimulate R&D investment by the business sector are discussed and the establishment of a new centre for competitiveness and innovation is proposed. The key objective of this new institution would be a better coordination of the activities and measures in the field of innovation and improved networking among the stakeholders. Issues related to the financial support to SMEs, like the provision of various forms of venture and start-up capital, guarantees and interest rate subsidies are discussed in the fourth chapter.

While the final version of the Programme remains unknown until the conclusions of the public consultation and the input of different government departments have been taken account of, there can already be some observations about the draft. The identification of the main challenges to entrepreneurship matches that of several strategic documents (SDS, NRDP, National Lisbon Programme and Framework of Reforms) and is also extensively based Global Entrepreneurship Monitoring (GEM) studies and, in part, on the EIS. The document draws very little from the evaluation of the past measures and while it often points out the lack of coordination, it is not clear why the establishment of new institutions would be the proper method to achieve better coordination and more synergies. The most disturbing part is a disregard for the role of exiting institutions in the national innovation scheme: TIA, for example is not mentioned at all, JAPTI and Slovenian Entrepreneurship fund only sporadically. To achieve the specified objectives and meet the identified challenges, the draft Programme will be to be further improved to facilitate a better exploitation of the existing bridging institutions. While it is commendable to set quantitative targets for each of the proposed measures, some of the numbers would look more convincing if compared to the past record.[17]

In 2005, the call for industrial clusters was cancelled, but there is nevertheless a certain continuity in terms of the content. The Ministry of Higher Education, Science and Technology and the Ministry of Economy published joint calls for:

- the support to modernisation, construction and equipment of technology centres, parks, incubators;
- the support to preparation of strategies, programmes and development of services of technology parks/ centres/ incubators, technology networks, clusters
- the financing of joint research & development projects;
- the development of research infrastructure of centres of excellence.

These calls were issued in 2005/2006, using the resources available under the European Regional Development Fund. While the formation of clusters is no longer supported within these calls, financing is provided for joint programmes within established clusters and technology centres. Looking at the contracts awarded under these calls, one can notice an active participation of several clusters (automotive cluster, tools cluster, ventilation and air-conditioning cluster, for example). The ability to launch joint research projects within technology centres and clusters is an important solution for further development of both types of co-operations, especially for clusters, who now have additional and new source of financial assistance for further development.

However, neither ministry continued its support of organisational changes or modernisation of management techniques, so there is no promotion of any type of “soft” innovation anymore. The draft Programme only briefly mentions the introduction of models of business excellence, but proposes no specific measure in this regard. In fact it may be concluded from the overall text that it favours technology innovation and sees this as a priority.

The calls published so far in 2005 by the two different ministries, supporting technological development within enterprises, do not reflect any coordination and make it relatively difficult to assess how they fit into overall framework of innovation policy. This suggests that in spite of several strategic documents where innovation is stressed as an important element of growth, there is a lack of an overall innovation policy framework with a clear demarcation of what is to be addressed and who is responsible for which segment. This sends disturbing messages to the industrial community with regard to the responsibilities of different government departments and reveals that the coordination of

[17] For example, the target for the measures for improvement of entrepreneurship environment calls for a minimum of 30 new enterprises per year or 420 new enterprises by 2013. It is not clear how this figure was set or to which enterprises it relates: to all new enterprises in Slovenia (then it is rather low) or only to new enterprises resulting from application of one of the proposed measures (voucher scheme?).

innovation policy is in serious doubt. With new measures designed by each Ministry and each Agency, it would be most important to put in place an efficient and transparent coordination mechanism.

The most comprehensive overall policy review was carried out during the preparation of the current NRDP, which focused primarily on the research system, but provided for both internal assessment and public debate on wider innovation related issues as well. Since then, the focus of the public debate and internal discussions has been broader: taking all the proposed reforms and policy changes on board in a package; or narrower, focusing only on the activities of single Ministry/ Office/ Directorate. Overall innovation policy mix does not seem to draw enough attention.

Currently, there are no mechanisms for appraising the impact of other policy or regulatory proposals on innovation performance or potential in the country, also due to the novel character of the policy measures. In fact several measures are still in the process of preparation and therefore their impact cannot be assessed. Even the impact of discontinued measures has not been evaluated to see if any relevant areas were left out in the design of the new policy. The draft Programme of Measures proposes the development of the evaluation system, but it is unclear what the tasks of this evaluation would be or who would be responsible for performing this evaluation

As described in Trend Chart Report Slovenia 2004-2005, the Slovenian government already adopted a *Law on the support environment to entrepreneurship* in early 2004, focusing on the establishment of a support system for different innovation-related institutions, such as technology parks, technology centres, incubators and other forms of networks. Since the law requires a set of implementing acts, and none have been passed yet, the impact of the Law has so far been negligible. It has been announced several times that the Ministry of Economy will prepare a new set of regulations and amendments to the Law which will bring it to life.

Exhibit 5: Overall appraisal of policy making and evaluation practice

Policy making/evaluation practice	Benchmark	Ranking (1 to 5)
Openness of the process of designing innovation policy (measures)	Policy development is undertaken through a partnership based approach involving consultation of key stakeholders at all stages	2
Quality of inputs to policy making (application of evidence based techniques, use of evaluation results):	Policy design is systematically evidence-based and account is taken of evaluation results	2
Regularity and transparency of policy monitoring and review processes	All major policy documents and instruments are the subject of a regular review involving stakeholder consultation	1
The impact on innovation of developments and regulations in other policy fields is appraised	A well-structured process exists for impact assessment of new regulations on innovation &/or innovation is taken into account as an issue in other policy documents.	2
Existence of coordination mechanisms (high-level councils, inter-ministerial committees, etc.)	Well organised coherent system of policy coordination at government and agency levels	1-2
Existence of an "evaluation culture" [18] in the field of innovation policy	Innovation policy measures are systematically evaluated at key milestones in their implementation.	1
External versus internal evaluations of innovation policy measures	Evaluations respect good practice criteria (involve systematically external experts, evidence based, quality appraisal of evaluation reports, etc.)	1-2
Transparency and publication of results of evaluations	All evaluations are published &/or discussed in a public forum.	2

***Scoring**: compared to the benchmark current practice in the country is judged to be: 1 completely unsatisfactory, 2 unsatisfactory (room for improvement) 3 satisfactory 4 above average compared to other EU countries 5 best practices in the EU.*

1.2.2 Policy benchmarking and transnational learning

Slovenian policy makers have studied the R&D and innovation policies of several European countries in search of the policy concept that best responds to Slovenian needs. During the accession period under the PHARE programme, projects were carried out with experts from Germany, Ireland, the Netherlands, Denmark, Sweden (TWINNING) and Finland (see details in Trend Chart Report Slovenia 2004-2005). More recently, especially Scandinavian innovation policy was studied extensively and several exchanges took place at different levels with Finland, Sweden and Denmark.

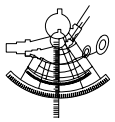
Foreign advice was followed most consistently in the case of clusters[19], university incubators (PHARE project, 2002) and the reorganisation of the R&D and innovation system with the establishment of the two agencies mentioned above. The concept underlying the Technology Agency is based on the Swedish example. Close contacts with the Swedish agency VINNOVA and TEKES from Finland continue with regular exchange of visits.

The key deficiency of policy benchmarking and trans-national learning so far has been the implementation of the recommendations obtained from international learning experiences. Some of the measures were incorporated in the Slovenian innovation policy without securing sufficient and sustainable resources (technology parks, for example), some were agreed upon, but never implemented (like Slovenian Innovation agency, proposed in 1999 by a PHARE study and accepted by the government at the time as a valuable advice, but never fully implemented).

Several senior Slovenian policy makers are involved in various bodies at the EU level, dealing with benchmarking R&D and innovation policies. The results of Trend Chart and the EIS are assessed annually and have so far had an impact on innovation policy in the course of time.

It can be argued that when Slovenia was a candidate country for EU membership, European innovation policy, the EU Action plan and various monitoring and benchmarking exercises had a

[18] An EVALUATION CULTURE (or culture of evaluation) is one in which evaluation, and the lessons drawn from it, form an important element of innovation programme management and policy formulation.
[19] Trend Chart Report: Slovenia, September 2002- October 2003



positive impact on innovation policy in Slovenia - not only because of an abundant information inflow, but also because the level of awareness of innovation policy increased substantially in government circles. The Lisbon and Barcelona strategies seem to have a similar effect, initiating a more lively debate on innovation and R&D policy which is not restricted to a narrow circle of those directly involved in R&D, but reached a broader audience. It may therefore be expected that trans-national learning in innovation policy will become increasingly important.

Exhibit 6: Overall appraisal of policy benchmarking and learning initiatives

Tool for policy learning	Benchmark	Ranking (1-5)
Formal mechanisms for policy learning (studies, innovation observatories, study visits, joint events with other countries, etc.)	Exists on a permanent basis (e.g. observatory) or at least one occurrence on an annual basis	3
Application of foreign experience in designing measures (e.g. involvement of foreign experts in design phase)	Systematically (all new policy measures take into account foreign experience)	3
Exchange or hiring of innovation policy staff/ experts to/from other countries (e.g. twinning programmes with new member states or candidate countries)	Long-standing and regular policy of exchange of staff	3
Involvement of senior policy makers /executives in trans-national networks (e.g. TAFTIE, OECD committees, etc.)	Key government or agency staff are members in such networks and play an active role (e.g. management committee, organisation of events, etc.)	3
Carrying out quantitative or qualitative benchmarking exercises to assess comparative innovation performance (scoreboards, etc.)	Benchmarking is a systematic process & results are incorporated into policy	3
Implementing policy co-operation with other countries: bilateral or multilateral programmes on innovation, etc.	Many long-term agreements operating (specifically in field of innovation, technology transfer, etc. as distinct from scientific research agreements)	3

Scoring: compared to the benchmark current practice in the country is judged to be: 1 completely unsatisfactory, 2 unsatisfactory (room for improvement) 3 satisfactory 4 above average compared to other EU countries 5 best practice in the EU.

1.2.3 Overall appraisal and SWOT of innovation governance

Exhibit 7: Innovation governance SWOT overview

Strengths	Weaknesses
• A relatively high share of public and business investment in R&D and the government's commitment to achieving the 3% Barcelona target by 2010 • Several bridging institutions (technology parks/ centres, clusters, incubators, etc.) were established, some of which are quite active • Support scheme for bringing human resources into research (SO-1), with special tax incentives for the employment of holders of PhD degrees in business R&D. • Support for the participation of the public and business research sectors in international projects, including ERA	• Insufficient cooperation between public research and the business community, also due to the current financing scheme of public R&D, providing a relatively high level of financial security to the public R&D sector with no specific requirements for business-focused research • Low rate of implementation of government innovation policies and continuous change of institutional setup • Lack of a systematic evaluation of innovation policy • Lack of coordination of measures focused on the promotion of innovation and entrepreneurship • Insufficient attention of policy makers to the low absorption capacity for innovation support schemes in the business sector, especially small enterprises.
Opportunities	**Threats**
• Government commitment, expressed in different strategic documents, to strengthening support to innovation and entrepreneurship, including higher public R&D expenditure • Priority-focused new development strategy and the NRDP • Significant portion of the resources available under the new financial perspective (Structural Funds) are planned for supporting entrepreneurship, knowledge production and innovation.	• Lack of long-term fiscal and financial incentives for R&D and innovation investment • Slow restructuring of public R&D sector away from programming towards project financing • Inability to establish a working coordination among different institutional schemes • Increased pressure on the budget for social transfers (pension system, welfare) leading to a reduction of funds available for R&D and innovation measures.

2 Developments in Innovation policy

2.1 Overview of trends in performance and policy

2.1.1 Recent trends in innovation performance and competitiveness

Slovenia is gradually closing its development gap with EU: preliminary estimates for 2005 show that Slovenian GDP per capita in PPP was 81% of EU average. The growth rate in 2005 was only slightly lower than in the previous year (3.9 in 2005 and 4.6% in 2006). Even so, the Development Report, prepared by Institute of Macroeconomic Analysis and Development and accepted by the government on 25 May 2006 (IMAD, 2006) concludes that ambitious goals set in Slovenian Development Strategy 2006-2013 will not be achieved at the current pace of development. The report stresses the relatively slow progress Slovenia has made in macroeconomic and social stability, but warns that competitiveness indicators are less satisfactory. In particular, the institutional role of the government is not sufficiently supportive of entrepreneurship, and the business sector often faces lengthy bureaucratic procedures and high indirect labour costs. The state is still present in many enterprises as a (partial) owner, which often leads to conflicts between ownership and the management role.

Slovenia prides itself for its sound macroeconomic policy which makes the country the first of the new Member States to join the eurozone in 2007. The final decision by EU Finance Ministries was taken on 11 July, following favourable reports from Commission and the EBRD in mid-May. Some local experts on public finance have warned the government that the tight fiscal and public finance policy should be continued in the years to come. This warning is timely, since the government is planning a major fiscal reform as well as changes in several policy areas, which may have a significant impact on public finance.

Exhibit 8 : Comparable indicators of economic performance

Indicator	National performance		EU 25 average	
	2000	2005*	2000	2005*
GDP per capita in PPS (EU25=100)	73	80.9	100	100
Real GDP growth rate (% change previous year)	4.1	3.9	3.9	1.6
Labour productivity per person employed (EU25=100)	69.8	76.9	100	100f
Total employment growth (annual % change)	0.8	0.4	1.5	0.6*
Inflation rate (average annual)	8.9	2.5	2.4	2.2
Unit labour costs (growth rate)	3.3	1.7	-0.1	-0.3
Public balance (net borrowing/lending) as a % of GDP	-3.5	-2.1	0.8	-2.6*
General government debt as a % of GDP	27.4	29.8	62.9	63.4*
Unemployment rate (as % of active population)	6.7	6.3	8.6	8.7
Foreign direct investment intensity	1.4	1.7	2.4	0.9*
Business investment as a percentage of GDP	23.1	21.3	18.3	17.1

Source: Eurostat - Structural Indicators and Long-term Indicators http://epp.eurostat.cec.eu.int
* or latest available year (2004); key: (:) not available; (f) forecast, (e) estimated value

Slovenia succeeded in increasing its market share in all of its major trading partners between 2000 and 2004 and is also gradually restructuring the composition of exports towards a higher share of technology- intensive products. The latter are still below the EU25 average: according to EIS 2005 the share of high tech products in total export is 5.8%, while the average EU 25 figure is 17.8%. IMAD analysts attribute this slow shift to a gradual transition policy, which resulted in a relatively slow technological restructuring process of the business sector.

Several international reports (published by the EBRD, the WEF and the IMD) came to the conclusion that the Slovenian institutional environment is unfavourable to economic development and competitiveness. The transition index[20] calculated by the EBRD has remained unchanged for the past

[20] The index measures the implementation of the transition reforms in six key areas: liberalisation, privatisation, enterprises, infrastructure, financial institutions and business environment.

three years (2002-2005), which puts Slovenia in last position among the transition countries who joined the EU in 2004. The most significant gaps exist in the areas of competitiveness, business environment (long registration procedures, significant court delays, lack of suitable building grounds for investments) reforms of the non-banking financial sector and privatisation of large enterprises. The overall WEF competitiveness index has improved, although the competitiveness of public institutions has declined by five places in five years. The IMD came to similar conclusions, as its index of government effectiveness also saw Slovenia drop by four positions in five years. As a result, the overall index for Slovenia is now below the average index for both the EU25 and the new Member States. A Business Environment and Enterprise Performance Study carried out by the World Bank and the EBRD also showed that Slovenian institutional competitiveness was lower in 2005 than in 2002.[21]

The conclusions of these reports were taken into account when the Slovenian development strategy was prepared. The main objectives of the strategy (IMAD, 2005) are:

- Exceed the average level of the EU's economic development (as measured by GDP per capita in PPP) and increase employment in line with the Lisbon Strategy in the next ten years;
- Improve the quality of life and the welfare of each individual, as measured by indicators of human development, health, social risks and social cohesion;
- Enforce the sustainability principle as fundamental quality criterion in all areas of development, including the goal of sustained population growth;
- Develop into a globally recognisable and renowned country with a characteristic development pattern, cultural identity and active engagement in the international community.

In order for Slovenia to achieve the objectives of its development strategy and of the Lisbon agenda, structural reforms must be carried out to strengthen economic competitiveness and increase the overall employment level. The Slovenian development strategy defines five development priorities:

- A competitive economy and faster economic growth
- Effective generation, two-way flow and application of the knowledge needed for economic development and quality jobs
- An efficient and less costly state
- A modern social state and higher employment
- Integration of measures to achieve sustainable development.

The National Reform Programme (NRP) to achieve the Lisbon goals is based on the development strategy. The NRP was prepared in October 2005 and presented to the European Commission and the national parliament in November.2005. The measures to achieve the Lisbon goals are divided into the five development priorities defined by the national development strategy. They cover all integrated guidelines for growth and employment and respond to EU recommendations to Slovenia. The extensive programme of measures was analysed by the Commission with regard to its compliance with EU law and addresses the main challenges and structural weaknesses of Slovenia.

To improve Slovenian economic competitiveness and achieve the ambitious goals of the development strategy, a set of reforms was proposed by the Strategic Council. The Framework of Economic and Social Reforms intended to raise general welfare in Slovenia (hereinafter referred to as "Framework") was prepared by the government's Committee for Reforms.

The Framework intends to influence the following mechanisms for an enhanced development climate (Summary of the Framework, November 2005):

- motivation for activity (restructuring social transfers, salaries);
- possibilities for activity (tax reform, including the introduction of a flat rate tax, promotion of entrepreneurship, labour market flexibility);

[21] Slovenia received lower grades, while several other NMS have significantly improved their institutional support (Slovakia, Poland).

- incentives for productivity, productive use of knowledge and employment (taxes and technological subsidies);
- free economic initiative (privatisation, entrepreneurship and liberalisation);
- an efficient and less expensive state (restructuring public finances, limitation of public spending, better regulation, public private partnership, drawing on EU funds, national projects, elimination of court backlogs);
- an efficient welfare state (social transfers, health care, pensions system).

Several of the proposed reforms caused a lively public debate, with the Trade Unions and student organisations among the most vocal opponents of the reforms. While Unions feared that more labour marekt flexibility would reduce job security, student opposition was directed against a set of measures to restructure and reform the higher education sector. The proposed introduction of tuition fees and the limitation of student work[22] were among the most contentious points.

To implement the reforms of the NRP and the development strategy, the government established a special Office for Growth. The head of Committee for Reforms accepted the post of minister without portfolio to head the new body, but stepped down after only three months[23]. Together with some other government actions[24], this raised some doubts about the implementation of the reforms.

The high level of state ownership in the business sector was reflected in several disruptions caused by political intervention in large enterprises in 2005/2006. In several large firms controlled by public ownership, the Management Boards were changes as top executives were replaced for reasons totally unrelated to business results. In some cases, this led to strategic business decisions being postponed, especially in the area of internationalisation. This happened in spite of the government's previous acceptance of a plan to privatise much of the banking and telecommunications sectors. The current coalition government put in place a gradual privatisation approach which prolongs the government's involvement in these sectors. While the respect for national ownership may be politically appealing, some analysts warn it may slow down the growth of these companies, who need the influx of fresh money to expand their activities.

Exhibit 9: Main innovation policy challenges

Description of challenge	Relevant EIS indicators and trends
1. Better exploitation of R&D inputs for more dynamic technological restructuring of business firms by establishing closer links between public R&D and business sector	New-to-firm products: Slovenia is in 19th position in the EU25 (no data available since 2000). High-tech exports.
2. More innovation activities, especially in SMEs	Innovation expenditure: 17th position in EU25. SME innovating in-house: 16thposition.
3. Development of human resources to support innovation activity	S&E graduates: still in 10th place, but loosing momentum Working population with a tertiary education: 16th position

Even though input indicators in R&D are bellow the EU average, they are still much better than the output indicators. Slovenia scores badly in terms of an effective use of resources and for its application of R&D results to speed up economic and social development. This has been identified as a challenge in all strategic documents (Development strategy, NRDP, NRP), stressing the need for greater R&D and innovation collaboration between enterprises and the public research sphere (see NRP, p. 22) .

[22] Wages paid to students in full time education is not subject to taxation or social security contributions. This was seen as a major distortion of the labour market (due to the resulting divergence in the labour costs for students and regular workers). As a result, the number of hours worked by students in paid (temporary) employment increased rapidly in recent years, while unemployment in the same has risen.

[23] Officially, the resignation was for personal reasons. However, unofficially, it is thought that a disagreement about the dynamics of the privatisation of the largest enterprises, which are still mostly state-owned (especially in the banking sector),was a major reason for the resignation. The Strategic Council and the Reform Committee both argued for faster privatisation with foreign partnerships, while the government, and especially the Minister of Finance, favours a more gradual process.

[24] Proposed legislation in the area of labour regulations, which is currently discussed with the social partners, does not fully endorse the proposed labour market reforms either.

While business expenditure on R&D is on the rise, it remains insufficient in many sectors. The sectoral distribution of existing business R&D expenditure is also a cause for concern as the chemicals (and specifically the pharmaceutical) sectors stand out as accounting for 32.9% of all business R&D. Furthermore, the machinery and equipment sectors account for 37.5% of business R&D expenditure (especially (non-classified) machinery and electronic and electrical equipment). (See Statistical Office of Slovenia, rapid report No. 310, 2005, for further details). Although CIS IV figures were unavailable at the time of writing this report, it is safe to speculate that the latest figures on the distribution of innovation expenditures follow a similar pattern. This makes an increase in innovation expenditures in other sectors and especially in small enterprises an important task for Slovenian innovation policy. Consequently, the NRP mentions this as one of its objectives (increasing the number of high tech and innovative enterprises, NRP, p.22).

The number of students in tertiary education in Slovenia and is gradually increasing, as it the average level of education of the employed population. However, progress is mush slower than in several other new Member States. Trend indicators for the number of S&T graduates are also a concern as the social sciences account for most of the increase in the overall number of students. In view of the planned increase in R&D investments, it can be expected that both business and public sector R&D will face a shortage of R&D personnel. Both the NRDP and the NRP recognise the need to promote studies in engineering and natural sciences. One of the activities in this area, launched this year, was the promotion of S&T studies by the Minister of Higher Education, Science and Technology among pupils in their final year of grammar/secondary school. For 2006/2007, there has already been a slight increase in the number of first year students in S&T disciplines.

2.1.2 Objectives and targets of innovation policy

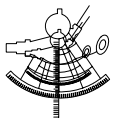
Currently, there is no explicit innovation policy paper in Slovenia, but the government did adopt several strategic documents in the area of R&D and innovation in 2005:

- The Slovenian Development Strategy 2006-2013 (which puts a strong emphasis on R&D and innovation as factors of economic growth)
- The National Research and Development Programme (setting R&D priorities, fixing the target to raise R&D expenditure to 3% of GDP and encouraging closer cooperation between public R&D and the business sector)
- The NRP – a reform programme to achieve the Lisbon Strategy goals (October 2005)
- The Framework of Reforms (a set of proposed policy reforms in labour market legislation, new fiscal arrangements, a restructuring of public R&D and the education system). The Framework stresses the need to increase R&D and innovation efforts to improve economic competitiveness and is partly connected with the National Reform Programme for Lisbon.

The common thread in all these documents is that R&D as well as increased innovation efforts by the business sector are key inputs into increased competitiveness and, therefore, more dynamic economic growth. This clear linkage of R&D, innovation and economic policy has not been pronounced so explicitly in the past. Based on this view, several objectives and policy priorities were formulated to address the field of knowledge creation, research and development and innovation. Strategic policy documents are coherent in formulating related and relevant objectives and measures. The Slovenian development strategy and the NRDP were prepared simultaneously and with reference to each other, while the NLP and the Framework are built on the objectives and priorities of the development strategy and the NRDP. They also translate their objectives into specific measures.

In contrast, the definition of targets and objectives is less harmonious. As each ministry running a measure is in charge of defining targets, their nature and level of detail vary considerably. In some cases, both quantitative and qualitative targets and deadlines are set, while other measures are only presented in very broad terms. This will make the assessment process rather difficult.

The objectives and the priorities of the Slovenian development strategy have already been presented. The second important strategy document affecting innovation policy is the national Research and development Programme. As the NRDP's prime objective is to foster and boost science policy, and as is chiefly concerned with proposals for the structure and organisational setup of the public research sector, the NRDP is not primarily an innovation policy document. Nonetheless, some parts of the plan are highly relevant for innovation. The NRDP recognises the need to increase even more dynamically



the level of private R&D investment. This increase should be stimulated by the introduction of an applied research financing scheme where public funds will co-finance R&D in the business sector. The objective is to increase the level of public R&D investments to 1% GDP and that of private investments to 2% by 2010 (thus reflecting the Lisbon/ Barcelona target). The NRDP calls for a redistribution of public research funds between science and technology to achieve a ratio of 55:45 by 2010. This would suggest a gradual reduction in the funds for research programmes, favouring basic science and increasing the funds for applied and development research projects[25]. The NRDP also intends to raise the quality of R&D to achieve world class in terms of quality, competitiveness, innovativeness, rationality and efficiency. Even though still rather loosely defined, the NRDP defines number of priority areas in terms of research: information and communication technologies, advanced (new) synthetic metal and non-metal materials and nano-technologies, complex systems and innovative technologies, technologies for sustainable development and health and life-sciences as well as research of specific importance for the Slovenian culture and history.

The need to stimulate higher investment of business sector in R&D has led to proposals of tax incentives for R&D investment as well as other measures enabling a closer cooperation between the public R&D sector and business R&D (mobility schemes).

Major reforms of fiscal policy are foreseen in the Framework for Reforms. Consequently, the NRDP's influence on tax measures has so far been limited to ensuring the continuation of an existing 20% corporate tax rebate for R&D investments. All other previous tax cuts favouring innovation have been discontinued.

On the other hand, the mobility issue had been taken up by the Ministry of Economy and the TIA: the former has already issued a call to support the employment of researchers from public research institutions in the business sector (SI_23).

The objectives and measures of Lisbon National Reform Programme are consistent with the Slovenian development strategy and incorporate the reform proposals of the Framework. The targets set in the area of innovation (III.A.3.2. and III.B.1.1.) primarily focus on:

- Improving awareness of government innovation policies and support instruments among SMEs;
- Better knowledge of innovation and entrepreneurship among young people by introducing special workshops in schools;
- Increasing the share of income of public research institutes derived from the business sector;
- Achieving a higher growth of sales revenues from exports in relation to support incentives for internationalisation;
- Establishment of a minimum of 50 new high-tech SMEs;
- Establishment of at least three new business zones and at least two new technology parks;
- Redirection of public research funds into priority areas of research and technological development, identified on the basis of cross-matching of research and business potentials;
- Improving labour market flexibility in R&D to attract more researchers to the business sector;
- Introduce economic relevance as one of the criteria in new evaluation system in R&D
- Support spin-off enterprises;
- Introduction of tax incentives for R&D.

The draft programme to support entrepreneurship and competitiveness prepared by Ministry of Economy takes several objectives from the policy documents presented above. In this sense, there is a degree of continuity in the policy framework. Also, the measures implemented by the Ministry of Higher Education, Science in technology address some of the priorities of the development strategy and the NRDP. This can be seen as an indication that all present and proposed measures respect the policy framework, although measures are often developed independently of each other by different actors following different priorities without a strong central coordination. This may cause some overlap as different departments might attempt to address the same challenges. At the same time, other subject areas may not be reflected at all in the mix of policy measures. .

[25] A target of 80:20 in favour of project financing was suggested.

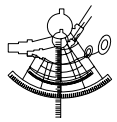


Exhibit 10 : National innovation policy objectives

Objective	Quantitative target (if set)	To be achieved by (year)
Increasing business expenditure on R&D as a % of GDP	BERD/GDP ratio of 2%	2010
Change the structure of public R&D financing in favour of applied and developmental research	First target 60:40; Second target: 80:20	2010 (2013)
Promotion of SMEs participation in R&D and innovation	Increase the level of awareness of SMEs of the support programmes	2013
Mobility of researchers from public R&D institutes to business sector	Increase the number of young researchers from 250 to 350 annually, with the increased number mainly going into business sector	2010
Increase enrolment in S&T studies at university level		2010
Increase cooperation between business sector and public R&D institutions		2010
Enforcement of selected research priorities	Additional R&D funds should be distributed according to the specified NRDP priorities	2010
Foster creation of spin-offs and NTBF	A creation of minimum 50 new enterprises each year in high tech sectors	2010

The existence of a new set of documents in the area of R&D policy (NRDP) and development policy (Slovenian development strategy) suggests that the government's view of R&D and innovation policy has changed. At the same time, they come with a set of challenges which reflects experiences made in the past:

- Implementation of the new policy documents must be a priority, particularly in view of the fact that the implementation record was seriously deficient in the past.
- Sufficient coordination of instruments and measures run by different ministries and other support institutions is instrumental to a enable smooth functioning of the National R&D and Innovation System.
- Development of closer cooperation between public R&D institutions, universities and the business sector within set priorities, using current and forthcoming support measures.
- Adjusting budgetary resources to support the declared priorities in sufficient amount.

2.1.2.1 Regional innovation policies

As explained in section 1.1.3, Slovenia does not have a specific regional innovation policy. Nonetheless, the management of the Structural Funds and the Cohesion Fund by the Office for Local Self-Management and Regional Policy does have a regional dimension. The calls relevant for RTDI are coordinated by the Ministry of Economy and the Ministry of Higher education, Science and Technology. The only regional differentiation so far was that the co-financing share required from applicants from Central Slovenia was higher.

Initially, the disbursement of funds from the ERDF was very slow. By the end of 2004, no funds has been disbursed and only 6.7% of the national resources had been claimed. Since slow disbursement continued in the first months of 2005, the government decided to form Joint Steering Committee where affected ministers review the progress made in terms of disbursement of funds. Since then the disbursement has improved significantly.

The complexity of preparing and implementing the projects supported by the ERDF surprised many applicants and caused several administrative complications and delays. In particular, smaller public research institutes or higher education institutions lack the administrative capacity.

The insufficient integration in the overall RTDI policy system of the current set of measures supported by the Structural Funds can be considered as a deficiency. Due to the complicated nature of the

Structural Funds Programme and the on-going institutional changes of the overall Slovenian R&D and innovation system in terms of distribution and/or coordination of measures, it is very difficult to develop a transparent scheme of all support measures.

2.1.3 Key developments in innovation policy measures

The Trend Chart policy monitoring exercise tracks developments in innovation policy not only at the level of policy definition and the setting of overall objectives as discussed in the previous sections, but also through the compilation of information in an analytical structure on specific innovation policy measures (IPM). At the present time, the Trend Chart innovation policy database contains over 1100 IPM fiches detailing measures implemented in 32 European countries (all countries covered by the Trend Chart except Liechtenstein). An innovation policy measure is defined broadly to include any public policy initiative that directly or indirectly impacts on the innovation process in the enterprise sector. In practice, the Trend Chart IPM fiches tend to fall into one of the follow categories of measures:

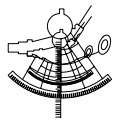
- Intervention in the form of financial support State Aid to enterprises through programmes of grants, loans, etc. (e.g. grants for product development);
- Funding of innovation programmes or projects aimed at groups of innovation stakeholders with the objective of improving co-operation and collaboration and thereby the functioning of the innovation system (e.g. cluster;
- Measures taken to improve disseminate or develop knowledge about specific aspects of national innovation systems (e.g. sectoral or regional strategies, foresight exercises, the innovative performance of firms through spread of best practice, etc.);
- Action to improve the functioning of institutions (legal acts, regulations) which affect innovation processes and performance (e.g. intellectual property rights, financial markets, creation of firms);
- Funding of innovation infrastructure and intermediaries such as innovation centres, incubators, etc...

This section of the report describes in more detail the current policy mix adopted in Slovenia in terms of the political priorities and human and financial resources allocated to each of these broad types of measures. Further details on the specific innovation policy measures can be found in annex 2 and via the Trend Chart website.

The current innovation policy mix. Reflects organisational changes in the area of innovation policy as well as Slovenia's eligibility to draw on Structural Funds. Some of the old measures were modified or replaced by new measures and a set of new measures has been introduced. In terms of overall levels of funding allocated to innovation measures, a gradual and not very dramatic shift in overall government spending priorities towards innovation can be observed. This is particularly visible in funds allocated through the Structural Funds (measures SI_ 26; SI_24, SI_19; SI_18; SI_10; SI_3). To a certain extend, the allocation of funds for innovation policy measures via Structural Funds makes it more difficult to compare what the exact allocation of funds is, because the differences between awarded and disbursed amounts can be significant.

The new or renewed measures invariably focus on different challenges which are normal for the Slovenian innovation system and have been identified by several international or national analyses. They follow the objectives of the Slovenian development strategy, the NRDP and also the NRP. An important set of measures addresses the lack of cooperation between public R&D and the private sector (SI_26; SI_25; SI_18, SI_3), providing different forms of subsidies either to joint research or development projects or to activities upgrading the research infrastructure in technology centres or parks. Some of these measures can also provide funding to clusters, thus providing the cluster programme with an additional degree of continuity. The cluster programme was previously identified as an example of good practice in Slovenian innovation policy.

With the help of ERDF funding, substantial resources are directed towards upgrading research and development infrastructure in technology parks and centres. The aim is to provide better support services for SMEs. Once fully implemented, this measure is expected to become a significantly incentive for SMEs to engage in more innovative activities.



In addition, the financial resources available to SMEs through subsidised credits (SI_19) and technology equipment subsidies (SI_24), provided by the Slovenian Entrepreneurship Fund and the ERDF, directly assist SMEs in modernising their activities. The established voucher system for consultancy and training (SI_10) is also available to SMEs. According to the reports of 2005, the financial assistance and the voucher scheme have distributed all available resources, thus indicating that there is a strong need among SMEs for such measures. Both schemes are included in the Ministry of Economy's draft programme of measures for 2007-2013, which is currently debated in public and among different government departments.

A specific set of measures has been designed to improve human resources in the R&D sector. One of the longest standing measures is the Young Researchers programme (SI_1, see Trend Chart Report on Slovenia 2004-2005 for further details). The programme initially focused on the public research sector, but has since been expanded to include a special strand for young researchers in the industry sector. The programme pays the costs of M.A. or doctoral studies, including a salary, tuition fees and mentorship costs. Its objective is to foster the employment of highly educated people in business R&D. A new measure, introduced by the Ministry of Economy, shares the same objective. It supports the transfer of researchers from public research institutions to business R&D units by co-financing the salaries of researchers moving to business R&D units after having worked in public R&D for at least three years. It also pays a set amount for additional training abroad. The programme applies only to researchers with a background in engineering or natural sciences who continue working in the same area of research. Since this is a new programme, it is too early soon to assess its success at this stage. A very similar measure was proposed by the TIA to its Advisory and Management board, but no call has yet been issued.

In May 2006, the MHST announced a new measure, following pressure from the Association of Innovators. The measure co-finances the activities of institutions providing support to inventors or innovators, particularly in terms of the commercialisation of their ideas and in arranging for IPR protection. The latter aspect is particularly important as the rate of patenting is low in Slovenia: for private inventors the costs are too high, public research institutions find publications an easier and more accessible way for the presentation of their research results, and business R&D units primarily focus on developmental research. In fact, innovation policy should pay more attention to intellectual property rights and the promotion of patenting, but this is one of the areas that are rarely mentioned in strategic documents and are generally not supported by policy measures.

It is expected that after the adoption of the programme of measures, a more stable framework for the innovation policy mix will be established. However, a better coordination among the various stakeholders will be necessary to achieve this.

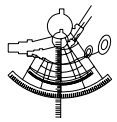


Exhibit 11 : New Innovation Policy Measures over last 12 months

IPM N°	Title	Innovation policy framework category	Organisation responsible
SI_22	Financial assistance provided to institutions supporting innovators	IV.4. Increase the availability of private sector innovation financing to enterprises V.1. Upgrading innovation related skills and diffusing new technologies in enterprises V.3. Favouring the protection and optimising the exploitation of intellectual property as a driver for innovation	Ministry of Higher Education, Science and Technology
SI_23	Co-financing of employment of researchers in enterprises	III.1. Facilitate access of enterprises to skilled personnel II.5. Encourage the uptake of strategic technologies, notably ICT V.1. Upgrading innovation related skills and diffusing new technologies in enterprises III.2. Facilitate the acquisition and transfer of knowledge ad technologies to enterprises, encouraging in particular cross-border initiatives.	Ministry of Economy
SI_24	Technology equipment subsidies for SMEs	I.1. Development of a strategic medium-to-long term vision of innovation challenges and innovation potential II.5. Encourage the uptake of strategic technologies, notably ICT III.2. Facilitate the acquisition and transfer of knowledge ad technologies to enterprises, encouraging in particular cross-border initiatives V.1. Upgrading innovation related skills and diffusing new technologies in enterprises	Slovenian Entrepreneurship Fund
SI 25	Support to R&D projects in enterprises 2006/07	I.3. Improve the effectiveness of the policy-cycle in order to increase the impact of public intervention activity and outputs in enterprises II.5. Encourage the uptake of strategic technologies, notably ICT III.4. Increase the availability of innovative infrastructures to facilitate knowledge exchange and product/service development by enterprises III.6. Facilitate the development of collaboration between enterprises and other actors with a view to joint innovation activities and knowledge exchange	Ministry of Higher Education, Science and technology
SI_26	Incentives to joint development & investment projects	I.1. Development of a strategic medium-to-long term vision of innovation challenges and innovation potential III.4. Increase the availability of innovative infrastructures to facilitate knowledge exchange and product/service development by enterprises IV.1. Increase the number of new innovation intensive enterprises created and their survival IV.2. Provide adequate infrastructure to new technology based firms to facilitate their survival and growth V.1. Upgrading innovation related skills and diffusing new technologies in enterprises	Ministry of Economy (partly funded by ERDF)

2.2 How well does policy meet the innovation challenges?

Assessing the effectiveness of national innovation policy with respect to innovation performance is anything but a straightforward exercise. There are at least two main problems:

- First, there is an information problem. To answer the question requires information on intended and unintended changes in innovation behaviour of economic actors as a result of certain innovation policy measures and the (dynamic) impact of changed behaviour on the performance of both the direct target group of a measure and other economic actors (through positive and negative externalities, forward and backward linkages, macroeconomic relations, consequences upon market structures and competition etc.). Evaluation methodology has developed different approaches to tackle these challenges, ranging from qualitative ones (like peer review and systemic analyses) to quantitative modelling. Existing methodologies and data availability allow meaningful evaluations of individual schemes, especially with regard to the intended changes in behaviour and performance of the target group. Such evaluations have been carried out for a number of measures, and their results may be used to assess the effectiveness of innovation policy on the level of individual measures.
- Secondly, there is the problem of attribution. National innovation policy is only one area of policy making that influences innovation performance. A number of innovation activities are affected by European Trend Chart on Innovation policy measures designed on an international or multinational level, such as EU Framework programmes, EU regulations, agreements on trade and intellectual property in the framework of WTO, etc.). As innovation policies on the national and international level are interconnected, a purely national view on the link between innovation policy and innovation performance is therefore incomplete.

Given these limitations, this section of the TrendChart report is focused on exploring two key issues:

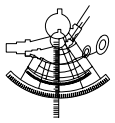
1) The relevance and effectiveness of the policy response to the challenge identified in this report. Here the objective is to appraise the extent to which the current policy mix is relevant given the challenge identified. It is an appraisal of pertinence or coherence in terms of evaluation-type criteria.
2) In addition, for each of these challenges, available evidence on the influence of policy measures on innovation performance is presented and discussed.

This is done for the challenges identified through the TrendChart reporting exercise and also with respect to the innovation relevant actions identified in the National Lisbon Reform Programme.

2.2.1 Policy responses to identified challenges

Exhibit 12 : innovation challenges and policy responses

Key challenge	Measures responding to the challenge
Better exploitation of R&D inputs for a more dynamic technological restructuring of business firms by establishing closer links between public R&D and business sector	Subsidies for technology centres/parks SI 3; Development of business incubators at universities SI_13; Development of innovation infrastructure SI_18; Support to R&D development projects in enterprises SI_25; Incentives to joint development& investment projects SI_26.
Increase innovation activity, especially in SMEs	Voucher system for consultancy and training services SI 10; Incentives for SMEs via incubators and technology parks SI_11; Subsidised credit to SMEs; Technology equipment subsidies for SMEs SI_24.
Development of human resources to support innovation activity	Young Researchers Programme SI_1 Entrepreneurship for the Youth SI_21; Co-financing of employment of researchers in enterprises SI_23



Challenge 1: Better exploitation of R&D inputs closer links between public R&D and business sector

All policy measures responding to this challenge are suitable in content. However, the implementation of the measures is more problematic as it has been characterised by irregular calls, inconsistent amounts of funding/resources, fluctuating eligibility criteria and relatively demanding administrative procedures (especially in case of measures co-financed by the ERDF). So far, the measures do not address the issue of priority setting in public research financing, where policy strategic documents suggest a shift from research programme (and thus more basic research) financing to more project financing. The NRDP proposes to change the evaluation criterion for R&D results in public research institutions (for individual researchers as well as research programme groups) to rate cooperation with the business sector more highly. No measure in this regard has been introduced yet.

Different measures addressing this challenge have been introduced over the years, but the indicators do not show any significant evidence that the R&D results of public research institutions are better used. Since this issue remains one of the top challenges, further discussion is needed with the stakeholders to determine the best format to support the cooperation between businesses and public R&D.

Challenge 2: Increase innovation activity, especially in SMEs

The key problem with the measures addressing this challenge is insufficient funding. The resources available to JAPTI (previously to PCMG) to finance the voucher system and the resources available to the Entrepreneurship Fund have always been insufficient to meet the demand. Using the ERDF to support the voucher scheme also proved to be problematic since the programme is broken down into individual consultancies, each of which had to be subject to the same cumbersome procedures that had to be followed projects ten times their size. The long administrative process of reimbursement of the consultancy costs diminished the effect and discouraged some of the potential applicants. According to the programme administrators, the measure would best be kept within national financing.

Evaluating the success of measures in this area is a rather complex matter as the innovation activity of SMEs depends on a wide range of factors, not all of which are within the scope of the measures designed so far. Additional and more flexible forms of financing or co-financing specifically developed for SMEs are often suggested. These would include venture and start-up capital, further extension of guarantees, etc. On the other hand, experts also point to lack a systemic approach and of transparency in existing measures, as well as a low awareness among SMEs of the existence of such programmes, to explain the difficulties in this area. The programme of support measures seems to take up the matter of insufficient awareness as it includes a number of passages on promotional activities.

Challenge 3: Development of human resources to support innovation activity

In contrast to the Young Researchers Programme, which is one of the older policy measures and which has already contributed to a more balanced age structure of Slovenia's research personnel, the other two measures addressing this area are quite new. The expansion of the Young Researchers programme to researchers in the industry sector was not as successful as hoped, mainly because there were not many suitable candidates for the programme. Part of the reason was the requirement for mentors both in the business sector and in public R&D institutions to have a Ph.D. degree. This apparently caused serious constraints in business R&D units. The measure promoting entrepreneurship among the young people (primary and secondary schools) was relatively successful in the schools where it was implemented, but it has not (yet) evolved into a national programme with a wider impact. A more active approach in this area has been suggested in the NRP (workshops and special courses on innovation), but no specific measures have yet been launched.

Several other measures were proposed or are planned in this area, including the promotion of science and technology studies at the university level, more scholarships for S&T students, additional mobility programmes, etc. The reform framework has an ambitious programme of changes in the higher education sector and the Minister for Higher Education and Science is preparing a special law with an integrated policy for higher education and research sphere. The overarching objective si to increase the level and the quality of human resources for R&D and innovation.

Exhibit 13: innovation challenges, policy responses and impact

Challenge	Relevance of policy response	Evidence of impact
Better exploitation of R&D inputs for more dynamic technological restructuring of business firms by establishing closer links between public R&D and business sector	4	3
Increase innovation activity, especially in SMEs	3	2
Development of human resources to support innovation activity	4	2

Policy response ranking scored from 1 to 5 : 1 No specific measures addressing the challenge (possibly a debate but no evidence of any real policy development); 2 Policy development under way to respond to challenge (policy debate or design launched, e.g. announced in National Lisbon Reform Plan, etc.); 3 Specific measures existing for some time but insufficient to respond fully to challenge; 4 Existing measure plus one or more newly launched measures (during last 18 months) 5 A comprehensive set of measures which potentially responds fully to the challenge.
Evidence of impact scored from 1 to 5: 1 trend for indicators has worsened since measure(s) introduced, 2 no observable change in trend since measure(s) introduced, 3 too early to appraise (measures introduced in last 24 months), 4) trend for indicators has improved since measure(s) introduced, 5 Evaluation or study indicates measure(s) has clearly contributed to improving performance of country.

2.2.2 The Lisbon National Reform Programme (NRP) and innovation: an appraisal

The key documents on the Lisbon Strategy are available online at: http://europa.eu.int/growthandjobs/key/index_en.htm.

The NRPs are also available online (see http://europa.eu.int/growthandjobs/pdf/nrp_2005_en.pdf)

As mentioned above, the Slovenian NRP is based on several strategic documents adopted by the government in 2005. With regard to innovation, following documents have particularly influenced the NRP: the Slovenian Development Strategy 2006-2013, the Framework Programme of Reforms, and the National Research and Development Programme. All three documents take the approach that innovation and more intensive technological restructuring is the key to improving the competitiveness of the Slovenian economy, which should then be able to move from gradualism to a more dynamic growth.

The challenges in the field of innovation, identified in the documents mentioned above and in the NRP are not new and have been pointed out to the government in various international and national analyses[26]. The NRP reiterates what another documents have already stated, namely that innovation intensity, especially among SMEs, is low and declining, that the transfer of knowledge from public research institutes to the business sector is insufficient, that bureaucratic procedures are complicated and lengthy, that the bank system is not adjusted to the needs of SMEs, that venture capital is scarce, that payment discipline is low, and that there is insufficient real estate for entrepreneurial activities. A lack of appropriate human resources is also identified as a challenge.

On the other hand, the NRP stresses that these problems have been identified and recognised by the Slovenian government, so in fact the NRP can simply use the objectives of the Slovenian development strategy as well as the measures designed to address these targets, as they are more or less identical to the measures needed to meet the Lisbon targets. The NRP is structured to present each of the objectives and priorities of the development strategy before assigning the respective priority measures. The sections of NRP that are particularly relevant for innovation policy are:

- III.A.3.2. Promoting entrepreneurial development and innovation;
- III.A.3.3. Education for entrepreneurship;
- III.A.3.4. Access for small and medium-sized enterprises to financial resources;

[26] Including the Development reports prepared annually by IMAD and the EU Innovation TrendChart Reports.

The Second Development Priority is relevant to innovation policy in its entirety. It stresses the need for an effective generation, two-way flow and application of the knowledge needed for economic development and for high quality jobs. Priority themes such as promoting R&D activities and innovations and promoting the development of human resources and lifelong learning are also included.

The proposed priority measures seem appropriate, although they focus more on the overall environment for entrepreneurship, SME activities and R&D than on innovation itself. Of course the low innovation activity in SMEs is partly the result of an unfavourable business environment, but this is not the only reason. The current public R&D system is not the main obstacle to innovation either: the existing inconsistencies and inefficiencies in the Slovenian innovation system[27] are much more important factors having brought about this situation.

The innovation support system has over the years been unstable both in terms of the amounts allocated to the instruments and in terms of concepts which were supported (from support to joint R&D projects to support to clusters and to the recent support to technology networks). Programmes were stopped for no particular reason and the focus changed depending on organisational and personnel changes in the government. The majority of SMEs are hardly aware of the programmes, and those who try to apply complain that the paperwork required and the background documentation which needs to be presented is not justified by the size of the support received. From this point of view, the target of the NRP to increase the awareness of the existing programmes among SMEs is an important one, yet it may prove to be rather difficult to achieve. In addition to an increased awareness of the policy measures, a simplification of the application procedures and the procedures for the disbursement of financial support should also be set as a target.

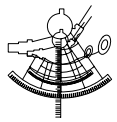
[27] Freeman, C., 2002, 'Continental, national and sub-national innovation systems- complementarity and economic growth', *Research Policy, no.* 31, pp.191-211.

Exhibit 14: Policy Measures relevant to Lisbon guidelines n°8 and 15.3

Lisbon guidelines n.8 - Innovation	Referenced in NRP	IPM Fiche Number*	Title of measure
1. Improvements in innovation support services, in particular for dissemination and technology transfer.	Y	SI 1	Young (Junior) Researchers Program
	Y	SI 10	Vaucher system for consultancy and training services
	Y	SI 22*	Financial Assistance to institutions supporting innovation activity
	Y	SI 23*	Cofinanancing of employment of researchers in enterprises
	Y	SI 24*	Technology equipment subsidies for SMEs
	Y	SI 26*	Incentives to joint development & investment projects 2006-2007
2. The creation and development of innovation poles, networks and incubators bringing together universities, research institutions and enterprises, including at regional and local level, helping to bridge the technology gap between regions.	Y	SI 3	Subsidies for technology centres/parks
	Y	SI 11	Incentives for SMEs via incubators and technological parks
	Y	SI 13	Development of business incubators at universities
	Y	SI 18	Development of innovation infrastructure
	Y	SI 21	Entrepreneurship for Youth
	Y	SI 23*	Co-finanancing of employment of researchers in enterprises
	Y	SI 25*	Support to research & development projects in enterprises 2006/07
	Y	SI 26*	Incentives to joint development & investment projects 2006-2007
3. The encouragement of cross-border knowledge transfer, including from foreign direct investment.			
4. Encouraging public procurement of innovative products and services.	Y	SI 25*	Support to research & development projects in enterprises 2006/07
5. Better access to domestic and international finance.	Y	SI 19	Subsidised credit to SMEs
	Y	SI 24*	Technology equipment subsidies for SMEs
6. Efficient and affordable means to enforce intellectual property rights.	N	SI 22	Financial assistance to institutions supporting innovation
Lisbon guidelines n.15 - Entrepreneurship and SMEs	**Referenced in NRP**	**IPM Fiche Number**	**Title of measure**
3. Strengthen the innovative potential of SMEs	Y	SI 19	Subsidised credit to SMEs
	Y	SI 24	Technology equipment subsidies for SMEs
	Y	SI 23	Co-finanancing of employment of researchers in enterprises

*: New measure

Nb: Y/N/P = Yes/No/Planned – indicate whether the measure you identify as relevant to each specific guideline is included in the NRP or not (Planned measures will not be in the TrendChart database normally).
Nb: indicate with a * = when the measure is a New measure



The key challenges missing from the NRP are the creation of a coherent and stable national innovation system and measures to increase the transparency and coordination of government-run innovation support measures. The current state of affairs is characterised by unclear responsibilities, a disregard for some of the bridging institutions, limited coordination when introducing new measures, and a tendency to try and resolve existing problems by creating new institutions[28]. This is not in line with the statements and objectives of the strategic documents. The Slovenian innovation system also seems to be marred with a less-than-effective implementation process in spite of the existence of several high quality (strategic) documents for innovation.

Furthermore, although the need to consider innovation policy as a horizontal matter seems to be recognised at the level of strategic policy documents, measures tend to fall back to the outlived concept of innovation being restricted to the result of new technologies and S&T trained R&D personnel. The interdisciplinarity of research and of human resources is not reflected in the present mix of policy measures.

The targets set in NRP should be more structured, specific and based on past data and experiences. The document would gain more credibility if the responsible actors were defined and if clear deadlines, timetables and cost estimations were given. There is too much of a history of well designed policy measures and targets in the area of innovation and technology development not having been implemented due to a lack of financial resources, a strong scientific lobby or a lack of coordination between different government offices.

As the reform programme for meeting the Lisbon goals coincides with the Slovenia's own reform programme (the Framework), the latter has received a lot more public attention. As a result, the objectives, priorities and targets of the NRP are less known to the public. This reduces the pressure on the government to fulfil the targets, although it claims that the targets of the NRP are similar to those of the development strategy. On the other hand, the similarity of targets may encourage the interpretation that some of the less popular measures need to be introduced not due to the internal set of reforms but due to pressure from EU to implement the Lisbon Agenda.

[28] The draft programme of measures to support entrepreneurship suggests the establishment of Centre for Comeptitiveness and Innovation to resolve the issue of lacking coordination and insufficient transparency.

3 What lessons can be drawn from policy implementation?

3.1 Lessons from the evaluation of innovation policy measures

The reasons of success and failure of specific policies over the past two or three years are difficult to explain without risking an over-simplification. Frequent organisational and staff changes in key government institutions responsible for innovation policy certainly had a negative impact on some policies. In general, it can be argued that innovation activity in the business sector evolves at its own pace regardless of what the policy is: gradual improvements in certain innovation indicators are reported in each EIS and none of the identified challenges seem to be getting worse. On the other hand, there is a view that business innovation performance should have improved more dynamically as an increasing number of policy measures was introduced over the years, and that Slovenia should better exploit its relatively good science base.

Individual measures or policies have rarely been subject to a performance review or evaluation, either directly by the government, its policy agencies, or by independent contracted evaluators. However, two evaluation studies are carried out regularly: the annual development report prepared by IMAD, which analyses the implementation of the development strategy, and the TrendChart country report for Slovenia. The former is usually limited to the level of general policies and does not enter into the details of specific measures. The TrendChart reports were used to a certain extend, as were other analysis reports (EBRD, PHARE, Deloitte). However, some of the key messages of these evaluations as to the coordination, transparency and stability of innovation policies and measures seem to have been disregarded.

Innovation measures are reviewed internally by the staff of the ME and the MHEST. This type of evaluation essentially relies on monitoring data on the number of applications received for a certain call, the amount of resources requested, the number of projects approved and the amount of financing disbursed. Furthermore, the coordinator of each measure has to ensure that suitable reports are received for all approved projects. These evaluations are internal and their findings are not published.

An evaluation culture is slowly developing in Slovenia. Making policies compatible with European (EU) standards is a helpful instrument in this respect as the required reporting procedures, continuous monitoring and public evaluation are gradually taken aboard not just as external requirements, but as valuable sources of input for the design of future policies and measures. If policy makers can resist the tendency to consider that everything that happened before their arrival in office is irrelevant (a specific version of the “not-invented-here syndrome”), the evaluations and the lessons they can provide will gain even more importance.

3.2 Review of good practice

Exhibit 15 : summary of good practice cases in Slovenia

Year	Title of good practice case	Justification for selection
2000	-	
2001	-	
2002	-	
2003	-	
2004	Young Researchers Programme - extension to industry	Encourage the employment of young people in research in the business sector
2005	Clusters support programme	Very successfully mobilised cooperation among enterprises and with public R&D institutions

So far, two aspects of Slovenian innovation policy have been identified as examples of good practice: the Young Researchers Programme and the Cluster Initiative. The Young Researchers Programme (SO_1) is one of the most successful activities in the area of education and training for R&D and

innovation (monitoring, updating and disseminating developments in innovation and technology diffusion in Central and Eastern Europe - TrendChart: report on Slovenia, May 2000). The Programme was set up as early as 1985 and has worked successfully throughout the years to bring young people into research. The impact was so strong that it actually lowered the average age of researchers in the public research sector in Slovenia. Both internal and external evaluations found the programme to be very positive and administrative problems or unclear definitions were continuously resolved by the responsible office. The only critical remark made in past analyses of the Programme was that only a relatively small number of young researchers actually left the public research/academic sector for a job in the business sector after completing the programme. This led to the extension of the programme to cover the business sector. As in the original programme, the aim was to increase the number of young people working in research, but a new strand was created to focus specifically on research employment in the business sector. The programme is among the longest running measures in Slovenia and, although it may not address the main challenges for the innovation system, it certainly delivers positive results. A detailed analysis of the programme could become a valuable source of information for the design of new measures to boost the employment of research staff in the business sector. It could also shed more light on the issues at stake for both the business community and the candidates who have participated in the programme.

The cluster initiative was identified as an example of good practice in policy implementation because the development and the implementation of the measure involved careful and considerable transnational learning, training and promotion. The launch of the cluster idea goes back to 2000. In 2003, an internal and an external evaluation were carried out, which was not a typical approach to innovation measures at the time. The results showed different levels of success in different clusters, as some progressed even more dynamically than expected. It also revealed an initially low level of trust between the cluster members, problematic levels of support from the top management in some cases and insufficient coordination of cluster-related measures at the policy level. The structure of the cluster and the leadership potential of the cluster's coordinators seem to be two of the most crucial factors of success. Another external evaluation, carried out in 2004 (Jaklič et al, 2004), found that the effects of the clustering are of a long-term nature and are particularly pertinent for better communication and knowledge transfer. Furthermore, it was discovered that clustering would not have happened unless it had been supported by special measures and that the current clusters felt confident to continue even if government support should cease. This as actually happened: in 2005 the cluster promotion measure was ended. The measure supporting the development of research infrastructure (SI_ 18) was introduced, but no longer exclusively aimed at clusters, instead allowing the clusters to apply for subsidies to upgrade their research infrastructure and propose joint research projects. This allowed established clusters to continue their work.

The relatively small number of good practice cases is the result of frequent changes in the mix of policy measures and of an inadequate evaluation culture in terms of the impact of individual measures: it is difficult to identify a measure as an example of good practice if its implementation and its impact have not been assessed.

Examples of good practice from other countries have been taken into account when developing new initiatives in Slovenia. In particular, the Swedish VINNOVA and the Finnish TEKES have been studied and used as a model for the Slovenian Technology Agency. Yet it seems that there are several specific local circumstances that needs to be taken into account when transferring examples of good practice from other countries: the proven quality of a measure in a different setting alone is not enough to generate local support and guarantee success in a different environment.

Annex 1: overview of innovation policy docuents

Main policy documents concerning innovation policy adopted/published since 2000

Title of document (in English)	Date (of approval, publication, etc.)	Organisation responsible (Ministry, etc.)	Legal status (Law, Government Decision, strategy paper, etc.)	Comments and main objectives (Budget set-aside, new measures, etc.)
Slovenia in the new decade: sustainability, competitiveness, membership in the EU - **Strategy for Economic Development of Slovenia** (2001 – 2006)- SEDS	2001	government	Strategy paper, adopted by the government and the parliament	To introduce the knowledge based society into various polices (human resources development, employment, information society…) while the policy of technological development remains explicitly mentioned as a key policy for transition to knowledge based society. Implementation of SEDS annually assessed by IMAD in Development Reports
National Development Plan (NDP) 2001-2006	2001	government		The NDP is a long-term indicative implementing document of the Strategy for the Economic Development of Slovenia 2001-2006 which defines the national development priorities.
Programme of measures to promote Entrepreneurship and Competitiveness (PMEC) **2001 - 2006**	2001	Ministry of Economy	Programme	The PMEC is a working document for annual set of calls for proposals.
Law on research and development	**2002**	Ministry of Education, Science & Sports + Ministry of Economy	National Law	To improve governance by establishing an Agency for Science and of an Agency for Technology.
Law on Entrepreneurship	**2004**	Ministry of Economy	Law	To institutionalise the actors of the technology transfer and innovation process (clusters, technology centres, technology parks) and provide them with long-term financing.
Single programming document	**2003-2006**	Government	*Strategic document*	Presents a programme of measures for the implementation of the EU structural policy and a plan for using the European Regional and Development Fund sources.
National Research and Development Programme 2006-2010 (NRDP)	2005	Ministry of Education, Science and Sports, Ministry of Economy	Strategic document, adopted by the government and the parliament	Sets priorities for R&D funding by the state, sets policy in the area of science and technology, lays down the guidelines for public research institutions, etc.

Slovenian Development Strategy 2006-2013 (SDS)	2005	Government	Strategic document	Sets development objectives and priority measures in macroeconomic policy and development policy, including also the broad objectives of R&D and innovation policy
Reform Programme for Achieving the Lisbon Strategy Goals	2005	Government	Strategic document	Presents the measures for implementing the Lisbon strategy in conjunction with the development priorities
The Framework of Economic and Social Reforms for Increasing the Welfare in Slovenia	2005	Committee for Reforms, Government, Office for growth	White paper	Lists the necessary economic and social reforms to implement the objectives of SDS and gives outline of the measures proposed

Annex 2: overview of innovation policy measures

As part of the European TrendChart on Innovation provides detailed information on policy measures in each country is collected in an online database which can be consulted via the TrendChart website (www.trendchart.org). The aim of this section is to provide a succinct overview of the detailed information that is available online for each individual measure.

European Trend Chart on Innovation

List of Innovation Policy Measure Fiche in the TrendChart database as of 21 April 2006

Table A2.1: Policy Monitoring framework (2005-2007) objective(s)

IPM Fiche Number	Title of measure	Policy Monitoring framework (2005-2007) objective(s)	IAP96 Action line	Start Date	End date	Status during reported period	Evaluated
SI 26	Incentives to joint development & investment projects 2006-2007	I.1. Development of a strategic medium-to-long term vision of innovation challenges and innovation potential III.4. Increase the availability of innovative infrastructures to facilitate knowledge exchange and product/service development by enterprises IV.1. Increase the number of new innovation intensive enterprises created and their survival IV.2. Provide adequate infrastructure to new technology based firms to facilitate their survival and growth V.1. Upgrading innovation related skills and diffusing new technologies in enterprises		2006	2007	New	No
SI 25	Support to research & development projects in enterprises 2006/07	I.3. Improve the effectiveness of the policy-cycle in order to increase the impact of public intervention activity and outputs in enterprises II.5. Encourage the uptake of strategic technologies, notably ICT III.4. Increase the availability of innovative infrastructures to facilitate knowledge exchange and product/service development by enterprises III.7. Facilitate the development of collaboration between enterprises and other actors with a view to joint innovation activities and knowledge exchange IV.1. Increase the number of new innovation intensive enterprises created and their survival		2006	2007	New	No
SI 24	Technology equipment subsidies for SMEs	I.1. Development of a strategic medium-to-long term vision of innovation challenges and innovation potential II.5. Encourage the uptake of strategic technologies, notably ICT III.2. Facilitate the acquisition and transfer of knowledge		2006	2006	New	No

		ad technologies to enterprises, encouraging in particular cross-border initiatives V.1. Upgrading innovation related skills and diffusing new technologies in enterprises					
SI 23	Co financing of employment of researchers in enterprises	II.4. Increase rates of expenditure on research and technological innovation in enterprises II.5. Encourage the uptake of strategic technologies, notably ICT III.1. Facilitate access of enterprises to skilled personnel III.2. Facilitate the acquisition and transfer of knowledge ad technologies to enterprises, encouraging in particular cross-border initiatives V.1. Upgrading innovation related skills and diffusing new technologies in enterprises		2006	2008	New	No
SI 22	Financial Assistance to institutions supporting innovation activity	IV.4. Increase the availability of private sector innovation financing to enterprises V.1. Upgrading innovation related skills and diffusing new technologies in enterprises V.3. Favouring the protection and optimising the exploitation of intellectual property as a driver for innovation		2006	2006	New	No
SI 21	Entrepreneurship for Youth	III.5. Ensuring that the future skills base in the region/sector/country will correspond to the innovation needs of enterprises V.1. Upgrading innovation related skills and diffusing new technologies in enterprises		2002	2005	New	Yes
SI 19	Subsidised credit to SMEs	II.4. Increase rates of expenditure on research and technological innovation in enterprises IV.1. Increase the number of new innovation intensive enterprises created and their survival IV.4. Increase the availability of private sector innovation financing to enterprises V.4. Increase the rate of commercialisation/marketing of the results of innovation activity in enterprises	I.3. II.5.	2001	No End Date Planned	Ongoing	Yes
SI 18	Development of innovation infrastructure	II.4. Increase rates of expenditure on research and technological innovation in enterprises III.2. Facilitate the acquisition and transfer of knowledge ad technologies to enterprises, encouraging in particular	II.	2004	2008	Ongoing	Yes

		cross-border initiatives III.3. Increase the availability, range and quality of specialised services to enterprises in order to increase the effectiveness of their in-house innovation activities IV.2. Provide adequate infrastructure to new technology based firms to facilitate their survival and growth					
SI 13	Development of business incubators at universities	III.7. Facilitate the development of collaboration between enterprises and other actors with a view to joint innovation activities and knowledge exchange IV.1. Increase the number of new innovation intensive enterprises created and their survival IV.2. Provide adequate infrastructure to new technology based firms to facilitate their survival and growth V.1. Upgrading innovation related skills and diffusing new technologies in enterprises V.3. Favouring the protection and optimising the exploitation of intellectual property as a driver for innovation	I.2. II.2. III.3. III.4. III.5.	2002	No End Date Planned	Modified	No
SI 11	Incentives for SMEs via incubators and technological parks	II.2. Reducing the administrative and transaction costs for enterprises in fulfilling their legal, administrative, fiscal, etc. obligations II.5. Encourage the uptake of strategic technologies, notably ICT III.2. Facilitate the acquisition and transfer of knowledge ad technologies to enterprises, encouraging in particular cross-border initiatives III.4. Increase the availability of innovative infrastructures to facilitate knowledge exchange and product/service development by enterprises V.1. Upgrading innovation related skills and diffusing new technologies in enterprises	I.6 III.3. III.5.	1994	Ongoing	Modified	No
SI 10	Voucher system for consultancy and training services	IV.1. Increase the number of new innovation intensive enterprises created and their survival IV.2. Provide adequate infrastructure to new technology based firms to facilitate their survival and growth V.4. Increase the rate of commercialisation/marketing of the results of innovation activity in enterprises	I.4. III.3. III.5.	2001	No End Date Planned	Ongoing	Yes
SI 8	Subsidies to increase	IV.3. Favouring the entry of innovative enterprises and	II.1.	2002	2006	Ongoing	Yes

	internationalisation of SMEs	business models to sectoral, regional or national markets IV.6. Promote adequate support to enterprises aimed at new and developing markets					
SI 3	Subsidies for technology centres/parks	III.3. Increase the availability, range and quality of specialised services to enterprises in order to increase the effectiveness of their in-house innovation activities III.4. Increase the availability of innovative infrastructures to facilitate knowledge exchange and product/service development by enterprises III.7. Facilitate the development of collaboration between enterprises and other actors with a view to joint innovation activities and knowledge exchange V.1. Upgrading innovation related skills and diffusing new technologies in enterprises V.4. Increase the rate of commercialisation/marketing of the results of innovation activity in enterprises	I.6 II.5. III.1. III.2. III.3.	1997	No End Date Planned	Ongoing	Yes
SI 1	Young (Junior) Researchers Program	III.1. Facilitate access of enterprises to skilled personnel III.5. Ensuring that the future skills base in the region/sector/country will correspond to the innovation needs of enterprises V.1. Upgrading innovation related skills and diffusing new technologies in enterprises	I.1.	2001	No End Date Planned	Modified	No

Table A2.2: Policy Measure Fiche: overview

IPM Fiche Number	Title of measure	Overview
SI 26	Incentives to joint development & investment projects 2006-2007	The main goal of the project is to give support to 6-8 joint development and investment projects of business enterprises and knowledge institutions.
SI 25	Support to research & development projects in enterprises 2006/07	The main goal of co financing is to encourage enterprises or groups of enterprises to improve/upgrade their products/ technologies/ services in direction of higher value added with the help of' public research institutions.
SI 24	Technology equipment subsidies for SMEs	The main goals are improvement of technological equipment by purchasing new equipment, growth of value added per employee, increase of the number of employees at least one per enterprise receiving subsidy.

SI 23	Co financing of employment of researchers in enterprises	The main goal of the measure is to increase the number of PH.D. researchers in business sector. This should be achieved by stimulating the mobility of researchers from public research institutions to business sector. In the long run, this measure should contribute to better linkages between researchers from enterprises and public research institutions and 'minimise cost of transfer of innovations.
SI 22	Financial Assistance to institutions supporting innovation activity	The Ministry wishes to give financial assistance to organisations that 'support innovations/ innovators and helps, through financing, create a stable and stimulating framework for innovators and innovations.
SI 21	Entrepreneurship for Youth	The purpose of the program of developing the entrepreneurship and creativity of young people is: To empower young people to trust in their own abilities and knowledge To acquaint them with the basic values and operating principles of the business society as well as the basic skills of business To encourage them to feel positively about adopting constant changes, thereby freeing them of the fear of change which is still characteristic of their parents generations, and most importantly To offer help in getting to know oneself and planning one career To motivate and train them to actively search for their own place in the labour market. The program is intended for the target group of young people aged between 12 and 30. For the stated target group different activities are being implemented: training programmes and other projects, integration into international network of young entrepreneurs, regional meeting/workshops, conferences etc.
SI 19	Subsidised credit to SMEs	Slovene Enterprise Fund (SEF) is the main national financial organisation for support to SMEs with the different forms of favourable financing through all company' s life time (via start ups, growth and maturity phase), SEF has also connected its activities with private initiative (banks and private venture capital funds). The objectives of its activities are: to improve the availability of and access to favourable sources of financing for SMEs to ensure that SMEs have greater orientation towards development and faster growth and to speed up the creation of new innovative companies. The subject of the measure is long-term financial support for the development investments (material and immaterial) in SME' s.
SI 18	Development of innovation infrastructure	Specific objectives: Improvement of the transfer of knowledge between knowledge institutions and enterprises Stimulation of start-up and development of new dynamic technology-oriented enterprises Increase of investment in applied and industrial research and development
SI 13	Development of business incubators at universities	The establishment of an office (incubator) that will bring together knowledge of students and professors from the universities and link it with capital and other facilities from the outside.
SI 11	Incentives for SMEs via incubators and technological parks	Technology parks / incubators are organised in order to stimulate and develop innovative environment for growth of high tech SMEs. The main goal of the measure is to provide support to construction, modernisation and technology upgrading of technology parks' infrastructure. Also, support to feasibility studies and pre-investment proposals are provided.
SI 10	Voucher system for consultancy and training	Objectives of the measure are: - to improve access to consultancy for potential entrepreneurs and existing enterprises

	services	- To increase the number of SMEs, a larger number of potential entrepreneurs would decide to start business and establish an enterprise - to help new founded and existing SMEs to survive initial critical years - to increase the number of dynamic, growing enterprises, a larger number of enterprises would reach a higher degree of growth. - to keep existing and establish new working places, - to stimulate eBusiness, - to stimulate the development of rural entrepreneurship.
SI 8	Subsidies to increase internationalisation of SMEs	Aim: to stimulate SMEs toward planning and systematic implementation of marketing activities aimed at establishing new markets. Goal: to increase export orientation of enterprises. Focus: integrated projects aimed at penetration of products / enterprise into a new foreign market (new from the standpoint of a particular enterprise) Beneficiaries: SMEs exporting their own product, excluded: agents / trade companies Costs co-financed: consultancy costs for preparation of market research/study, costs of attending/exposition at a trade fair/show, costs of training for particular project, consultancy costs for modifications required by the market, costs of patent protection (limited costs, additional conditions are applied for eligibility of this cost).
SI 3	Subsidies for technology centres/parks	Technology centres provide a common platform for SMEs where they can organise their RD activities. Centres also provide capacities for the dissemination of knowledge from outside sources.
SI 1	Young (Junior) Researchers Program	Subject of this programme is financial help for junior researchers who work in research teams at the universities, non-university research organisations or business companies, especially industry, with the aim to achieve a title of MSc or PhD. To rejuvenate the human capital in S&T, foster innovation and research. The measure was modified in 2001 with a special window provided exclusively to junior researchers from business sector. Another modification of the selection process was introduced in 2005 by the Slovenian Research Agency, who is, among other things, 'in charge of executing science and research related public projects financing. The pre-selection of potential mentors of Young researchers was done and now the institutions, which have suitable mentors, can select the appropriate candidates for young researchers and submit the candidates to the Agency.

Table A2.3: Policy Measure Fiche: Lisbon guidelines n°8

Integrated Guideline No 8 - Innovation		
1. Improvements in innovation support services, in particular for dissemination and technology transfer.		
1	SI 1	**Young (Junior) Researchers Program (special window for young researchers from business sector)**

Subject of this programme is financial help for junior researchers who work in research teams at the universities, non-university research organisations or business companies, especially industry, with the aim to achieve a title of MSc or PhD. the key objective of the measure is to rejuvenate the human capital in S&T, foster innovation and research. The measure was modified in 2001 with a special window provided exclusively to junior researchers from business sector. This should help increase the number of highly qualified research staff in research units in business sector.

Measures referenced in the 2005 NRP: Yes- implicitly - page number in NRP: 20.

Status: full scheme, expansion of previous measure, part of a broader programme of supporting R&D in business sector

Timeline for implementation: Start date: 2001 End date: No End Date Planned	**before 2005**	**2005**	**2006**	**2007**	**2008**	**beyond 2008**
Budgetary costs (e.g. in millions of €) Overall budget for the call issued in 2006:			0.375 million EURO	1.5 million EURO		

source (s) of funds: Ministry of Higher Education, Science and Technology

Expected impact: improvement of human resources in R&D units in business sector

Suggested indicators to measure progress: number of new Ph.D. Researchers in business sector

Comments: the measure, designed already in 2001, corresponds closely with the Lisbon strategy goals of promotion of business sector R&D and has been relatively successful in attracting candidates from business sector.

2	SI 10	**Voucher system for consultancy and training services**

Objectives of the measure are: to improve access to consultancy for potential entrepreneurs and existing enterprises, to increase the number of SMEs, a larger number of potential entrepreneurs would decide to start business and establish an enterprise, to help new founded and existing SMEs to survive initial critical years, to increase the number of dynamic, growing enterprises a larger number of enterprises would reach a higher degree of growth, to keep existing and establish new working places, to stimulate eBusiness, to stimulate the development of rural entrepreneurship.

Measures referenced in the 2005 NRP: Yes - page number in NRP 20.

Status: adopted, full scheme, part of a broader programme of supporting entrepreneurship

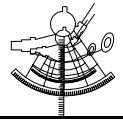
Timeline for implementation: Start date: 2001 End date: No End Date Planned	**before 2005**	**2005**	**2006**	**2007**	**2008**	**beyond 2008**
Budgetary costs (e.g. in millions of €) per consultancy up to 4000 EURO						

source (s) of funds: Ministry of Economy via JAPTI; European Regional Development Fund (2005/2006)

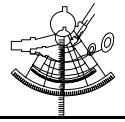
Expected impact: increased use of consultancy services by small businesses and thus improvement of business practice and level of innovation activity

Suggested indicators to measure progress: number of consultancies, growth of business/ employment in small enterprises, recipients of vouchers

Comments: by making consultancy services available at a discount rate to small businesses, traditionally sceptical of outside advice, the measure can contribute to better business practices and thus also to growth of innovation activity in this segment of entrepreneurial activity.

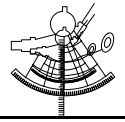


3	SI 22	**Financial Assistance to institutions supporting innovation activity**					
The Ministry wishes "'to give financial assistance to organisations that support innovations/ innovators and helps, through financing, to create a stable and stimulating framework for innovators and innovations". (Taken from the official text of the call: www.mvzt.gov.si)							
Measures referenced in the 2005 NRP: No							
Status: adopted, full scheme, part of a broader programme of support for technology development.							
Timeline for implementation: Start date: 2006 End date: 2006		**before 2005**	**2005**	**2006**	**2007**	**2008**	**beyond 2008**
Budgetary costs (e.g. in millions of €) Overall budget (for period as specified in 2.1 and 2.2) : 25.000.000 SIT				104,166 EURO			
source (s) of funds: Ministry of Higher Education, Science and Technology							
Expected impact: better institutional environment for innovators							
Suggested indicators to measure progress: number of innovators/ members of the organisation; number of new inventions of the members due to the improved framework							
Comments: new measure to help innovators organisation (s)							
4	SI 23	**Co financing of employment of researchers in enterprises**					
The main goal of the measure is to increase the number of Ph.D. researchers in business sector. This should be achieved by stimulating the mobility of researchers from public research institutions to business sector. In the long run, this measure should contribute to better linkages between researchers from enterprises and public research institutions and minimise cost of transfer of innovations.							
Measures referenced in the 2005 NRP: Yes - page number in NRP 20.							
Status: adopted, pilot scheme, part of a broader programme of entrepreneurship support programme.							
Timeline for implementation: Start date: 2006 End date: 2008		**before 2005**	**2005**	**2006**	**2007**	**2008**	**beyond 2008**
Budgetary costs (e.g. in millions of €) Overall budget for period 2006-2008				5.6 million for the period 2006-2008			
source (s) of funds: Ministry of Economy							
Expected impact: transfer of researchers from public research to business sector							
Suggested indicators to measure progress: number of participants in the programme annually							
Comments: a new measure to stimulate R&D in business sector, but may require additional stimuli to achieve the expected level of mobility.							
5	SI 24	**Technology equipment subsidies for SMEs**					
The main goals are: improvement the level of technological equipment by purchasing new, more modern equipment, growth of value added per employee, increase of the number of employees (at least one per enterprise receiving subsidy).							



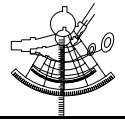
Measures referenced in the 2005 NRP: Yes - implicitly- page number in NRP 19.						
Status: adopted, full scheme, part of a broader programme of providing financial support to SMEs.						
Timeline for implementation: Start date: 2006 End date: 2006	**before 2005**	**2005**	**2006**	**2007**	**2008**	**beyond 2008**
Budgetary costs (e.g. in millions of €) Overall budget for the call in 2006			20 millions EURO			
source (s) of funds: Slovenian Entrepreneurship Fund						
Expected impact: modernisation of technology in SMEs, increasing the value added and employment in SMEs						
Suggested indicators to measure progress: number of new products/ processes introduced by SMEs, recipients of the subsidies.						
Comments: SMEs in particular are slow in introducing new products/ processes and this measure should help them in modernising their equipment.						
6	SI 26	**Incentives to joint development & investment projects 2006-2007**				
The main goal of the project is to give support to 6-8 joint development and investment projects of business enterprises and knowledge institutions.						
Measures referenced in the 2005 NRP: Yes - implicitly page number in NRP 20.						
Status: adopted, full scheme, part of a broader programme to support business- public R&D sector cooperation.						
Timeline for implementation: Start date: 2006 End date: 2007	**before 2005**	**2005**	**2006**	**2007**	**2008**	**beyond 2008**
Budgetary costs (e.g. in millions of €) Overall budget (for period 2006-2007):			8.3 million EURO 2006/07			
source (s) of funds: Ministry of Economy, European Regional Development Fund; Ministry of Higher Education, Science and Technology						
Expected impact: increased research and development activity in business sector in cooperation with R&D units in public sector						
Suggested indicators to measure progress: number of successful projects, increase in business R&D investment in enterprises participating in the scheme.						
Comments: New measure, stimulated by ERDF.						
2. The creation and development of innovation poles, networks and incubators bringing together universities, research institutions and enterprises, including at regional and local level, helping to bridge the technology gap between regions.						
7	SI 3	**Subsidies for technology centres**				
Technology centres provide a common platform for SMEs where they can organise their RD activities. Centres also provide capacities for the dissemination of knowledge from outside sources.						
Measures referenced in the 2005 NRP: Yes - page number in NRP 20.						
Status: adopted, full scheme, part of a broader programme of promotion of entrepreneurship.						
Timeline for implementation: Start date: 1997 End date: No End Date Planned	**before 2005**	**2005**	**2006**	**2007**	**2008**	**beyond 2008**

Budgetary costs (e.g. in millions of €) Overall budget for the call in 2006			0.75 million EURO			
source (s) of funds: Ministry of Higher Education, Science and Technology						
Expected impact: joint R&D projects of partners within a particular industry and with public R&D institutions.						
Suggested indicators to measure progress: number of new products/ processes developed in technology centres						
Comments: Technology centres have over the years helped create a stable and constructive environment for joint research (within industry and with public R&D) in several areas and several have been quite successful.						
8	SI 11	**Incentives for SMEs via incubators and technological parks**				
Technology parks / incubators are organised in order to stimulate and develop innovative environment for growth of high tech SMEs. The main goal of the measure is to provide support to constructions, modernisation and technology upgrading of technology parks' infrastructure. Also, support to feasibility studies and pre-investment proposals is provided.						
Measures referenced in the 2005 NRP: Yes -implicitly - page number in NRP22.						
Status: adopted, full scheme, part of a broader programme to support entrepreneurship.						
Timeline for implementation: Start date: 1994 End date: Ongoing	**before 2005**	**2005**	**2006**	**2007**	**2008**	**beyond 2008**
Budgetary costs (e.g. in millions of €) Overall budget: ME + ERDF 4.16 million(2006/07); JAPTI			4.16 mil.ME + ERDF; 1.25 million JAPTI	0.83 million JAPTI		
source (s) of funds: Ministry of Economy, European Regional Development Fund (one call) Ministry of Economy via JAPTI (one call)						
Expected impact: better innovation environment for SMEs						
Suggested indicators to measure progress: no of new firms in incubators and technology parks, increased no of employees and value added in existing firms in technology parks						
Comments: A wide support measure for high tech SMEs, which should be expanded over longer period.						
9	SI 13	**Development of business incubators at universities**				
The establishment of an office (incubator) that will bring together knowledge of students and professors from the universities and link it with capital and other facilities from the outside.						
Measures referenced in the 2005 NRP: Yes - page number in NRP 22.						
Status: adopted, pilot scheme, part of a broader programme of entrepreneurship promotion.						
Timeline for implementation: Start date: 2002 End date: No End Date Planned	**before 2005**	**2005**	**2006**	**2007**	**2008**	**beyond 2008**
Budgetary costs (e.g. in millions of €) Overall budget for period 2005/06 Phare: 2 million EURO; JAPTI: 2006: 0.31 million + 0.41 million EURO 2007			0.31 million EURO (JAPTI)	0.41 million EURO (JAPTI)		
source (s) of funds: Ministry of Economy via JAPTI, Phare Programme (2003)						

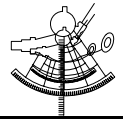


Expected impact: promotion of entrepreneurship among university professors and students							
Suggested indicators to measure progress: formation of incubators at all universities, number of start-ups.							
Comments: the readiness to start own business is rather low among students/ graduates as well as professors. This measure provides opportunity and eases the initial problems of starting a business.							
10	SI 18	**Development of innovation infrastructure**					
Specific objectives: Improvement of the transfer of knowledge between knowledge institutions and enterprises, stimulation of start-up and development of new dynamic technology-oriented enterprises, increase of investment in applied and industrial research and development							
Measures referenced in the 2005 NRP: Yes - page number in NRP 22.							
Status: adopted, full scheme, part of a broader programme of entrepreneurship promotion.							
Timeline for implementation: Start date: 2004 End date: 2008		**before 2005**	**2005**	**2006**	**2007**	**2008**	**beyond 2008**
Budgetary costs (e.g. in millions of €) Overall budget for the public call 2006				2 million EURO			
source (s) of funds: Ministry of Economy, European Regional Development Fund							
Expected impact: development of joint R&D centres or other forms of joint infrastructure to support innovation and technology development							
Suggested indicators to measure progress: increase of investment in R&D in business sector							
Comments:							
11	SI 21	**Entrepreneurship for Youth**					
The purpose of the program of developing the entrepreneurship and creativity of young people is: to empower young people to trust in their own abilities and knowledge, to acquaint them with the basic values and operating principles of the business society as well as the basic skills of business, to offer help in planning one's career, and motivate and train them to actively search for their own place in the labour market. The program is intended for the target group of young people aged between 12 and 30 .Different activities are being implemented: training programmes and other projects, integration into international network of young entrepreneurs, regional meeting/workshops, conferences etc. '							
Measures referenced in the 2005 NRP: No							
Status: adopted, full scheme, part of a broader programme on promotion of innovation & entrepreneurship among youth.							
Timeline for implementation: Start date: 2002 End date: 2005		**before 2005**	**2005**	**2006**	**2007**	**2008**	**beyond 2008**
Budgetary costs (e.g. in millions of €) Overall budget for period 2002- 2005: 943.000 EURO		0.943 million					
Ministry of Economy, Ministry of higher Education, Science and Technology , Ministry of Education and Sports							
Expected impact: practical workshops to attract young people to S&T and innovation							
Suggested indicators to measure progress: number of participants in various activities; long-term: increase of enrolment in S&T studies							

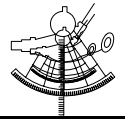
Comments:							
12	SI 23	**Co financing of employment of researchers in enterprises**					
The main goal of the measure is to increase the number of Ph.D. researchers in business sector. This should be achieved by stimulating the mobility of researchers from public research institutions to business sector. In the long run, this measure should contribute to better linkages between researchers from enterprises and public research institutions and minimise cost of transfer of innovations.							
Measures referenced in the 2005 NRP: Yes - page number in NRP 20.							
Status: adopted, pilot scheme, part of a broader programme of entrepreneurship support programme.							
Timeline for implementation: Start date: 2006 End date: 2008		**before 2005**	**2005**	**2006**	**2007**	**2008**	**beyond 2008**
Budgetary costs (e.g. in millions of €) Overall budget for period 2006-2008				5.62 million EURO for 2006-2008			
source (s) of funds: Ministry of Economy							
Expected impact: transfer of researchers from public research to business sector							
Suggested indicators to measure progress: number of participants in the programme annually							
Comments:							
13	SI 25	Support to research & development projects in enterprises 2006/07					
The main goal of co financing is to encourage enterprises or groups of enterprises to improve/upgrade their products/ technologies/ services in direction of higher value added with the help of' public research institutions.							
Measures referenced in the 2005 NRP: Yes- implicitly - page number in NRP 22.							
Status: adopted, full scheme, part of a broader programme of promotion of business R&D.							
Timeline for implementation: Start date: 2006 End date: 2007		**before 2005**	**2005**	**2006**	**2007**	**2008**	**beyond 2008**
Budgetary costs (e.g. in millions of €) Overall budget for period 2006-2007				1.41 million EURO	1.66 million EURO		
source (s) of funds: Ministry of Higher Education, Science and Technology							
Expected impact: initiation of joint research projects between public R&D and business sector							
Suggested indicators to measure progress: number of projects; increase of business R&D investments							
Comments: technology platforms							
14	SI 26	Incentives to joint development & investment projects 2006-2007					
The main goal of the project is to give support to 6-8 joint development and investment projects of business enterprises and knowledge institutions.							



Measures referenced in the 2005 NRP: Yes - implicitly page number in NRP 20.						
Status: adopted, full scheme, part of a broader programme to support business- public R&D sector cooperation.						
Timeline for implementation: Start date: 2006 End date: 2007	**before 2005**	**2005**	**2006**	**2007**	**2008**	**beyond 2008**
Budgetary costs (e.g. in millions of €) Overall budget (for period 2006-2007):			8.3 million EURO 2006/07			
source (s) of funds: Ministry of Economy, European Regional Development Fund; Ministry of Higher Education, Science and Technology						
Expected impact: increased research and development activity in business sector in cooperation with R&D units in public sector						
Suggested indicators to measure progress: number of successful projects, increase in business R&D investment in enterprises participating in the scheme.						
Comments: New measure, stimulated by ERDF.						
3. The encouragement of cross-border knowledge transfer, including from foreign direct investment.						
4. Encouraging public procurement of innovative products and services.						
15	SI 25	Support to research & development projects in enterprises 2006/07				
The main goal of co financing is to encourage enterprises or groups of enterprises to improve/upgrade their products/ technologies/ services in direction of higher value added with the help of' public research institutions.						
Measures referenced in the 2005 NRP: Yes- implicitly - page number in NRP 22.						
Status: adopted, full scheme, part of a broader programme of promotion of business R&D.						
Timeline for implementation: Start date: 2006 End date: 2007	**before 2005**	**2005**	**2006**	**2007**	**2008**	**beyond 2008**
Budgetary costs (e.g. in millions of €) Overall budget for period 2006-2007			1.41 million EURO	1.66 million EURO		
source (s) of funds: Ministry of Higher Education, Science and Technology						
Expected impact: initiation of joint research projects between public R&D and business sector						
Suggested indicators to measure progress: number of projects; increase of business R&D investments						
Comments: technology platforms						
5. Better access to domestic and international finance.						
16	SI 19	Subsidised credit to SMEs				
Slovene Enterprise Fund (SEF) is the main national financial organisation for support to SMEs with the different forms of favourable financing through all company' s life time (via start ups, growth and maturity phase), SEF has also connected its activities with private initiative (banks and private venture capital funds). The objectives of its activities are: to improve the availability of and access to favourable sources of financing for SMEs to ensure that SMEs have greater orientation towards development and faster growth and to speed up the creation of new innovative companies. The subject of the measure is long-term financial support for the development investments (material and immaterial) in SME' s.						



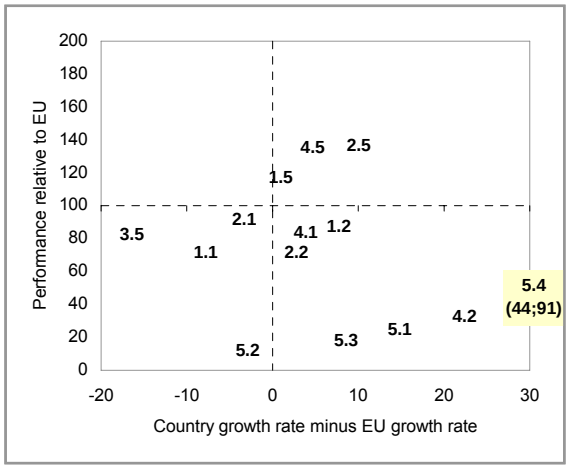
Measures referenced in the 2005 NRP: Yes - page number in NRP 22.							
Status: adopted, full scheme, part of a broader programme of promotion of entrepreneurship.							
Timeline for implementation: Start date: 2001 End date: No End Date Planned		**before 2005**	**2005**	**2006**	**2007**	**2008**	**beyond 2008**
Budgetary costs (e.g. in millions of €) Overall budget 2006				20 millions EURO			
source (s) of funds: Ministry of Economy, Slovenian Entrepreneurship Fund							
Expected impact: expansion of activities by small businesses							
Suggested indicators to measure progress: growth of employment and value added in subsidised small businesses							
Comments: the measure has traditionally been oversubscribed, which justifies its expansion in the future							
17	SI 24	Technology equipment subsidies for SMEs					
The main goals are: improvement the level of technological equipment by purchasing new, more modern equipment, growth of value added per employee, increase of the number of employees (at least one per enterprise receiving subsidy).							
Measures referenced in the 2005 NRP: Yes - implicitly- page number in NRP 19.							
Status: adopted, full scheme, part of a broader programme of providing financial support to SMEs.							
Timeline for implementation: Start date: 2006 End date: 2006		**before 2005**	**2005**	**2006**	**2007**	**2008**	**beyond 2008**
Budgetary costs (e.g. in millions of €) Overall budget 2006				20 millions EURO			
source (s) of funds: Slovenian Entrepreneurship Fund							
Expected impact: modernisation of technology in SMEs, increasing the value added and employment in SMEs							
Suggested indicators to measure progress: number of new products/ processes introduced by SMEs, recipients of the subsidies.							
Comments: SMEs in particular are slow in introducing new products/ processes and this measure should help them in modernising their equipment.							
6. Efficient and affordable means to enforce intellectual property rights.							
Integrated Guideline No 15 - Entrepreneurship and SMEs							
3. Strengthen the innovative potential of SMEs							
18	SI 19	Subsidised credit to SMEs					
Slovene Enterprise Fund (SEF) is the main national financial organisation for support to SMEs with the different forms of favourable financing through all company' s life time (via start ups, growth and maturity phase), SEF has also connected its activities with private initiative (banks and private venture capital funds). The objectives of its activities are: to improve the availability of and access to favourable sources of financing for SMEs to ensure that SMEs have greater orientation towards development and faster growth and to speed up the creation of new innovative companies. The subject of the measure is long-term financial support for the development investments (material and immaterial) in SME' s.							
Measures referenced in the 2005 NRP: Yes - page number in NRP 22.							

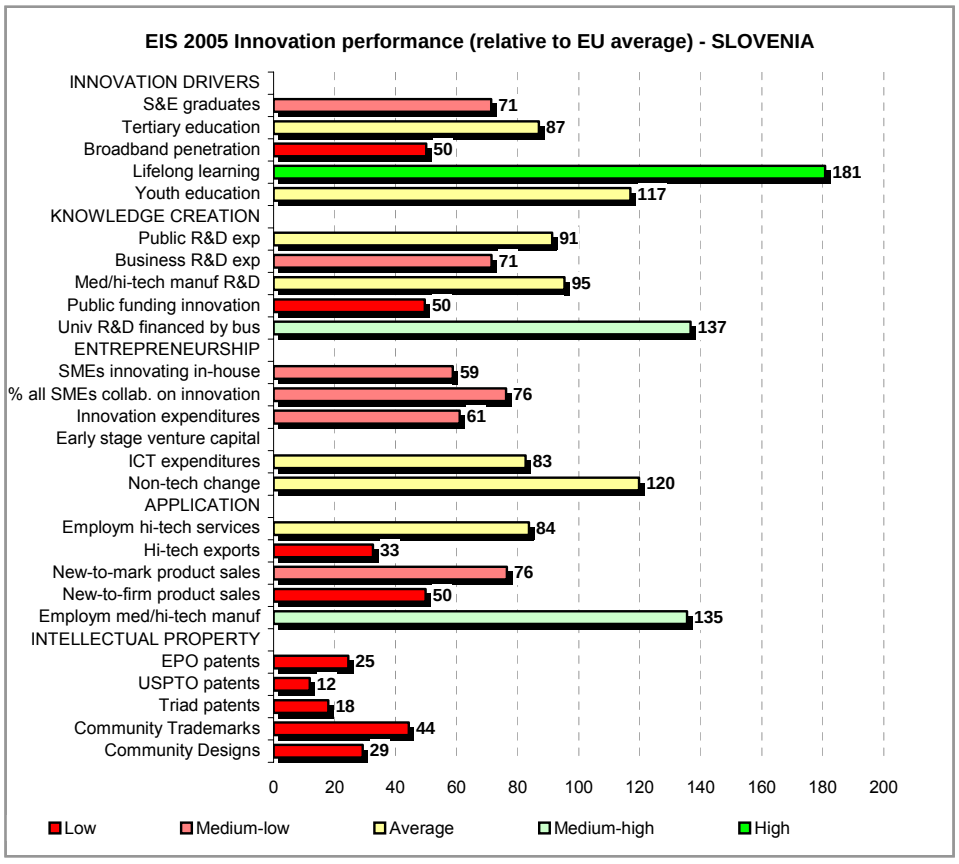


Status: adopted, full scheme, part of a broader programme of promotion of entrepreneurship.						
Timeline for implementation: Start date: 2001 End date: No End Date Planned	**before 2005**	**2005**	**2006**	**2007**	**2008**	**beyond 2008**
Budgetary costs (e.g. in millions of €) Overall budget 2006			20 millions EURO			
source (s) of funds: Ministry of Economy, Slovenian Entrepreneurship Fund						
Expected impact: expansion of activities by small businesses						
Suggested indicators to measure progress: growth of employment and value added in subsidised small businesses						
Comments: the measure has traditionally been oversubscribed, which justifies its expansion in the future						
19	SI 23	**Co financing of employment of researchers in enterprises**				
The main goal of the measure is to increase the number of Ph.D. researchers in business sector. This should be achieved by stimulating the mobility of researchers from public research institutions to business sector. In the long run, this measure should contribute to better linkages between researchers from enterprises and public research institutions and minimise cost of transfer of innovations.						
Measures referenced in the 2005 NRP: Yes - page number in NRP 20.						
Status: adopted, pilot scheme, part of a broader programme of entrepreneurship support programme.						
Timeline for implementation: Start date: 2006 End date: 2008	**before 2005**	**2005**	**2006**	**2007**	**2008**	**beyond 2008**
Budgetary costs (e.g. in millions of €) Overall budget for period 2006-2008			5.6 million for the period 2006-2008			
source (s) of funds: Ministry of Economy						
Expected impact: transfer of researchers from public research to business sector						
Suggested indicators to measure progress: number of participants in the programme annually						
Comments: a new measure to stimulate R&D in business sector, but may require additional stimuli to achieve the expected level of mobility.						
20	SI 24	**Technology equipment subsidies for SMEs**				
The main goals are: improvement the level of technological equipment by purchasing new, more modern equipment, growth of value added per employee, increase of the number of employees (at least one per enterprise receiving subsidy).						
Measures referenced in the 2005 NRP: Yes - implicitly- page number in NRP 19.						
Status: adopted, full scheme, part of a broader programme of providing financial support to SMEs.						
Timeline for implementation: Start date: 2006 End date: 2006	**before 2005**	**2005**	**2006**	**2007**	**2008**	**beyond 2008**
Budgetary costs (e.g. in millions of €) Overall budget 2006			20 millions EURO			

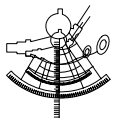
source (s) of funds: Slovenian Entrepreneurship Fund
Expected impact: modernisation of technology in SMEs, increasing the value added and employment in SMEs
Suggested indicators to measure progress: number of new products/ processes introduced by SMEs, recipients of the subsidies.
Comments: SMEs in particular are slow in introducing new products/ processes and this measure should help them in modernising their equipment.

Annex 3: European Innovations Scoreboard: country pages





European Trend Chart on Innovation



	SLOVENIA					(2003)	(2004)	2005		Relative to EU	Trend	Trend EU
	SII	--	--	--	--	0.30	0.30	0.32			3.2	0.0
	relative to EU	--	--	--	--	*70*	*71*	*75*				
	rank	--	--	--	--	*20*	*20*	*19*				
		1998	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**				
	INPUT - Innovation drivers											
1.1	S&E graduates	8.0	8.4	8.9	8.2	9.5	8.7	--		71	1	9
	relative to EU	--	*89*	*87*	*75*	*83*	*71*	--				
1.2	Population with tertiary education	14.4	15.6	15.9	14.4	15.2	17.8	19.0		87	12	4
	relative to EU	--	--	*79*	*72*	*75*	*83*	*87*				
1.3	Broadband penetration rate	--	--	--	--	--	--	3.8		50	--	50
	relative to EU	--	--	--	--	--	--	*50*				
1.4	Participation in life-long learning	--	--	--	7.6	9.1	**15.1**	17.9		181	--	--
	relative to EU	--	--	--	*96*	*114*	***162***	*181*				
1.5	Youth education attainment level	86.8	85.8	87.0	85.9	90.0	90.7	89.7		117	1	0
	relative to EU	--	*115*	*114*	*113*	*118*	*118*	*117*				
	INPUT - Knowledge creation											
2.1	Public R&D expenditures	0.67	0.64	0.63	0.66	0.62	0.63	--		91	-1	2
	relative to EU	*102*	*98*	*95*	*99*	*91*	*91*	--				
2.2	Business R&D expenditures	0.72	0.78	0.81	0.90	0.91	0.90	--		71	4	1
	relative to EU	*62*	*64*	*66*	*72*	*73*	*71*	--				
2.3	Share of med-high/high-tech R&D	--	81.6	81.6	84.4	85.0	--	--		95	2	--
	relative to EU	--	*91*	*92*	*95*	*95*	--	--				
2.4	Enterprises receiving public funding			4.1						50	--	--
2.5	Business financed university R&D	11.3	9.2	7.6	6.7	9.0	9.6	--		137	11	1
	relative to EU	*177*	*140*	*116*	*100*	*137*	--	--				
	INPUT - Innovation & entrepreneurship											
3.1	SMEs innovating in-house			16.3		14.9				59	--	--
3.2	Innovative SMEs co-operating with others			7.6		8.8				76	--	--
3.3	Innovation expenditures			1.28		0.92				61	--	--
3.4	Early-stage venture capital	--	--	--	--	--	--	--		--	--	-28
	relative to EU	--	--	--	--	--	--	--				
3.5	ICT expenditures	--	--	7.3	5.4	--	--	5.2		83	-10	7
	relative to EU	--	--	*112*	*86*	--	--	*83*				
3.6	SMEs using non-technological change			50.8						120	--	--
	OUTPUT - Application											
4.1	Employment in high-tech services	2.04	2.18	2.52	2.71	2.34	2.67	--		84	4	0
	relative to EU	--	--	*82*	*82*	*72*	*84*	--				
4.2	Exports of high technology products	--	3.7	4.4	4.8	4.9	5.8	--		33	16	-6
	relative to EU	--	*19*	*21*	*23*	*27*	*33*	--				
4.3	Sales new-to-market products			5.3		3.5				76	--	--
4.4	Sales new-to-firm not new-to-market products			4.9		3.4				50	--	--
4.5	Med-hi/high-tech manufacturing employment	8.57	8.38	8.69	8.74	9.22	8.94	--		135	2	-3
	relative to EU	--	--	*124*	*125*	*135*	*135*	--				
	OUTPUT - Intellectual property											
5.1	New EPO patents	17.1	25.7	25.1	43.7	32.8	--	--		25	20	5
	relative to EU	*16*	*22*	*19*	*31*	*25*	--	--				
5.2	New USPTO patents	9.5	5.5	8.9	11.4	8.4	--	--		12	3	6
	relative to EU	*16*	*9*	*13*	*16*	*12*	--	--				
5.3	New Triad patents	5.8	2.4	4.0	--	--	--	--		18	10	1
	relative to EU	*25*	*11*	*18*	--	--	--	--				
5.4	New community trademarks	--	--	--	--	9.0	20.6	38.6		44	107	16
	relative to EU	--	--	--	--	*14*	*24*	*44*				
5.5	New community designs	--	--	--	--	--	5.5	24.6		29	--	--
	relative to EU	--	--	--	--	--	*8*	*29*				
	Bold: break in series / 2000 data for CIS indicators refers to CIS 3 survey / 2002 data refer to estimates based on CIS Light data											

Annex 4: sources of further information

A4.1 Websites of key innovation organisations

Type of organisation	Name	Website
National Government Ministry/department	Ministry of Higher Education, Science and Technology	www.mvzt.gov.si
National public agency	Slovenian Research agency	www.arrs.si
National public agency	Slovene Enterprise Fund	www.podjetniskisklad.si/about.htm
National public agency	Public Agency for Entrepreneurship and Foreign Investment	http://www.japti.si/index.php?root=4
Regional government/agency	Institute for Economic research	http://www.ier.si
Other	Jo ef Stefan Institute	http://www.ijs
Other	Slovenian Science Foundation	http://www.ustanova-szf.si

A4.2 Bibliography and sources of further information

BUČAR, M. And STARE, M. (2006) From quantity to quality: critical assessment of Slovenia's potential for knowledge-based growth. V: PIECH, Krzysztof (ur.), RADOŠEVIĆ, Slavo (eds.). *The knowledge-based economy in Central and Eastern Europe : countries and industries in a process of change*. Basingstoke; New York: Palgrave Macmillan, pp. 239-255.

Bučar M. and M. Stare (2002): Slovenian Innovation Policy: Underexploited Potential for Growth. *Journal of International Relations and Development*, 5(4): 427-448.

Bučar, M. and M. Stare, (2001) National Innovation Policy Profile: Slovenia, background study to project: Innovation policy in six applicant countries: the challeneges: INNO- 99-02, ADE.

Deloitte (2004) Evalvacija razpisov področja za spodbujanje podjetništva in konkurenčnosti v letih 2001-2004- zaključno poročilo (Evaluation of the calls for measures to support entrepreneurship and competitiveness in the years 2001-2004); Deloitte and Faculty of Economics.

EBRD (2005) *Transition Report 2005*. London: European Bank for Reconstruction and Development.

European Commission (2005) *European Innovation Scoreboard 2005 Comparative analysis of Innovation Performance*, SEC (2005) 1475.

European Commission (2001). *Innovation policy issues in six candidate countries: The challenges.* Innovation papers No.16.Luxembourg: European Communities: DG Enterprise.

Gospodarska zbornica (Chamber of Industry and Commerce) (2004).Analysis of cooperation of business enterprises with R&D institutions ". Ljubljana, GZS.

National Research and Development Programme 2006-2010 (2005), The Ministry of Higher education, Science and Technology, web:

IMAD (2005) *Slovenian Development Strategy 2006-2013*, Ljubljana. Institute for Macroeconomic Analysis and Development; web: http://www.gov.si/umar/aprojekt/asrs/ssd.php .

IMAD (2006) *Development Report* (Poročilo o razvoju). Ljubljana: Urad za makroekonomske analize in razvoj- Institute for Macroeconomic Analysis and Development.

Jaklič, Marko et al, 2004, Evalvacija ukrepov za spodbujanje razvoja grozdov v Sloveniji v obdobju 2001-2003.

Mihelič, Aleš (2005) Ministry of Higher Education, Science and Technology; New instruments of the technology policy; mimeo.

Ministry of Education, Science and Sports (2004) Background material for the preparation of the National research and development programme, mimeo.

Ministry of Economy (2006) Programme of Measures to promote entrepreneurship and competitiveness 2007-2013, available at www.mg.si

Mulej, Matjaž (2004) Absorption capacity of Slovenian business enterprises in innovation and innovative practices- expert study (in Slovenian). Maribor: Mimeo.

Law on Research and Development (2002), Official Gazette of the Rep. of Slovenia, Nov. 2002

Office for Growth of the rep. of Slovenia, 2006, The Framework for social and economic reforms for increasing the welfare in Slovenia, web: http://www.svr.gov.si/fileadmin/srs.gov.si/pageuploads/Brosura_Okrvir_reform_ANG.pdf

Phare, 2002, Strategic Possibilities for the Development of Technology Centres in Slovenia, Project Report, mimeo.

Rapid Reports, Research and Development, Statistical Office of the Republic of Slovenia (SORS), various issues.

Rebernik, M., P. Tominc, M. Glas and K. Širec Rantaša: *Global Entrepreneurship Monitor*, Slovenija 2005, Maribor, 2006

Republic of Slovenia (2005) National Reform Programme for Achieving the Lisbon Strategy Goals, Oct. 2005.

Stare M., R. Kmet- Zupančič and M. Bučar (2004) Slovenia- On the Way to the Information society. Ljubljana: Institute of Macroeconomic Analysis and Development.

The IMD World Competitiveness Yearbook 2005. Lausanne: IMD.
(http://www02.imd.ch/wcc/yearbook/)

WEF Global Competitiveness Report 2004-2005; New York, Oxford: Oxford University Press.

Internet sources:

www.gov.si

www.gzs.si

http://www.knowhowconnect.si/default.aspx?PageId=About&SelectMenu=About

www.arrs.gov.si

www.pcmg.si