

Executive Summary of the ALIPRO National Report Slovenia

ALIPRO objective

ALIPRO¹ (Supporting the Alignment of IST Research Programmes on mobile communications in the New Member States) is an SSA that will accelerate the improvement and alignment of mobility-related national and regional activities and programmes in NMS and ACC, strengthening their integration on European level.

Purpose and scope of the document

The national report endeavours to present ALIPRO results for the first six months of project running in Slovenia. It provides an overview into the mobile ICT situation in Slovenia, regulations and exhaustive information on National R&D Programme (NRRP) along with its evaluation. In the last chapter national report also provides conclusions regarding the NRRP and recommendations in order to improve it. Document is intended for institutions and individuals active in the field of mobility.

The mobile sector in Slovenia

Concerning mobile technologies, Slovenia is the country with the highest penetration rate in Eastern Europe. About 95% of the population owns a mobile phone (far higher than the number of fixed lines). According to NetSize Guide 2005 there are 1.85 millions of mobile subscribers².

Market started to develop in year 1991 by offering analogue mobile telephony (NMT). In that time only one operator was present at the market – *Mobitel* (subsidiary of Telekom Slovenije).

Currently, on the market are present 3 mobile operators (Mobitel, Simobil and Vega) and one MVNO – Debitel, using Mobitel's infrastructure. UMTS network operation has been in a public test phase since December 2003 and represents a huge potential for further development of mobile services. The only existing UMTS provider is Mobitel. In order to

¹ ALIPRO is an EU research project in the scope of the 6th Framework Programme. For more information, please visit ALIPRO web site <http://alipro.eurescom.de>.

² According to another source – RIS (Internet Usage in Slovenia) mobile phone is using 87.8% of population from 10-75 years age

provide a unique point of access for all users of the 3G network, the operator also launched Planet, a multimedia entertainment portal.

Regulatory background

The Electronic Communications Act, published on 19th of April 2004, is regulating telecommunications market in Slovenia. Besides defining the purpose of the act it also defines two main responsible institutions for administration and monitoring of the electronic communications sector. *Ministry of the Economy, Electronic Communications Directorate* is responsible for forming a modern legislation on the field of post and electronic communications; monitors situation on the markets and with help of strategy, politic and concrete measures contributes to reestablishment of conditions to approach developed European states on the field of Postal services, electronic communications and other Information-communication technologies. *Postal and Electronic communications Agency (APEK)* on the telecommunications field is managing regulative environment and with this it should provide on terms of equality based telecommunications market. It should also ensure free competition on the market (in cooperation with Competition Protection Office). It is also a mediator in conflicts between telecommunication service providers and as well between users and service providers (it should protect user rights, e.g. privacy, right for good quality and affordable service). Another institution influencing the telecommunications market is *Competition Protection Office (CPO)* which is closely cooperating with the Postal and Electronic Communications Agency. The Office supervises the application of the Act regarding competition, monitors and analyses situations on the market, conducts procedures and issues decisions in accordance with the Act, submits its opinions to the National Assembly and the Government on general issues under its competence, and conducts procedures concerning violations. The regulatory system is fully in compliance with the community law but still not completely liberalised in practice and they are slow in making some major changes.

Slovenia's research strategy

In Slovenia there is no special research strategy concerning development of mobile technologies, services and applications. The only program which is indirectly addressing mobility development is National Research and Development Program (NRRP) which is

currently in process of confirmation by the Slovenia's parliament (now valid are Guidelines and starting points for NRRP). On the 15th September NRRP was accepted by the Government of the Republic of Slovenia.

NRRP is a part of Slovenia's strategy in general (new Strategy of Slovenia's Development for the period 2006-2013 was accepted 23.06.2005) which has for a goal stimulation of competitiveness, adaptability and innovatory activities. Basic development goal of Slovenia is to reach and to exceed average level of economical development of EU. In NRRP one of the priority fields of research and development is Information and Communication technology (ICT) what mediatory includes mobility. But by our opinion this priority field covers more development of broadband infrastructure, new services mostly in area of e-learning, e-government and broadband access.

Slovenia's Research Programme

Strategy of development of Slovenia and from it taken Action Plan for realization of Lisbon strategy in Slovenia are strategic documents, that consider knowledge and creativity as main motive power of growth and employment. Beside the takeover of euro, increasing of extent of research work, rising of creativity and innovation, and rising of technological development are most important Slovenia's goals.

Slovenia, according to expenses for research and development is positioned somewhere in the middle of EU member states and has a proportional ratio between public and private investments. One of the main goals presented in NRRP is to increase investments of economic sector in R&D up to 3% of GDP until 2010 (in compliance with Barcelona goals).

Slovenian research agency (ARRS) scientific policy provides three instruments of financing: *Research programmes* carried out by programme groups, *research projects* (comprising basic, applied and post-doctoral projects) and research training and postgraduate study financing for *young researchers*. The last stated instrument has been going on with great success since 1985, and has made an excellent contribution to increasing the amount of research going on in Slovenia, and reducing the age profile of research groups.

Ministry for High Education, Science and Technology, which is responsible for the implementation of the program, is yearly publishing calls for applications of projects and programmes proposals. So it is up to them and the evaluators how many projects on which specific field will be accepted for financing. Situation regarding research on telecommunications and mobility is not so bright. Since research programmes are divided into various science fields, telecommunications projects and computer sciences are part of technical sciences (along with 21 other research areas, e.g. chemical engineering, constructing, mechanics...). The percentage of the technical sciences basic research projects compared with more traditional is marginal (only 14 FTE are funded for 5 year of basic research for the whole country). Budget for the NRRP is not defined in advance as well as financial instruments. Regional coordinators for telecommunications field agree between themselves which projects will be accepted by the Slovenian Research Agency for funding.

New NRRP is already accepted by the Government of the Republic of Slovenia (on the 15th September 2005) and probably very soon it will be accepted by the parliament. It will not bring any improvement regarding mobility support unless we respect the ICT high priority as a possibility to promote also the mobility. Maybe there is a special viewpoint regarding mobility as a separate domain - due to consideration of the mobile industry and services as a high profitable and due to very high penetration rate, there is a common opinion that there is no need for the special support in mobility development. In a broader view, concerning development of the new technologies and services including mobility priority for the ICT could mean indirect high assessment also of the mobility in the future NRRP.

Evaluation of National Research and Development Programme (NRRP)

NRRP is prepared by the Ministry for High Education, Science and Technology and managed by the Slovenian Research Agency. Currently valid are *Guidelines and starting-points of the National Research and Development Program*, published in March 2003, for period from 2003-2007. The problem is that they are usually not fully implemented due to lack of funding or disagreement regarding the priority of themes and topics. On the September 15th new NRRP was accepted by the Government of the Republic of Slovenia

but it still awaits approval from the Slovenian parliament, which is standard procedure according to the law. *New NRRP aims high but still lacks more concrete guidelines and establishing of appropriate instruments to achieve the goal.*

In Slovenia, for the field of telecommunications no specific national program exists. In general all science fields are funded through 3 instruments of financing: Research programmes, research projects (comprising basic, applied and post-doctoral projects), and research training and postgraduate study financing for *young researchers*. Regarding basic research projects there is a pre-dominance of traditional fields like natural sciences, physics, chemistry, medicine, biology, humanistic, social etc. Research programmes carried out by programme group are usually financed for five year period. Last year 7 telecommunications research programmes for the period from 2004-2008 were financed. Research training and postgraduate study financing for *young researchers* has been going on with great success since 1985, and has made an excellent contribution to increasing the amount of research going on in Slovenia, and reducing the age profile of research groups. Six young researchers were included in the programme in the year 2004 and as well in the year 2005. Training usually lasts for 4.5 years with the goal of acquiring PhD degree of science. The field of telecommunications is also stimulated and financed with calls for project proposals that are general in nature (covering basic research, applied research and post-doctoral projects). Budget for the NRRP is not defined in advance as well as financial instruments. Regional coordinators for telecommunications field agree between themselves which projects will be accepted by the Slovenian Research Agency for funding. Annual budget of the programme in the year 2004 was 11.666.666 EUR, from this 5.600.000 EUR were earmarked for technical sciences³. Programme is covering the whole Slovenia, allowing partnerships also with the foreign partners although they should finance their participation in the project. For the projects funded by the Slovenian Research Agency maximum single grant is approximately 33.350,00 EUR/year (1000 Hours/year). Each year approximately same amount of FTE is assigned to the telecommunications research area as the year before and person/year value is defined on the national level. Approximately in addition to the basic 14 FTE only 3 FTE are appointed to telecommunications research area each year and last year were divided between 5 accepted projects.

³ Source: Slovenian Research Agency, www.arrs.gov.si

Information about the programme, the law and calls for applications is available on the Slovenian Research Agency's and Ministry for High Education, Science and Technology website. Information is also published in the Official Journal of the Republic Slovenia.

The program reflects the ways and methods of funding known to be the same in the last decades. Objective evaluations of proposals were not present. The team leaders that applied to the calls are the major evaluators and decision making person. Objective following of the specified goals and priority topics are not evidenced. The participation in EU programs was not taken in account by quantifying factors in the assessment of the scientific quality of the team and the relevance of the topic. The program gives no support that can be evidenced to teams and groups being active in the ERA.

The NRRP in Slovenia has set up acceptable goals but is missing the major part: strategy how to implement it and specification of instruments to achieve the goals. The missing very important parts are monitoring tools and instruments that can use existent R&D data base (people, projects, results, knowledge etc.) and give recorded data and evidence of the successfulness of the program, the range of the achieved goals and basis for the further improvement of the National Research and Development Program.

Conclusions and recommendations

The new NRRP has objectives in line with most of the EU documents in the field however it lacks implementation strategy and instruments for achievement of the stated objectives. Parties involved in NRRP preparation did not come to full consensus and the NRRP reflects the missing synergy between, industry, universities and R&D institutions.

Since research programmes and projects are divided into various science fields that cover all scientific fields, telecommunications' projects and computer sciences are part of technical sciences and compete with other fields. On one side, this can be considered as positive approach as there is no restriction regarding particular fields and objectives and enable equal footing for most of the general scientific fields. On the other side, budget for the NRRP is not defined in advance as well as financial instruments for implementation of the stated objectives. In case of guaranteed annual funding and follow up of specified objectives the NRRP framework could provide good practice regarding the technological advancement of the country. The NRRP is open for integration with other research programs. In most cases projects are financed from different sources; there are different

types of participants from the universities to the industry and as well from different countries. One of the identified obstacles was lack of continuity of the evaluation methods for submitted proposals to the calls published by the respective Ministry.

The change of the government introduces as well changes in the evaluation system that are not graduate improvements of the system but represent sometimes sharp turns. It was identified as well that the evaluation criteria should follow the specific characteristics of the different fields (distinction between the IST and "health" e.g.) especially when high level technology is concerned. The participants see this as an obstacle in gaining quality in the implementation of the national R&D policy. The participants from the telecommunication field have expressed a common opinion that the field of telecommunication is "undernourished" in the general- strategy, regulation and financing of the R&D sector in Slovenia. Furthermore, the involvement in ERA activities and IST Programmes is underestimated and is not openly supported with relevant instruments or policy. The support is mainly declarative.

One of the identified problems is the treatment of the quality and research results. Common criteria are used for the most fields of science. The criteria follow the traditional evaluation approach for basic sciences like physic and chemistry. Results in technology like IST and the telecommunication fields are evaluated only through publication in SCI journals, important conferences in the field that have sometimes much more selective approach (e.g. IEEE or ACM Conferences) than SCI Journals are not considered as relevant research results. There are also differences in evaluation of R&D results for different institutions (universities, institutes and research dept. in companies). Researchers expect from the NRRP to develop instruments that will enable better integration and cooperation among different R&D subjects (industry, R&D institutions, universities), to speed up the technology development and to enable better integration with the R&D in Europe and world wide. They expect as well enabling instruments for better cooperation between industry and incorporation into the ERA. As NRRP is missing defined funding framework, specific actions and instruments, it is difficult to judge the real policy and implementation.