

---

## Policies for the development of the information society in the new member states

The Latvian case

Claudio Feijóo, José Luis Gómez-Barroso, Edvins Karnitis and Sergio Ramos

---

**Publisher**

Netcom Association

**Electronic version**

URL: <http://netcom.revues.org/2449>

ISSN: 2431-210X

**Printed version**

Date of publication: 16 mars 2007

Number of pages: 165-188

ISSN: 0987-6014

**Electronic reference**

Claudio Feijóo, José Luis Gómez-Barroso, Edvins Karnitis and Sergio Ramos, « Policies for the development of the information society in the new member states », *Netcom* [Online], 21-1/2 | 2007, Online since 15 December 2016, connection on 05 January 2017. URL : <http://netcom.revues.org/2449>

---

The text is a facsimile of the print edition.



Netcom – Réseaux, communication et territoires est mis à disposition selon les termes de la licence Creative Commons Attribution - Pas d'Utilisation Commerciale - Pas de Modification 4.0 International.

**POLICIES FOR THE DEVELOPMENT OF THE INFORMATION  
SOCIETY IN THE NEW MEMBER STATES:  
THE LATVIAN CASE**

**Claudio FEIJÓO \***, **José Luis GÓMEZ-BARROSO \***, **Edvins KARNITIS §** &  
**Sergio RAMOS \***

**Résumé** – Cet article décrit les plans relatifs à la société de l'information lancés en Europe centrale et orientale ; il s'intéresse plus particulièrement à la Lettonie où des progrès ont été réalisés ces dernières années.

**Mots-clés** – Lettonie. Politique publique. Société de l'information. T.I.C. Union Européenne.

**Abstract** – *Achieving the full incorporation of its citizens, territories and institutions to the new socioeconomic paradigm implied by the information society is a priority objective of the European Union. Achieving this objective is even more significant for the new members since it is probably the safest path in the mid to long term convergence process in which they are immersed.*

*This article describes the evolution of the regional support plans for the progress of the information society launched in the Eastern and Central European countries. This analysis is repeated for the specificities of*

---

\* GTIC. E.T.S.I. Telecomunicación. Universidad Politécnica de Madrid. Ciudad Universitaria s/n. 28040 Madrid (Spain). Telephone: +34 91 3367320. Fax: +34 91 3367320. e-mail: {cfeijoo;sramos}@gtic.ssr.upm.es

\* Dpto. Economía Aplicada e Hª Ecce. UNED – Universidad Nacional de Educación a Distancia. Pº Senda del Rey, 11. 28040 Madrid (Spain). Telephone: +34 91 3988115. Fax: +34 91 3987821. e-mail: jlgomez@cee.uned.es

§ Department of Informatics. Latvijas Universitāte. 55 Brīvības Iela. Rīga LV-1010 (Latvia). Telephone: +371 7097203. Fax: +371 7097265. e-mail: edvins.karnitis@sprk.gov.lv

This paper is partially based on the work and experiences shared thanks to Latvia's EU Twinning Project LV/2002/IB/TE-01 in the area of electronic communications, a project where Dr. Feijóo was the Project Leader and Dr. Ramos was the Resident Twinning Adviser for the European Union. The main beneficiary of the project was the Public Utilities Commission of Latvia (*Sabiedrisko Pakalpojumu Regulēšanas Komisija*), where Dr. Karnitis is a Commissioner.

*Latvia and the results obtained are subsequently analysed. The results are not quite satisfactory despite some progress achieved in recent years. However, Latvia has a clear strategic vision that connects future development with the existence of a series of productive processes where an efficient information management is the key element. The maintenance of this conviction could be the most solid value to move forward towards the effective integration of Latvia into the knowledge society.*

**Key words**—European union. I.C.T. Information society. Latvia. Public policy.

## INTRODUCTION

On May 1st, 2004, the European Union extended from fifteen to twenty five its member states. The Central and Eastern European states, the majority in the enlargement, reached this historical milestone after going down a long road that lasted at least fifteen years. In this short period, they had successfully overcome the successive challenges of recovering their democratic institutions, transforming their economies and achieving the required social and economic balances. However, the challenges have not disappeared with the accession to the European club. Moving towards the leading European countries development rates is the new goal. Their capability for adapting to the new socioeconomic paradigm imposed by the so-called information society is undoubtedly important for achieving this (move?).

Indeed, the new member states have competitive advantages (particularly, lower labour costs) that they can use against their European partners in the short term. However, it is obvious that this short-sighted strategy is not only condemned to failure in the long term but would also be incapable of generating the harmonious? and sustainable progress that these countries' citizens have a right to demand.

An alternative path consists in choosing to take advantage of the opportunities that the knowledge society promises and currently offers. In part due to the above and in part due to the promotion of the European institutions, the Central and Eastern European countries started an early reflection on the evolution of the information society in general and, more specifically, on the role that the authorities were to play in the process. The growing harmonisation of their plans with those of the Europe of the fifteen has logically made way to their integration into the community programmes.

The first objective of this paper consists in reviewing the evolution of this process, for which three time phases have been defined: from the fall of the wall to the formal start of the accession negotiations, from the start of the formal negotiations to the European Union accession and in the aftermath of the accession to the European Union.

The second part of the article focuses the study on one particular country: Latvia. Following an outline of the general economic situation and that of the information and communications technologies (ICT), the policies undertaken by Latvia for promoting the information society Progress are described and their results are assessed.

## 1. EVOLUTION OF THE ACTIONS IN FAVOUR OF THE INFORMATION SOCIETY IN THE NEW MEMBER STATES

### 1.1. First stage: from the fall of the wall to the formal start of the accession<sup>1</sup> negotiations

During the early nineties, the information society was far from being a priority in the Central and Eastern European countries (CEECs), more worried about increasing unemployment rates, formerly unknown joblessness and a political scene that was busy explaining the new national conscience (Schneider, 2002). Notwithstanding the above, the reform of the telecommunications sector did hold a prevailing position in the agendas of the governments of these countries: the privatisation and liberalisation of telecommunication services had almost become a prerequisite for “entering the new race” (Antonelli, 2003).

Conceptually, the situation was not too different from the one existing in the rest of the continent: despite they were frequently “covered” with social considerations, European public policies for developing the information society during the whole last decade of the past century were based on (almost limited to) the liberalisation of the telecommunications sector (refer to Feijóo et al., in this volume).

However, outstandingly different indeed were the initial conditions. Telecommunications organisations in pre-reform Central and Eastern Europe as well as in the former Soviet Union resembled those of the West: monopolistic control over all aspects, under the aegis of a state PTT. Technical capability, performance quality, and service availability, however, were far behind (Noam, 1992). The telecommunications sector had been penalised in centrally planned economies because of an ideological bias that gave predominance to material production and neglected services (Carbajo and Fries, 1997). The telecommunications network was considered primarily as a hierarchical communications tool and, as a result, the needs of private users were secondary (Gruber, 2001). The legacy in the telecommunications sector when the region was returning to democracy can be generally characterized as follows: much lower penetration ratio than the European average (typically 10-20 lines per 100 inhabitants versus about 40 in Community countries), long waiting list for telephone installation and a long waiting time (6-10 years for residential subscription), poor quality of service, physically degraded equipment and obsolete technologies, as well as a total lack of advanced telecommunication services (Sallai, 1992; Wylleman, 1992). The process of liberalising telecommunication services that started following the political change was supported by the European Community, who also contributed to the reflection on the implications of the Information Society starting, at least theoretically, almost simultaneously with the Community itself. All of the above occurred, mostly, thanks to the EU-CEEC Information Society Forum meetings where Ministers and industrial leaders from the Central and Eastern European

---

<sup>1</sup> The situation described is only applicable to the new Central and Eastern European member states. That is, Malta and Cyprus are excluded from the study carried out in this section.

Countries (those countries that had, or were negotiating, Association Agreements with the EU) met representatives from EU organisations to discuss the implications of the information society for those countries, raise awareness in CEECs on the movement towards the information society and transmit the existing EU experience to CEECs.

The EU-CEEC Information Society Forum held three meetings<sup>2</sup>:

– The first of these meetings took place in Brussels on June 23, 1995. The community side particularly emphasised that common principles on regulatory and competition issues should be implemented across the whole Europe. The conclusions state that liberalisation and harmonisation of the information infrastructure will boost the CEECs competitiveness.

– Prague hosted the second meeting of the forum on September 1996. The agenda was extended and an action plan that identified twenty themes where pilot projects would be particularly effective was prepared. Particularly interesting is the fact that the first of the eight final recommendations made to the Central and Eastern European governments was “to develop national strategies and action plans for the Information Society”.

– The third EU-CEEC Forum held again in Brussels on October 1997 represented a step forward, at least on the theoretical plan, in the definition of an information society policy inside the Regions. Each government was “invited” to guarantee that their national Information Society strategy and related action plan established a national budgetary provision and included sections dedicated to regional development aspects and international statistical cooperation. Additionally, the creation of a PHARE multi country programme devoted to the Information Society was suggested.

The practical results of these forums were, however, scarce. Many of the region’s governments still avoided fully focusing on the issue of the information society, busy as they were with the job of creating a market economy and dismantling the legacy of the centralized economic system (Jakubowicz, 1999). In fact, during the 1996 meeting, it was stated that “in most cases, the governments of CEECs are not organized in such a way as to enable them to monitor the evolution of the information society as an economic sector [and] specific new responsibilities are needed”. On the other hand, focusing exclusively on the telecommunications sector, the policies that were adopted were not completely effective either. The bet on opening markets was a shy one. Generally, privatisation was carried out, at least partially, in these countries much earlier than liberalisation. The first privatisations took place in 1993 and the sale of parts of the monopolistic operators continued throughout the nineties<sup>3</sup>. In most cases, the buyers had exclusive long-term licences guaranteed; the complete opening of the fixed telephony market did not occur in any

---

<sup>2</sup> Eight expert panels for preparing the Forums’ recommendations in different fields (policy development, regulation, education, etc.) were organized. Specialists of EU and CEECs worked jointly, although as leading and supporting partners.

<sup>3</sup> Refer to details in Oacă (2000).

case before 2001. Mostly as a consequence of these decisions, the evolution of the telecommunications industry during this period continued to be burdened in CEECs by important sector shortcomings: conflicting goals between modernization and expansion of telephone networks, lack of commercial focus, poor organizational structures and systems, inadequate return on capital due to extremely low tariff levels, and monopolistic behaviour reinforcing inertia and constraining the development and expansion of the range of services (Davies et al., 1996).

The third EU-CEEC Forum was, to a certain extent, a sort of concluding event of the actions that had started in 1995. The recommendation was that continuing the previous style of work would not be effective. Therefore it was decided to continue working in common European bodies. Thus, a Joint High Level Committee comprised of EU and CEEC government representatives was created to regularly review the implementation of the conclusions and recommendations of the Forum (and quite particularly, to monitor the development and implementation of national strategies and action plans as well as to intercoordinate activities).

## **1.2. Second stage: from the start of the formal negotiations to the European Union accession**

Applications for EU Membership have been carried out between 1994 and 1995. At its summit in Luxemburg in December 1997, the European Council decided the process that the enlargement should encompass and in March 1998 the EU formally launched the process that would make enlargement possible. Almost immediately (in 1998), the Joint High Level Committee held its first two plenary meetings. They were dedicated to the development of national information strategies and the analysis of progress being made in CEECs on information society-related matters. Also during 1998, representatives of the CEECs joined the European Information Society Forum (ISF)<sup>4</sup>. The Joint High Level Committee carried out intense activities since it met another three times until February 2000. The last of these sessions was preceded by a Ministerial Conference that took place in Warsaw on May 11th and 12th, 2000. This conference clearly marks the beginning of a new phase in EU-CEEC co-operation in information society policy (Schneider, 2002) since CEECs recognised there the strategic goal set out by the EU-15 in Lisbon and agreed to embrace the challenge defined by the EU member countries with *e*Europe by deciding to launch an “*e*Europe-like” action plan by and for the candidate countries.

In February 2001, the European Commission invited Cyprus, Malta and Turkey to join the CEECs in defining the common action plan. The *e*Europe+ Action Plan [EU-2] was launched by the Prime Ministers of the candidate countries at the Gothenburg European Summit on 15-16 June 2001.

---

<sup>4</sup> The Information Society Forum was an independent advisory body on strategic information society issues (vision of the information society, universal information service, sustainable development, job creation, lifelong education, convergence of services, etc.) for EU institutions, governments of Member and Associated States, groups of citizens and the society as a whole.

At the 2000 ministerial conference, it had been already agreed that the action plan that would be passed almost immediately for the EU-15 (*eEurope* 2002 Action Plan [EU-1]) should stand as the dominant reference document. However, the plan for the candidate countries should build upon a fair assessment of what had been achieved up to that date in political, institutional and economic terms. As a consequence, *eEurope+* mirrored the priority objectives and targets of *eEurope* (a cheaper, faster, secure Internet; investing in people and skills; stimulating the use of the Internet) but provided for actions which tackled the specific situation of the candidate countries. This fact translated into the introduction of an additional objective, not previously found in *eEurope*, which aimed at putting in place the fundamental building blocks of the information society. The Said additional objective had in turn two subsections: a) accelerating the provision of affordable communication services for all; b) transposing and implementing the *acquis* relevant to the Information Society<sup>5</sup>.

The *eEurope+* actions were undertaken by the candidate countries on the basis of political commitments. It was underlined that *eEurope+* should in no way be perceived as a substitute for, or an interference of, the on-going *acquis* communautar negotiating process.

A first picture of the target implementation status was subsequently provided with the presentation of the first *eEurope+* Progress Report [EU-4] in the European Ministerial Conference on the Information Society “Connecting Europe” (Ljubljana, 3-4 June 2002). The final Progress Report [EU-6] was presented in another European Ministerial Conference on the Information Society (“New opportunities for growth in an enlarged Europe”, that took place in Budapest on 26-27 February 2004).

As regards the telecommunications sector, the opening-up of the markets was extraordinarily accelerated during the first years of the new century. Liberalisation was not only the logical option, but, in the case of those admitted as accession countries, it had become a mid-term obligation.

### 1.3. Third stage: in the aftermath of the accession to the European Union

Negotiations were concluded with applicant countries in December 2002. The Treaty of Accession was signed in Athens on April 16, 2003. The accession as full members of the European Union was carried out on May 1, 2004.

The enlargement did not imply the introduction of additions or rectifications in the information society development programme that was in force at the time<sup>6</sup> (*eEurope* 2005 [EU-3]). The Final Report of *eEurope+* [EU-6] transferred the responsibility to the new members since it stated that the entry into the Union would be the appropriate moment to review national action plans for the information society

---

<sup>5</sup> On joining the Union, applicants were expected to accept the *acquis*, i.e. the detailed laws and rules adopted on the basis of the EU's founding treaties.

<sup>6</sup> As regards the plans for developing the information society followed by the European Union, and specifically in order to be aware of the *eEurope* lines, refer to Feijóo et al, in this volume.

so as to guarantee a closer alignment with the objectives within the framework of the eEurope 2005 Action Plan.

Beyond any eventual grandiloquent statements that the historical nature of the event may also have generated in this sphere, maybe the most important of the new elements introduced has been the fact that the new member states can take advantage of the financing possibilities offered by structural funds which, according to the eEurope 2005 Action Plan, can be dedicated to information society-related projects<sup>7</sup>. This is a very important factor in all the initiatives launched by the new member states, since most of their regions (in many cases, the whole country) meet the economic conditions required to receive structural funds. The Commission released a working paper with the guidelines for their usage in this field [EU-5].

Apart from this, there is indeed no difference whatsoever with the remaining member states. Following the conclusion of the eEurope programme, the later has given way to i2010 [EU-8], a programme already negotiated by the twenty five. The new programme marks three political priorities: first, promoting a borderless European information space with the aim of establishing an internal market for electronic communications and digital services; second, strengthening innovation and investment in ICT research to promote growth and more and better jobs; last, achieving a strategy of sustainable development that prioritises better public services and quality of life.

## 2. THE INFORMATION SOCIETY IN LATVIA

### 2.1. Brief economic notes and economic policy of the country

Latvia has achieved a great deal since it restored independence in 1990. In less than 15 years it has established a stable democratic system and a fully functional and open economy. The country has also integrated successfully into international structures. The macroeconomic indicators in Latvia have been recently balanced; reforms implemented in Latvia and its integration into the EU have left a positive impact on the economic development of the country (table 1). Between 1995 and 2005 Latvia has achieved the second highest GDP growth among EU member states (the annual average growth rate was 6%), only lagging behind Ireland. This trend indicates that Latvia could become not only a *de jure* EU member state, but also a *de facto* member of the most developed countries group.

The long-term economic strategy for Latvia was defined by the Cabinet of Ministers in 2001; in 2003 it was supplemented by mid-term priorities and short-term activities. Priorities for the national economy are education, R&D, investment strategy

---

<sup>7</sup> There is a specific reference to the deployment of broadband accesses: "Member states, in co-operation with the Commission, should support, where necessary, deployment in less favoured areas, and where possible may use structural funds and/or financial incentives (without prejudice to competition rules)" [EU-3].

(including investments from EU funds) and the boosting of the sectors in which Latvia has competitive advantages.

This national strategy admits that further development of the country and an increase of life quality strongly depends on innovation and the capability to use the knowledge potential. Thus, the development of a favourable environment for creativity and knowledge economy, and the rendering of motivation for every company to be innovative and to invest in innovation, have become major tasks for the administration.

GDP per capita as % of EU-25, 2005	46.5%
Real GDP growth rate, 2005	10.2%
Labour productivity per person employed as % of EU-25, 2005	46.0%
Investments in national economy as % of GDP, 2005	28.2%
Foreign trade as % of GDP, 2005 (commodities and services)	110%
Foreign direct investments as % of GDP, 2005	5.0%
Fiscal Budget balance as % of GDP, 2004	-1.1%
Central government debt as % of GDP, end 2005	10.7%
Tax (direct and indirect) rate as % of GDP, 2005	28.3%
Unemployment rate, Q4 2005 (International Labour Organization standard)	7.8%
Inflation rate, 2005	6.9%
Gini index, 2004	0.34

*Table 1.* Key indicators of Latvia's socioeconomic development

*Source: Different Latvian economical statistics*

In the short and mid term, the introduction of advanced technologies in traditional branches of the economic activity in order to make the most of their comparative economic advantages is particularly important. During the transition period of the promised transformation, these branches will ensure jobs as well as capital accumulation, thus reducing social tension. Obviously, this requires an adequate environment facilitating the economic exchanges, or in other words, the emphasis must be placed particularly on the quality of the commodities and services<sup>8</sup>.

---

<sup>8</sup> The most successful innovative companies are already following this path. The awarding of *ISO 9000* and sectorial quality certificates (*GMP* for pharmacology, *FSC* for wood processing, *EMAS* for chemical industry, *CE* mark for electrical and electronic industry) serves as a guarantee.

In order to progress down the path proposed by the governmental strategy, Latvia presents a series of favourable characteristics, but must also resolve a series of important problems:

- People and their capability of acquiring and applying knowledge is the most critical asset for the innovation process. The country shows one of the highest adult literacy rates, a highly skilled workforce on all levels, as well as a high tertiary enrolment rate. Meanwhile, the structure of the tertiary education and the spread of life-long learning remains unsatisfactory.
- Latvia's limited resources as well as its small domestic market are restrictive factors. The identification of global market niches is essential. Additionally, partnership becomes an extremely substantial issue: the participation in partner networks represents an opportunity for accessing the innovation process. This process must start with Cooperation between companies of the country itself. Close partnerships help companies and therefore increase the chances of achieving larger partners in the networked world. Clustering is the model that could help achieve the synergy effect. At present, several Business clusters (e.g., information systems, forestry, engineering) are being developed.
- The governmental export promotion programme must be substantial during the initial period. The state's image and recognition also contribute to Exports; from this point of view, the accession to the EU is also very important.
- Major long-term investments are necessary to carry out the complete innovation process. Several local companies have invested heavily in the development of new products and have achieved considerable economic results. However, overall, domestic financial resources are insufficient and foreign investments become essential. Moreover, the lack of investor interest in financing creativity is particularly worrying; only an insignificant share of the total investments has been targeted towards knowledge-capacious sectors. The increase of motivation to invest in innovative industries remains an unsettled problem.
- Latvia presents one of the lowest tax rates in Europe. Additionally, stimulating investment in advanced technologies and expenditure in human resources through tax reductions is a policy currently in process.
- Overall, governmental support for SMEs remains flat, lacking any special promotion of long-term innovative activities, including training and research.
- The availability of start up and venture capitals remains low; banks require significant guarantees and pledges.
- The lack of knowledge flow between Universities (or public research institutions) and Businesses is another major problem. The result is not only small industry investments in R&D, but also, reduced outcome and low contribution of knowledge-capacious products to the GDP and national budget.

## 2.2. ICT sector: strengths and weaknesses

Increasing information processing activities and broad knowledge flows are some of the major keystones for the chosen innovative development trend. The growing potential of the ICT sector would provide the necessary basis for this purpose. Therefore ICT sector-related governmental policies must match the national economic strategy while the national economy must take advantage of ICT market development.

Several ICT-related aspects in light of the general growth strategy are analysed below:

- In recent years, the sector's evolution has been positive. Increasing demand for ICT products and services has materialized in a pre-emptive growth of the sector in comparison with other sectors of the national economy and in a growing density of the gross domestic product<sup>9</sup>; the growth rate of Latvia's ICT sector has actually doubled as compared to the OECD growth rate.
- The internal Latvian market is clearly insufficient to reach the scale economies needed in the ICT sector. Different strategies could solve this problem in global ICT markets: merging companies on a Baltic scale, establishing subsidiaries, incorporation to international brand name companies<sup>10</sup>. It has been proved that the companies that have achieved greater success are strongly oriented towards the export of their products<sup>11</sup>.
- Cluster-based development is envisaged as a strong tool to increase the competitiveness of Latvia's companies, although clustering is a challenge as well as a problem for ICT companies<sup>12</sup>. Clustering on an International level

---

<sup>9</sup> The share of ICT commodities and services in Latvia's GDP has increased from 3.2% in 1997 to 6.0% in 2004 (1.6% of GDP for hardware and software industry; 4.4% of GDP for electronic communications services). Considering the 43% GDP increase during this period, the ICT sector has grown 2.7 times.

<sup>10</sup> *Dati* has established subsidiaries in Sweden. Merging companies on a Baltic scale (*Microlink*) and/or incorporation into international brand name companies (*TietoEnator Financial Solutions*, *Exigen Latvia*, *Axon Cable*) are going on.

<sup>11</sup> The export share of production reaches 90% in the case of *VEF Radiotehnika RRR* (acoustic systems), and *Exigen Latvia* (software), 95% for *SAF Tehnika* (microwave radio communications) and 96% for *Vermerk* (high quality lamps). Export products make up 80% of the total electronic industry production and 40% of the software industry (that nevertheless is too small for a branch that has declared its intention of becoming a leading industry in the country); IT exports increased in 52% during 2003.

<sup>12</sup> The information systems cluster (made up by 16 partners, including the participation of the *University of Latvia* and *Riga Technical University* that ensure a considerable research potential) is deemed successful so far. However, meanwhile ICT companies strongly compete for domestic public procurement, which represents a significant barrier. Refer to <http://www.is.lv/public>.

- (e.g., *European Economic Interest Grouping* model) would be one way of becoming more successful<sup>13</sup>.
- Quality is another challenge: the most successful ICT companies have already defined the quality of their products and services as the cornerstone of their policies.
  - Specialised education in the ICT area is one of Latvia's most important problems. Although the number of ICT specialised graduates has substantially increased in the last years, overall, the tertiary education enrolment Structure remains unsatisfactory, and engineering education still presents low figures<sup>14</sup>.
  - The ICT sector should be basically driven by researchers providing innovative solutions and bringing tangible products to the industry. In order to integrate the intellectual capacity of the academic society and the business skills of entrepreneurs, a research and innovation programme applied on a national basis must be defined. Several local companies have invested heavily in developing new products and have achieved considerable economic results<sup>15</sup>.
  - Simplified local clearance at selected sites, electronic completion and processing of tax declarations is in force, easing the Customs procedural burden and shortening clearance time. Simple Custom processes and prompt accessibility of Export/Import procedures are particularly critical for the ICT industry, characterized by large specifications and small amounts<sup>16</sup>.
  - Regional policies are a substantial component of the general development policy. The diversification of economy in rural areas should be viewed as a key to these goals. The ICT sector is one of the most active ones in this field: a number of ICT companies already operate in the periphery<sup>17</sup>.

---

<sup>13</sup> *Lursoft IT*, an operator of the information system of *Enterprises Register*, is a pioneer of this cooperation model; they have already associated registers of 14 other European countries in the *European business register* alliance. Refer to <http://www.ebr.org>.

<sup>14</sup> The amount of annual IT graduates during 1997–2003 has increased by 3.4. However, in total, only 0.76% of people aged 20–29 have graduated in engineering and life science studies (EU-15 average indicator – 1.04%).

<sup>15</sup> The *SAF Tehnika* company is a striking example. *SAF tehnika* covers 6–7% of its specific global market segment. After a careful and long-term R&D stage (the actual roots of competition go back to the 80's) the turnover started to double every year. The company is appraised at present at 53 M€ in the *Riga Stock Exchange*; it has acquired the Swedish company *Viking Microwave AB*.

<sup>16</sup> *Hansa Electronics* concluded an agreement with the *National Customs Board* in 2002 on clearance at its premises and adaptation of clearance process to its manufacturing process; it has allowed reducing company expenditures by 10%.

<sup>17</sup> E.g., *Axon Cable* (data transmission cables) in Daugavpils, *Anda Optec* (optical cables) in Livani, *Hansa Electronics* (microelectronic equipment) in Ogre, *A&C Electronic Baltic* (components of TV set tubes and PC monitors) in Rezekne.

## 2.3. Public policies for the Information Society in Latvia

### 2.3.1. Transformation of the Telecommunications Services sector

As in the remaining European countries, the reform of the Telecommunications Sector in Latvia preceded any other policy. Without this representing an exception to what occurred in almost all CEECs, the first stage of this reform did not go beyond privatising the monopolist. Indeed, the first Law on telecommunications was approved on May 10, 1993. But precisely this law and an umbrella agreement made in 1994 (between the government, the Latvian incumbent telecommunications operator, Lattelekom, and the international consortium which had an important stake in Lattelekom following the early partial privatisation) handicapped the development of Latvia's regulatory regime. The fact is that the law gave Lattelekom exclusive rights until 2013 on all basic telecommunications infrastructures. The initial law was replaced by another of the same name on November 16, 2001. It admitted that "any legal entity or individual shall be entitled to establish a telecommunications company, establish and operate telecommunication networks, and provide telecommunication services". In practice, the temporary provisions guaranteed the maintenance of the monopoly for all the services until January 1<sup>st</sup>, 2003. Even the "call back services" were specifically forbidden to avoid external competition in International calls. The 2001 Law had a short life since on April 15, 2004 a new Electronic Communications Law that transposed the European framework to the Latvian code was approved<sup>18</sup>. The complete opening-up of the markets demanded by community regulation (as well as the implementation of control and decision-making mechanisms by the regulator) had to burn phases at full speed.

### 2.3.2. The Informatics programme

Due to this late liberalisation, the opening-up of the telecommunications sector coexisted in Latvia with the definition of broader programmes regarding the information society. In 1999, a comprehensive national programme called *Informatics* was accepted by the Cabinet of Ministers for the 1999–2005 time period (one year later, updated supplements were included in the then-called *Informatics 2000* programme). Despite the limitations of the title, the programme can be considered as a national strategy for the information society. The basic goal of the *Informatics* programme was to start creating the information society in Latvia. This proves the early bet made in Latvia on the progress of the information society, considered as a new, better-organized type of society, and a knowledge-based societal organization model; in this conception, a wide use of ICT should bring large social benefits and a higher standard of living. A series of interrelated objectives was set up: economic (regional development, new jobs), political (effective governance, ongoing development of democracy, civic liberties) and social (increase of the level of life and life-long education for everyone). The programme included both a macrolevel strategy

---

<sup>18</sup> Refer to Dombrovskis et al. (2004) for detailed information on the liberalisation process and market situation.

(policy of the development of the country) and microlevel measures (a number of applications and projects). It covered normative and standardization issues, telecommunications and information systems, education, R&D and ICT-related innovation problems. The execution of each subprogramme envisaged carrying out tasks in specific projects.

In order to implement the programme, work has been going on in several directions: a series of normative acts were prepared and passed, a national integrated information system (“megasystem”) was created, several kinds of training courses addressed at improving the level of computing and information literacy were prepared, and Latvian information resources were interconnected with International information systems.

### 2.3.3. The e-Latvia programme

In order to accelerate the development of the information society, it is crucially necessary to involve every individual and company in every region into the process. This broader perspective with respect to *Informatics* is the exact essence of the strategic guidelines of the social economic programme *e-Latvia* adopted by the Cabinet of Ministers in December 2000. *e-Latvia* focuses on coordination, prioritisation and increased implementation of the activities and projects it covers:

- to encourage the creation, spreading and introduction in Latvia of the basic conditions, principles and processes of the information society and knowledge economy and thus to increase the effectiveness and competitiveness of Latvia’s national economy in the global market
- to create opportunities for every individual and business to take full participation in the processes of the information society and knowledge economy in Latvia
- to promote the increase of the whole population’s welfare levels and thus to encourage a sustainable development of Latvia, as well as the country’s civil harmony and economic and social cohesion

The implementation of the programme was foreseen for a period ending in late 2004.

A number of middle-term planning documents that specify strategic programmes have been adopted by the government:

- “e-commerce concept” in 2001
- Unified library information system in 2001
- “Development and improvement of e-Government infrastructure base for 2005-2009” programme in 2005
- e-health baselines in 2005
- Strategy for the development of broadband networks in 2005

### 2.3.4. The National Lisbon Programme of Latvia 2005–2008

The development of the information society as a basic target of national policy was set out by the *Saeima* (Parliament) of Latvia in 2005 by approving a knowledge-based human-focused growth model for Latvia. Other countries may have the option of several developmental paths and choosing between them. Given their geopolitical and economic situation, Latvia really has no other alternatives. According to the proposed model, the main resource for growth is the knowledge and wisdom of Latvia's inhabitants, and the ability of each individual to make use of this resource. Raising the quality of life in every aspect for each individual is Growth's main goal. In full accordance with this model and in order to support the implementation of the knowledge-based Lisbon strategy on a national level, the Cabinet of Ministers adopted the National Lisbon Programme of Latvia for 2005–2008. The detailed development programmes and regulations for various sectors have been drafted; they will foresee concrete criteria, actions and instruments in order to achieve the goals.

To coordinate all the issues regarding the development of the information society an Information Society National Council exists (it was actually created in 2000), chaired by the Prime Minister. The current distribution of its responsibilities is as follows:

- Ministry of Economy – responsible for innovation and e-commerce
- Ministry of Education and Science – responsible for e-learning, education and R&D in the ICT sector
- Ministry for Electronic Government Affairs – responsible for e-governance, e-documents, e-inclusion and coordination of public services
- Ministry of Justice – responsible for personal data protection
- Ministry of the Interior – responsible for identity documents
- Ministry of Health – responsible for e-health
- Ministry of Culture – responsible for libraries
- Ministry of Regional Development and Local Government – responsible for spreading information society-related issues in regions.

### 2.3.5. Participation in International forums

Before its integration into the EU, Latvia was an active participant in all the aforementioned international activities regarding the participation of CEECs in the unified EU movement towards the information society.

More recently, Latvia actively and successfully participated in the preparation of both phases of the World Summit on the Information Society (WSIS). The preparation process of the first (Geneva) phase of the WSIS showed quite disparate, even conflicting interpretations of the information society model around the world. In order to prepare a common position, EU countries decided to include in the agenda of the Pan European preconference of the WSIS (Bucharest, 2003) a special "Defining the Information Society" workshop. The position presented by the Latvian representative was seriously considered for the preparation of a unified EU position and this proposal reached the final Summit the documents of which do reflect the

integrated knowledge-based approach proposed. The appointment of the Latvian Ambassador before the United Nations, Mr. J. Karklins, as Chairman of the Preparatory Committee for the second (Tunis) phase of the WSIS and his successful actions can be considered a major Latvian achievement.

### 3. ASSESSMENT OF THE RESULTS

#### 3.1. How can the effectiveness of the information society development policies be measured?

The paradox is not a banal one: how can we inform ourselves on the progress of the information society? How can the degree of progress reached by those countries undergoing the process of adapting their citizens and territories to all that is implied by a new socioeconomic paradigm be measured?

There is one initial difficulty: there is no single and comprehensive vision on what the information society implies or on the transformations it brings now or in the future. On the contrary, the concept is complex and many-sided, and covers an infinity of elements and situations. Even if an agreement is reached on what the aspects that should be observed are, there is a second obstacle: the lack of available data, even in the case of parameters that are unanimously identified as determinant for the development of the information society. The “traditional” national statistics are clearly unsuitable. The absence of precise definition and lack of sufficient data are two limitations that seriously condition the possibility of judging the evolution of the countries in their progress as knowledge societies and, quite particularly, the effectiveness of the policies undertaken for guiding this evolution. This situation is in process of being corrected (or at least attempts are being made for its correction). In the case of the European Union, in April 2004, the European Parliament and the Council adopted a Regulation on information society statistics **Erreur ! Source du renvoi introuvable.** It will make a series of surveys mandatory within the European Union, and will ensure harmonized data for all EU-25 Member States from 2006 onwards.

Presently, almost the only option available is represented by the measurements and classifications (with an inclination towards universality) regarding the penetration of the information society in societies and economies that different International organisations, both public and private, have been preparing during recent years. The challenge for these indexes is how can light be shed over the technological, social or cultural aspects and, when integrating them into a single value, how can weights be assigned to the importance of the various factors. Accepting all possible objections, and lacking other more precise tools, this is the method through which, after reviewing the official assessments, the Latvian information society development policy is assessed.

### Latvian picture resulting from the “integrated indexes” on information society development

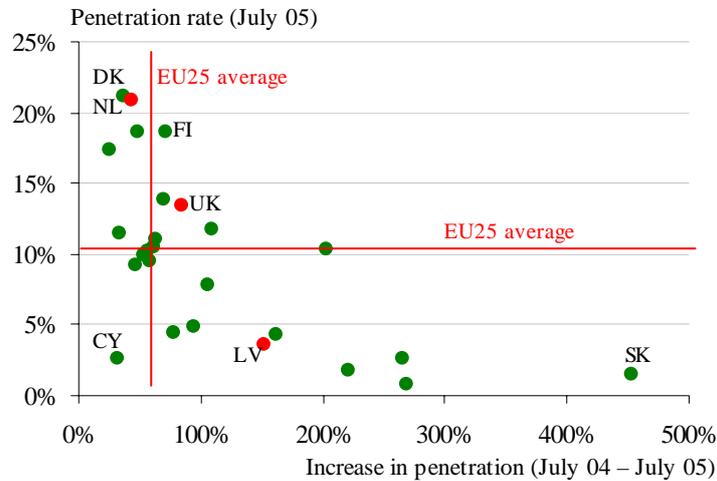
All present basic ICT indicators for Latvia rank quite far from the EU-25 leaders (table 2). However, Latvia does not hold the last positions in the EU-25 rankings.

	EU-25 max	EU-25 min	Latvia
Telephone main lines per 100 inhabitants	79.8	23.2	28.5
Mobile subscribers per 100 inhabitants	138	60	67
Personal computers per 100 inhabitants	76	9	21.9
Internet hosts per 1000 inhabitants	333	7	25.9
Internet users, % of individuals aged 16 to 74	76	18	36
Broadband access lines per 100 inhabitants	21.2	0.8	3.7
Internet access – households, percentage	78	16	42
Internet access – Businesses, percentage	97	71	74
ICT expenditure, % of GDP	8.7	5.1	7.6

*Table 2.* ICT indicators (the most recent data available)

*Source: “11<sup>th</sup> report” **Erreur ! Source du renvoi introuvable.** and different ICT statistics*

A trend analysis shows a much more encouraging situation. Maybe the most significant example is that the annual broadband growth rate for Latvia is higher than that of many EU countries (7<sup>th</sup> rank, refer to figure 1).



*Figure 1.* Broadband penetration rate and speed of progress

*Source:* Prepared by the authors based in EU Broadband access situation on 1 July 2005

However, only counting the number of connections does not provide an accurate picture of the progress of the information society. Access is, undoubtedly, a prior condition but the usage made of this access is the true key factor. This is why additional, broader statistics are required. As said before, the measurements and classifications that different International organisations have been carrying out for the last years on the penetration of the information society in both societies and economies can give an unbiased image of the evolution followed by Latvia:

- In 2003, Orbicom, the Network of UNESCO Chairs in Communications, published the results of a project classifying countries according to their characteristics as “infostates” (Orbicom, 2003). This main index is made up by two sub-indexes: “infodensity” and “info-use”<sup>19</sup>. The study presents the evolution between 1996 and 2001, and allows us to analyse the results of the first phase of the national strategies.

During this period, Latvia climbed four positions in infodensity ranking (40 to 36) and maintained position 55 in info-use; nevertheless these results are worse than those achieved by most of the ten new member states. The evolution of the basic variables which make up the indexes can be seen in detail in figure 2.

<sup>19</sup> Infodensity refers to the slice of a country’s overall capital and labour stocks, which are ICT capital (network infrastructure and ICT machinery and equipment) and ICT labour stocks and indicative of productive capacity, while info-use refers to the consumption flows of ICTs.

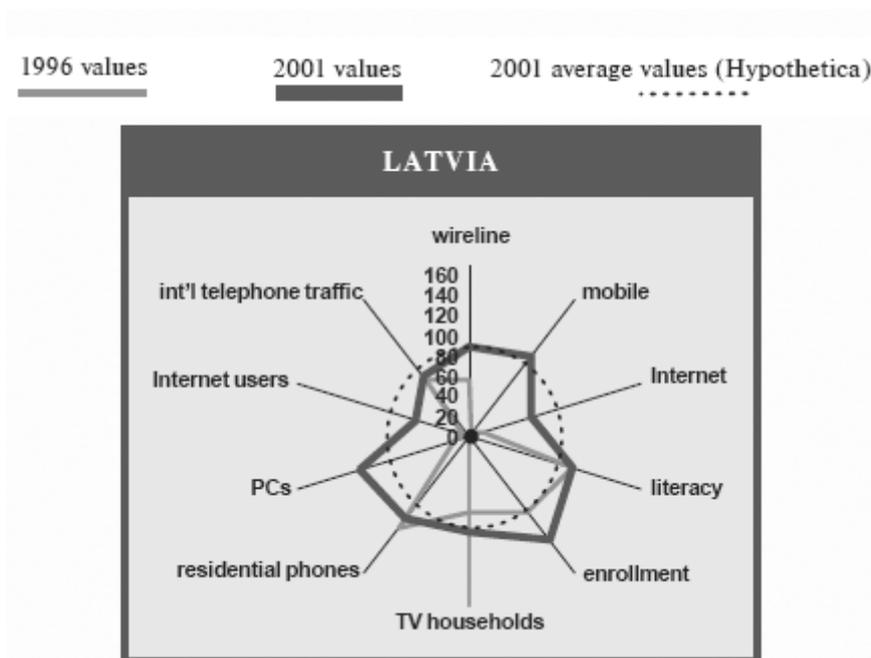


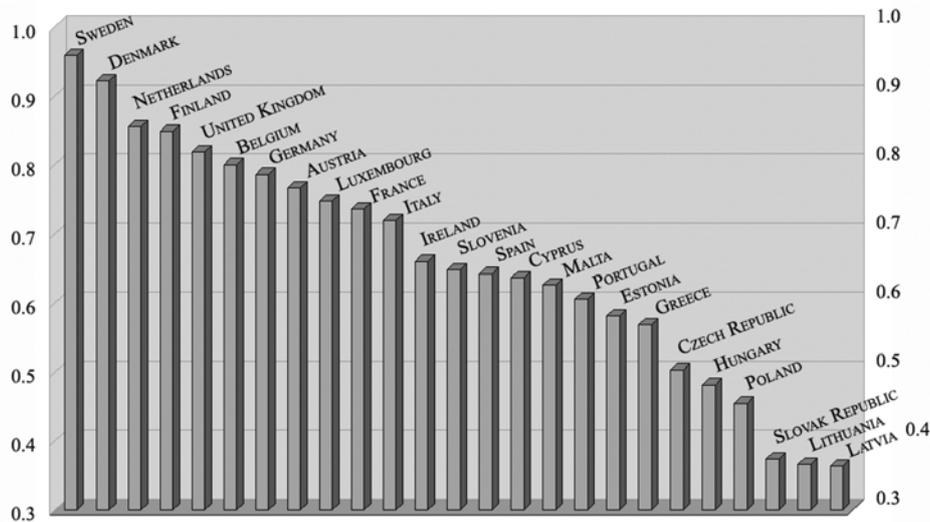
Figure 2. Evolution of different infodensity and info-use variables 1996-2001

*Hypothetica* is a country with values equal to the average of the 192 countries used in the model

Source: Orbicom (2003)

- The situation in 2002 (time of the launch of *eEurope 2005* for the EU-15) can be seen using the Digital Access Index prepared by the ITU in 2003 (ITU, 2003). Figure 3 shows the existing initial differences in the Digital Access Index “adapted”<sup>20</sup> to the characteristics of the European Union. Latvia had the worst record of all Europe, and was included in the group of the three that pulled away, alongside the Slovakian Republic and Lithuania.

<sup>20</sup> The Digital Access Index is prepared using eight variables comprised in five areas: infrastructure, affordability, knowledge, quality and usage. The “normalisation” of these variables is carried out based on the extreme values reached in any country of the world, thus making the European country indexes to be “compressed” in high levels. In order to show the differences between the European countries, the exercise has been repeated although considering the extreme values obtained in the Union.



*Figure 3.* Digital Access Index “adapted” to the characteristics of the European Union (2002)

*Source:* Prepared by the authors based on the interpretation of ITU data (2003)

- Latvia was included in the e-readiness rankings published by The Economist Intelligence Unit<sup>21</sup> (The Economist Intelligence Unit – IBM, 2004-2005) for the first time in 2004 and during its first year has lost some tenths in the index as well as two positions (falling from 38 to 40, over a total of 65 countries).
- As regards the Networked Readiness Index prepared by the World Economic Forum (World Economic Forum, 2002-2005), assuming the limitations or inaccuracies certain changes in the process of measuring<sup>22</sup> the indexes could generate, Latvia has fallen from position 39 in the 2001-2002 report to 56 (of 104) in the 2004-2005 one, following the crash in last year’s classification.

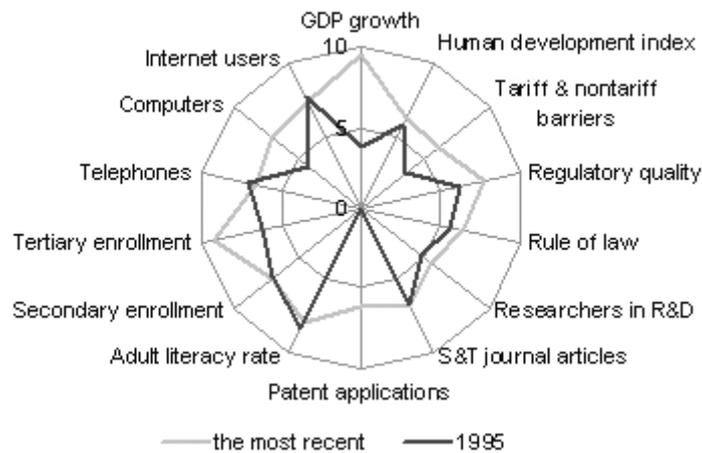
Apart from these classifications which are specifically focused on the development of the information society, it is also interesting to examine others that refer to broader socioeconomic development areas. It is obvious that the final goal is not and should not be the use of technologies for technology’s sake: their advantages appear only when these technologies are properly applied and contribute to the globally measured economic, social and political growth. If ICT are evaluated as very

<sup>21</sup> The Economist Intelligence Unit has published an annual e-readiness ranking of the world’s largest economies since 2000. A country’s e-readiness is essentially a measure of its e-business environment, a collection of factors that indicate how amenable a market is to Internet-based opportunities.

<sup>22</sup> The Networked Readiness Index (NRI) is defined as a nation’s or community’s “degree of preparation to participate in and benefit from information and communication technology (ICT) developments”. The model used to calculate the index was modified in 2002-2003 and also in the latest 2004-2005 report.

powerful enablers for knowledge-based development, the assessment of general growth should be the most important one.

- The World Bank has prepared a special knowledge assessment methodology to illustrate how any given country is actually using knowledge for overall economic and social development and what its progress is in various sectors (World Bank, 2005). ICT are appraised as one of the pillars that facilitate creating, sharing, processing and using information. The rest are general economic and institutional regimes, education levels, skills of people and efficiency of the national systems to create and transfer knowledge and technologies.



*Figure 4.* Knowledge for development: the basic scorecard for Latvia

*The highest indicator on a global basis in the appropriate year takes the value of 10*

*Source: World Bank (2005)*

The last assessment was made in 2005; Latvia holds the 33<sup>rd</sup> position in the global ranking (20<sup>th</sup> among the EU countries). The graphic representation of the normalized (weighted by population) and basic criteria shows Latvia's strengths and weaknesses as well as its fast development in the last 10 years (figure 4).

- The European Commission assessed the implementation of the reviewed Lisbon Strategy (Trendchart, 2005). The integrated approach to knowledge processes (ICT and R&D policy, innovative entrepreneurship and of intellectual property Protection) is a path towards growth and employment. The overall picture is created by analysing the current situation and trends. Latvia ranks 24<sup>th</sup> on its overall performance, though its strengths and weaknesses are highly distributed. But most of the trend indicators are above the EU average, therefore Latvia is included in the "Catching up" group of countries.

## CONCLUSION

The set of classifications we have analysed in the previous section allows us to perform an assessment of the Progress evolution of the information society in Latvia and its impact on the country's social and economic development. The conclusion is unambiguous: although Latvia's progress is quite dynamic, it does not suffice to close the digital divide that still separates it from the most developed nations, and specifically, from the average values of the European Union.

Several reasons justify this situation. Access to infrastructures (the low connection rates as compared to European standards) is the initial problem. Indeed, demand-promoting measures are required. However, there is also a problem on the side of the offer. The Latvian telecommunications service market needs time to evolve. Moving from a monopoly to true, and not just nominal, Competition, requires more support than the simple establishment of a favourable framework. Although the European telecommunications framework was adequately transposed, one must not forget that Latvia's telecommunications market was not opened to competition until January 2003. The main objective of the current European framework is the rapprochement of sectorial regulation towards general Competition Law; however, the Latvian market is not ready for a high degree of competition, and it is even probably too early to expect its significant development.

However, as we just stated, the problem does not lie exclusively on Access. The availability of useful and attractive services and applications gives sense to that access contributing not only to frequent usage of the technology but to stimulating its demand and creating a virtuous circle that feeds back on the external effects generated as well. Throughout Europe, promoting the usage of networks hits some barriers that are common to all countries. However, we can identify a series of specific factors in the Latvian case which should be urgently reformed:

- weak public information services on national and local levels (the integrated information system is not fully functional, quality of information is not adequate)
- underdeveloped environment for e-business activities (e.g., e-signature is not available yet)
- traditionally oriented society and business in Latvia are not fully prepared for the mass-usage of advanced networked services; even services available today are not used in full

To what extent are the public policies undertaken in Latvia responsible for this situation? A basic Latvian weakness should be noted: there is a significant gap between strategic level and practical implementation. Weak coordination and an occasional lack of continuity in the activities undertaken is a direct consequence of short-term (14-month average life span) coalition (up to 4 political parties) governments.

Today, Latvia is a strong catching-up country in the EU. Nevertheless, its general achievements are not yet in line with the existing and clear strategic vision. In a global assessment, however, the result must be deemed positive. All knowledge

processes (education, R&D, development of new products) are long-term ones; therefore some distance in time is quite normal. Maybe the most important issue is that the dynamic movement continues today and that the strategic activities of previous years have started to show the first practical results. The recently approved growth model for Latvia, the national development plan associated to the practical implementation of the model and, not less important, the existence of the appropriate financial support, represent a strong basis for an encouraging vision of the future.

## REFERENCES

- ANTONELLI C. (2003). "The digital divide: understanding the economics of new information and communication technology in the global economy", *Information Economics and Policy*, vol. 15, no. 2, pp. 173-199.
- CARBAJO J., FRIES S. (1997). *Restructuring infrastructure in transition economies*. European Bank for Reconstruction and Development. Working Paper no. 24. Available at [www.ebrd.com/pubs/econ/workingp/24.pdf](http://www.ebrd.com/pubs/econ/workingp/24.pdf)
- DAVIES G., CARTER S., McINTOSH S., STEFANESCU D. (1996). "Technology and policy options for the telecommunications sector. The situation in Central and Eastern Europe and the former Soviet Union", *Telecommunications Policy*, vol. 20, no. 2, pp. 101-123.
- DOMBROVSKIS A., FEIJÓO C., KARNITIS E., RAMOS S. (2004). "Electronic communications sector and economic development in Latvia: Regularities and individualities", *Communications & Strategies*, no. 56, pp. 77-109.
- FEIJÓO C., GÓMEZ-BARROSO J.L., KARNITIS E. (2006). "More than twenty years of European policy for the development of the information society", *NETCOM*, this volume.
- GRUBER H. (2001). "Competition and innovation. The diffusion of mobile telecommunications in Central and Eastern Europe", *Information Economics and Policy*, vol. 13, no. 1, pp. 19-34.
- ITU, INTERNATIONAL TELECOMMUNICATION UNION (2003). *World Telecommunication Development Report 2003: Access Indicators for the Information Society*. International Telecommunication Union. Geneva (Switzerland).
- JAKUBOWICZ K. (1999). "Eastern and Central Europe" in *World Communication and Information Report 1999-2000*, pp. 224-240. UNESCO. Paris (France). Available at <http://www.unesco.org/webworld/wcir/en/report.html>.
- NOAM E.M. (1992). *Telecommunications in Europe*. Oxford: Oxford University Press.
- OACĂ N. (2000). "Telecommunication in Eastern and Central Europe. Preparing for liberalization", *IEEE Communications Magazine*, vol. 38, no. 12, pp. 118-122.
- ORBICOM (2003). *Monitoring the digital divide... and beyond*. NRC Press – Presses du CNRC. Montreal (Canada). Also available at [http://www.orbicom.uqam.ca/projects/ddi2002/2003\\_dd\\_pdf\\_en.pdf](http://www.orbicom.uqam.ca/projects/ddi2002/2003_dd_pdf_en.pdf).
- SALLAI G. (1992). "Present state and future plans of telecommunications in Central and Eastern Europe" in *Global Telecommunications Conference, 1992. Conference Record, GLOBECOM'92*, vol. 3, pp. 1552-1556. Institute of Electrical and Electronics Engineers. Orlando (United States).
- SCHNEIDER M. (2002). *Implementing an Information Society in Central and Eastern Europe. The case of Hungary*. Research Centre for East European Studies (Bremen). Working Paper no. 38. Available at <http://www.forschungsstelle-osteuroopa.de/con/images/stories/pdf/ap/fsoAP38.pdf>.
- THE ECONOMIST INTELLIGENCE UNIT – IBM (2004-2005). *The 200(4-5) e-readiness rankings*. Available at [http://graphics.eiu.com/files/ad\\_pdfs](http://graphics.eiu.com/files/ad_pdfs).
- TRENDCHART (2005). *European Innovation Scoreboard 2005*. Available at <http://trendchart.cordis.lu/scoreboards/scoreboard2005/index.cfm>.
- WORLD BANK (2005). *Knowledge for Development Program*. Available at <http://web.worldbank.org/WBSITE/EXTERNAL/WBI/WBIPROGRAMS/KFDLP/EXTUNIKAM/0,,menuPK:1414738~pagePK:64168427~piPK:64168435~theSitePK:1414721,00.html>.
- WORLD ECONOMIC FORUM (2002-2005). *Global information technology report 200(1-4)/(2-5)*. Available at <http://www.weforum.org/site/homepublic.nsf/Content/Global+Competitiveness+Programme%5CGlobal+Information+Technology+Report>.

WYLLEMAN E. (1992). "The financing of telecommunications infrastructure", *Telecommunications Policy*, vol. 16, no. 9, pp. 744-748

#### **Annex. Chronological list of European Union documents**

- [EU-1]** Council of the European Union and European Commission (2000). *eEurope 2002. An Information Society For All. Action Plan prepared by the Council and the European Commission for the Feira European Council 19-20 June 2000*. Brussels, 14.6.2000.
- [EU-2]** Candidate Countries (2001). *eEurope+ 2003. A co-operative effort to implement the Information Society in Europe. Action Plan prepared by the Candidate Countries with the assistance of the European Commission*. Available at [http://europa.eu.int/information\\_society/eeurope/plus/doc/eEurope\\_june2001.pdf](http://europa.eu.int/information_society/eeurope/plus/doc/eEurope_june2001.pdf)
- [EU-3]** European Commission (2002). *eEurope 2005: An Information Society for all. An Action Plan to be presented in view of the Sevilla European Council, 21/22 June 2002*. COM(2002) 263 final. Brussels, 28.5.2002.
- [EU-4]** Candidate Countries (2002). *eEurope+ 2003. Progress report – June 2002*. Available at [http://emcis.gov.si/mid/emcis.nsf/V/K89BFB6D139731A05C1256BCA00444679/\\$file/Progress\\_report.pdf](http://emcis.gov.si/mid/emcis.nsf/V/K89BFB6D139731A05C1256BCA00444679/$file/Progress_report.pdf)
- [EU-5]** European Commission (2003). *Guidelines on criteria and modalities of implementation of structural funds in support of electronic communications*. Commission Staff Working Paper. SEC (2003) 895. Brussels, 28.07.2003.
- [EU-6]** Accessing and Candidate Countries (2004). *eEurope+ 2003. Progress report – February 2004*. Available at [http://europa.eu.int/information\\_society/eeurope/plus/doc/progress\\_report.pdf](http://europa.eu.int/information_society/eeurope/plus/doc/progress_report.pdf)
- [EU-7]** European Parliament and Council of the European Union (2004). *Regulation (EC) No 808/2004, of 21 April, concerning Community statistics on the information society*.
- [EU-8]** European Commission (2005). *i2010 – A European Information Society for growth and employment*. COM (2005) 229. Brussels, 1.6.2005.
- [EU-9]** European Commission (2006). *European electronic communications regulation and markets 2005 (11th report)*. COM(2006) 68. Brussels, 20.2.2006.