

REPUBLIC OF CROATIA

MINISTRY OF THE SEA, TOURISM, TRANSPORT AND DEVELOPMENT

**Broadband Development Strategy
in the Republic of Croatia by the year 2008**

Zagreb, September 2006

TABLE OF CONTENTS

INTRODUCTION	3
Information Society Development – opportunity and challenges for the Republic of Croatia ..	3
EVALUATION OF LEVEL OF DEVELOPMENT OF BROADBAND INTERNET ACCESS IN THE REPUBLIC OF CROATIA	7
Comparison of the market status of broadband Internet access in Croatia and the European Union.....	7
Legislative framework relevant for broadband Internet access in the Republic of Croatia.....	9
STRATEGY OF THE GOVERNMENT OF THE REPUBLIC OF CROATIA.....	12
IN THE FIELD OF BROADBAND INTERNET ACCESS	12
STRATEGY OBJECTIVES REALISATION POLICY	14
Strategy implementation action plan	14
Supply-side incentives	15
Demand-side incentives	15
Electronic commerce development stimulation policy (e-commerce)	16
CONCLUSION.....	18

Prepared by: Ministry of the Sea, Tourism, Transport and Development in collaboration with the Faculty of Electrical Engineering and Computing, University of Zagreb.

Copyright:

This is a public document. Copying and distribution of this document in printed or digital format is permitted, provided the source of the document is indicated and all deviations from the original are clearly marked, as well as authors of additional and/or changed parts of the text.

INTRODUCTION

Information Society Development – opportunity and challenges for the Republic of Croatia

The European Union recognise exceptional importance of the development of the Information Society, towards inclusion of the European companies, public administrations and citizens into the development of the global knowledge and economy based on information and knowledge. Therefore, the European Union stimulates researches and development of new information and communication technologies, development of contents and applications. The European Union also supports initiatives facilitating participation of citizens of the Union in the information society and citizens' benefiting from it, and enacts and implements legislation and standards with a view to stimulating the market competition.

Significant element in realising and achieving the objectives of the most competitive and dynamic economy based on knowledge, which can achieve sustainable growth with increased employment and social cohesion by 2010 *is the economy based on knowledge*, which has been accepted by the Member States through the Lisbon Agenda. One of the key instruments for exchanging information consists in a possibility of transfer of multimedia contents and data, as well as of speech.

Dynamism of the European economy greatly depends on development and application of new technologies. Stimulating demand and supply of information and communication technologies (ICT) is important in realising the planned economical growth and employment in the revised Lisbon Strategy¹.

Information and communication technologies have proved a strong stimulating factor of economic growth and competitiveness. In the 1990's, the economy of the USA has experienced unforeseen and considerable economic growth through application of this technology. Guided by this success, the European Union, by way of the *eEurope 2002* and *eEurope 2005* programmes, has set an ambitious objective to become the most competitive society of knowledge in the world by 2010. The *eEurope* programmes referred not only to achieving higher level of economic competitiveness, but presented the warranty that each citizen of the Union would have access to modern communication technologies with a view to increasing the quality of life. At the beginning of the year 2005, the European Union accepted the *i2010* Initiative, which has to encourage development and employment in the field of the information society and media. The *i2010* Initiative is based on three fundamental pillars: *single European information space* (development of broadband networks for Internet access throughout Europe and stimulating production of new multimedia contents in the network), *innovativeness and researches* (information society technologies are included as priority areas in the European scientific and research programmes) and *inclusion* (which relates to accessibility of information society technologies and services in all regions of the EU and all population layers, as well as minority communities).

According to the *eEurope 2005* Programme, the EU Member States were bound to issue the National Broadband Strategy with a view to accelerating development of broadband networks and at the same time to stimulating use of these networks, primarily through new Internet services for households, as well as for small and medium-size companies. The Broadband Internet Access opens and enables opportunities to create new markets through development of interactive and multimedia applications and services, which will in turn, by their implementation, stimulate development and supply of broadband Internet access services.

The *eEurope 2005* Action Plan was adopted in 2002 and promotes, amongst other things, establishment of safe services, applications and contents based on broadband infrastructure.

High Speed Internet Access, through the broadband communications, opens fundamental assumptions for fulfilment of the information society vision. On the other hand, insufficient accessibility of the broadband Internet access leads to digital divide, which signifies divide between individuals, companies

¹ "Time to Move Up a Gear" The European Commission's 2006 Annual Progress Report on Growth and Jobs: http://europa.eu.int/growthandjobs/annual-report_en.htm

and geographical areas as regards accessibility and usability of development potential of information and communication technologies.

Development of broadband communications enables creation and implementation of new demanding applications and improvement of the existing ones. It stimulates economic growth through creation of new services and opening of new investments and posts. Also, this development has an impact on productivity of many existing processes, which leads to higher income and faster returns on investments. Governments of the EU Member States have recognised at all levels the impact of broadband communications on everyday's life and are focused on securing equal privileges for all segments of population and economy².

Accessibility of broadband services is one of the key elements, which enables and facilitates local self-governments to attract investments, to introduce remote working, health assistance, higher quality education and higher quality services of public administration.

Internet is the main driving structure of the information society. Therefore, the European Commission has established tasks with a view to increasing Internet use, of which the most important task is to make Internet available to each citizen, household, school, company and state administration, by increasing broadband Internet access, as well as by decreasing price of services and by increasing Internet safety. At the same time, it is necessary to work on introduction of new applications and creation of digital contents. The Commission is therefore leading programmes, which:

- increase Internet use in the society;
- stimulate creation and production of high level quality multimedia contents, particularly in relation to richness and diversity of the lingual and cultural heritage of Europe;
- enable the European companies to achieve the leading role in development of Internet applications;
- encourage researches and development of new technologies and application for the well-being of citizens;
- stimulate development of e-working and e-commerce;
- ensure availability of the infrastructural basis for realisation of the above-mentioned objectives.

Amongst the initiatives underway, it is important to highlight *eGovernment* and *eInclusion*. *eGovernment* refers to application of information and communication technologies at all levels of government (at local and central national level, as well as at the pan-European level of trans-border services of government of the EU Member States and services of government of the European Commission). In synergy with organisational changes and appearance of new contents and services of the government, improvement of quality of the public services is expected and support to public political processes and strengthening of democracy. Therefore, the main political emphasis is put on *eGovernment* in the *eEurope 2005 Action Plan*. This programme stimulates increase of standards of administering and managing a government, improves communication and cooperation of government institutions and citizens and entrepreneurs, significantly contributes to reduction of administrative obstacles in all areas under influence of a government, and, by increasing availability of all information and possibilities of efficient communication with government entities, improves development of democratic processes in the society. In the sense of providing the necessary infrastructure, presence of all government institutions on Internet through a broadband Internet access is one of the fundamental conditions for realisation of this concept. In addition to the above-mentioned wider social benefit, inclusion of governmental and other public institutions has also visible direct economic impacts, which are evident in, for example, decrease of government expenses, increase of efficiency and effectiveness, as well as transparency of execution of public procurement procedures (which also contributes to fight against corruption), and increase demand for services based on broadband Internet access, and thus on a nondiscriminating basis, by which investments and free market competition are directly stimulated.

² "Connecting Europe at High Speed: National Broadband Strategies", COM(2004)369.

*e*Inclusion is a comprehensive programme focused primarily on solving of one of the basic problems of today in relation to so-called new economy. Not only in worldwide, continental and narrower regional contexts is there a significant “digital divide” between countries in relation to possibilities of access to broadband services and their actual and efficient use, but also within one society there is also significant digital divide between regions, i.e. sub-groups of population. Fundamental strategic and political objective of the *e*Inclusion Programme is to enable all layers of society to participate in a new society of knowledge, which particularly implies providing equal accessibility of services and contents:

- to people with diminished possibilities of use (due to sex, ethnic origin, age, insufficient education, etc...);
- to people with special needs (*e*Accessibility);
- to people living in various regions, and also in regions in which provision of broadband Internet access services is not commercially worth while.

In June 2005 the European Commission has launched an initiative entitled “i2010; A European Information Society for growth and employment”³, which represents the strategy of modernisation and application of all political instruments of the Union with a view to stimulating development of digital economy, which includes regulatory instruments, researches and partnership with private sector. Three main political objectives are emphasised in the Initiative:

- creation of an European information space – an open and competitive common market of Information Society services and media in the EU;
 - by modernisation of legislation for audio-visual services, which has been started by the Commission’s proposal for audit of the Television without Frontiers Directive⁴, prepared in 2005;
 - by audit of the valid regulatory framework for electronic communications from 2002;
 - by defining and implementing the strategy for safe European Information Society (2006);
 - by identifying and implementing action in relation to interoperability, and particularly digital rights management (2006/2007);
 - by analysis and undertaking of all necessary harmonisation to the Acquis Communautaire from the field of electronic communications, which will be implemented in 2007;
 - by an active application of existing and future amended Acquis Communautaire from the field of electronic communications;
- increase of investments into research of information and communication technologies for 80%;
- decrease of digital divide through promotion of projects within the frame of *e*Government and *e*Inclusion initiatives.

Brief introductory analysis of activities of the European Union bodies shows deep imbue ment of planned social and political processes with the strategy and policy of stimulating development of information society infrastructure. There is no doubt that the European Union has accepted the

³ Communication IP/05/643 is available on the website address:

http://europa.eu.int/information_society/eeurope/i2010/docs/press_release_en.pdf.

Detailed information is available on: http://europa.eu.int/information_society/eeurope/i2010/index_en.htm.

⁴ Consolidated text of currently valid Directive (89/552/EEC, amendment 97/36/EC) is available on: http://europa.eu.int/eur-lex/en/consleg/pdf/1989/en_1989L0552_to_001.pdf. The Commission’s proposal for modification of the Directive is available on: <http://europa.eu.int/comm/avpolicy/regul/com2005-646-final-en.pdf>. Explanatory annexes are available on addresses: <http://europa.eu.int/comm/avpolicy/regul/newtwf-ia.pdf>, i.e. <http://europa.eu.int/comm/avpolicy/regul/newtwf-ia-annex.pdf>.

development of knowledge society, and therefore also its technological infrastructure, as a matter of the first class political importance and fundamental public interest. From there comes also the interest of countries for intervention in a relevant economic area, which needs to be orientated towards ensuring unimpeded and structurally uniform development of sub-sectors of electronic communications, i.e. broadband Internet access. Therefore, the role of state administrative bodies, regulatory bodies and other state bodies in this initial phase of development of the information society infrastructure is of the utmost importance.

Following dedication to principles of knowledge society and free market economy and active policy of accession to the European Union, the Government of the Republic of Croatia is strategically committed to uniform and clear pro-development policy, which it will implement in a consistent manner in the area of competence of institutions, through permanent monitoring of development of the information society policy and its technological infrastructure in the European Union, as well as harmonisation of local legislation and regulatory environment to these developments. All state administrative bodies and other state bodies, particularly competent regulatory body for telecommunications, Croatian Telecommunication Agency will be guided by the principle of minimum, but efficient and responsible, market intervention in the streams of free market developments, and will also promote and assist an even broadband Internet access development, with efficient implementation of principles of decrease of digital divide within Croatia, as well as of digital divide between the Republic of Croatia and the European Union countries. Institutions of the Republic of Croatia will implement all principles contained in the European Union Initiatives: i2010 European Information Society, eGovernment, eInclusion, eAccessibility and in Strategy for safe European Information Society. Encouraged by initial successes, but even more by unquestionable vital national interests of the Republic of Croatia in the field development of knowledge society, the Government of the Republic of Croatia shall persevere with implementation of already started programmes: eCroatia 2007 Programme, National Programme of Information Safety in the Republic of Croatia and One stop shop Programme.

In order to accelerate accession of the Republic of Croatia to developed countries of Europe, with respect to realisation of knowledge society, which is one of the fundamental basis are developed broadband infrastructure, the Government of the Republic of Croatia issues this Strategy with a view to achieving more successful performance of entities in education, health, economy and administration at the state and local levels through broadband infrastructure, based on which it will also prepare a corresponding action plans for implementation of measures for realisation of strategy objectives.

The Strategy has been prepared on the basis of the Broadband Development Study in the Republic of Croatia, prepared by the Ministry of the Sea, Tourism, Transport and Development in collaboration with the Faculty of Electrical Engineering and Computing, University of Zagreb.

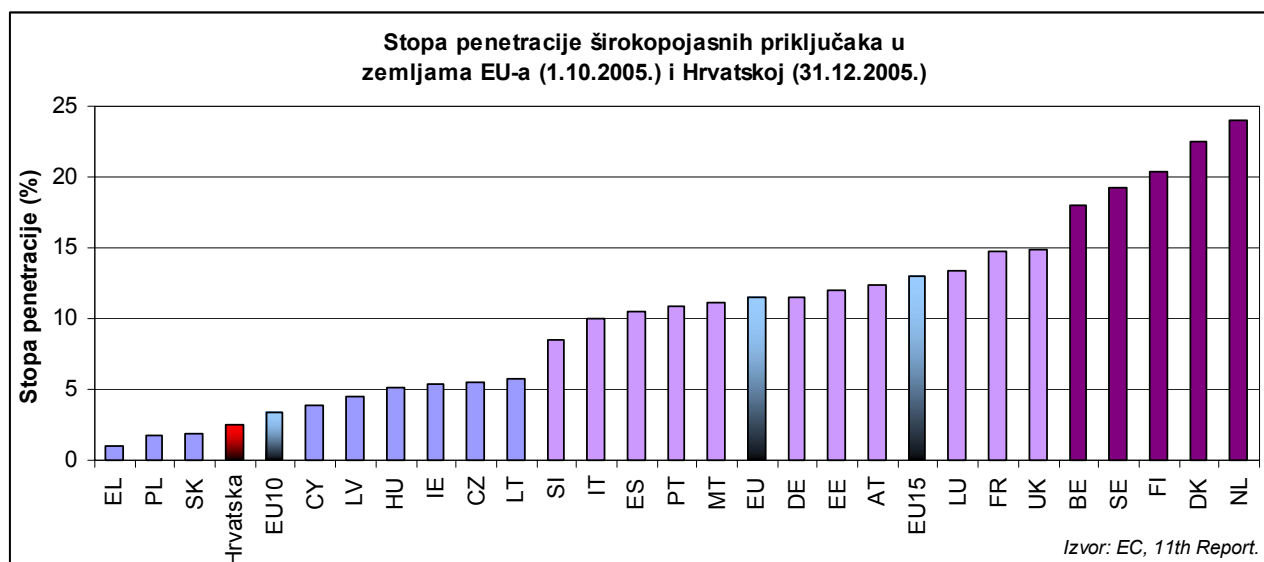
EVALUATION OF BROADBAND LEVEL OF DEVELOPMENT IN THE REPUBLIC OF CROATIA

Comparison of broadband market status in Croatia and the European Union

In the European Union's last report on electronic communications regulation and markets⁵ the following key trends in the development of the broadband in the European Union countries are:

- Continuing strong growth of broadband penetration (number of broadband connections per 100 inhabitants), which increased from 7.3% in the year 2004 to 11.5% in the year 2005 at the EU25 level, so that there are now almost 53 million connections.
- Increasing gap between Member States with less developed broadband infrastructure (mainly new members) and countries with better-developed broadband infrastructure, due to uneven development.
- Broadband Internet access is fast replacing dial-up access. During 2005, in some of the Member States number of broadband connections has, for the first time, exceeded number of slow Internet connections.
- The European Union Member States still significantly lag behind the leading world countries in respect of broadband Internet access (South Korea and USA). However, difference in rate of increase of broadband Internet access has been reduced.
- Growth of broadband connections penetration is greatly related to free market competition in this area. Therefore, today at the level of the entire European Union, alternative broadband Internet access providers hold market share of 49.8% (an increase of 5.5. per cent in one year).
- Due to progress in the free market competition, users in the European Union benefit from lower prices, higher speed Internet access and better diversity of offer of broadband services.
- The DSL (Digital Subscriber Line) technology has increased its share in the total number of connections. In the European Union (as well as elsewhere in the world), the next most important way of realisation of the broadband Internet access is the access through cable television networks.
- Local Loop Unbundling is the first option for alternative broadband providers through DSL technology.
- Efficient market regulation is crucial for realisation of the accelerated growth of broadband connections penetration. Beside the price regulation itself, the role of national regulatory bodies in appropriate implementation of regulatory measures in the wholesale markets is very important.
- Development of new services has a positive impact on growth of numerous new broadband connections, as well as transition from slow Internet access to broadband ones.

⁵ COM(2006)68, Commission of the European Communities, Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions, European Electronic Communications Regulation and Markets 2005 (11th Report), Brussels, 20.02. Available on the website address:
http://europa.eu.int/information_society/policy/ecomms/doc/implementation_enforcement/annualreports/11threport/com_2006_68_en_final.pdf



Picture 1: Broadband penetration rate in the EU Members and the Republic of Croatia in 2005

Picture 1 shows broadband penetration rate in Croatia compared to the EU Member States. It is clear that, as regards the penetration of connections, Croatia takes the place in the lower part of this scale. By the end of the year 2005, leading Croatian operator, Hrvatske telekomunikacije d.d., has resembled a user base of approximately 100.000 users, as a result of which broadband penetration has reached the level of approximately 2.5%. Within the context of countries of South and South-East Europe (Albania, Bulgaria, Bosnia and Herzegovina, Serbia and Montenegro, Macedonia, Romania, Turkey) Croatia is currently at the second place. However, success of the Republic of Croatia regarding broadband Internet access development has to be measured in relation to Member States.

Number of broadband Internet users in Croatia has increased in 2005 for the factor between 4 and 5. However, market concentration has also grown at the same, taking into account that almost entire increase in number of connections in the previous year can be attributed to the leading operator. Therefore, its current market share in the retail sale exceeds 90%. Development of the cable television networks can be assessed as relatively slow, whilst the wholesale broadband services market (for alternative providers of retail sale broadband services) is in development phase. Local Loop Unbundling service is also at its initial stage of development, as well as wireless technologies access, since concessions for frequencies used for provision of this service have been awarded only by the end of the year 2005 and in the course of the year 2006.

By analysis of the situation in the local market, as well as by comparison with the European Union countries, the following characteristics of the Croatian market of broadband Internet access can be emphasised:

- Current penetration rate (approximately 3.92%) and currently relatively fast growth of this rate.
- Trend of increase of retail sale market concentration with growing share of the leading operator.
- Relatively slow development of cable television networks, particularly their share in the broadband Internet access market.
- Initial phase of development of wholesale markets (Local Loop Unbundling, shared access, bitstream access).
- Beginning of development of the wireless systems for Internet access.

Since the development of wireless Internet access and wholesale offers for service providers is at its initial phase, a regulatory analysis of market relations will have to be carried out, taking into account retail sale and wholesale products, as well as the situation in possibly related markets, and in accordance with findings of possibly undertaken regulatory measures. Also, it is necessary to carry out the regulatory analysis of the cause for insufficiently fast growth of number of broadband Internet access through cable television networks.

The Government of the Republic of Croatia considers that the initial rise of number of broadband users in 2005 was very good indicator of successfully commenced liberalisation of the Croatian telecommunication market, and that such accelerated development should continued to be pursued.

Legislative framework relevant for broadband Internet access in the Republic of Croatia

Regulations in force and effect in the Republic of Croatia, and which corresponding parts refer to the broadband Internet access area, are as follows:

- Telecommunications Act (Official Gazette 122/03, 158/03, 60/04, 70/05)
- Ordinance on Assignment of Radio Frequencies (Official Gazette 129/05)
- Ordinance on Manner and Conditions of Determining the Relevant Markets in Telecommunications (Official Gazette 127/05)
- Ordinance on Payment of Fees for Assignment and Use of Radio Frequencies (Official Gazette 49/04, 57/04, 93/05)
- Ordinance on Concessions and Licences for the Performance of Telecommunications Services (Official Gazette 49/04, 57/04, 123/04, 26/05)
- Ordinance on telecommunication services (Official Gazette 183/04)
- Ordinance on Payment of Fees for Performance of Telecommunications Services and Activities (Official Gazette 26/05)
- Ordinance on Radio Frequency Spectrum Allocation (Official Gazette 193/03)
- Ordinance on Network Access and Interconnection (Official Gazette 185/03)

In 2005, all remaining sublegal regulations have been adopted on the basis of the Telecommunications Act (Official Gazette 122/03, 158/03, 60/04, 70/05), so that today a complete legal framework for the telecommunication area is in force and effect.

Within the frame of multilateral and bilateral screening, the Ministry of the Sea, Tourism, Transport and Development has carried out a detailed analysis of the level of harmonisation of Croatian regulations related to the field of electronic communications with the Acquis Communautaire of the EU.

Within the Croatian legal system, in relation to telecommunication area, there are two areas remaining, which have to be additionally harmonised with new regulatory framework of the European Union, and which have an impact on the broadband Internet access area:

- licensing and concession granting system of operators and service providers;
- definition and analysis of the market, as well as determination of position of significant market power.

As far as licensing system is concerned, taking into account that internet services could have been performed ever since the year 1999 with prior notice to the regulator, and taking into account that in the area of services, which require issuance of individual licences, a simple licensing system is in force and effect, in which licence is issued *de facto* on request, with fulfilment of prescribed conditions, and within short time limit, it can be concluded that the existing licensing system, despite the formal discrepancy with the EU Acquis Communautaire, does not stand in the path of development of broadband Internet access.

As far as matters of definition and analysis of market are concerned, and in relation to determination of position of significant market power, through Amendments to the Telecommunications Act (Official Gazette 70/05) an *ex ante* system has been established, with retained static threshold of 25% of market share measured by income in the relevant market, after which, according to legal assumption, a position of significant market power occurs. The Act also envisages a possibility of exemption on a case by case basis, and stipulates fundamental criteria for market analysis.

Based on the Telecommunications Act from 2003, and prior to the above-mentioned modification, in the regulation itself (Article 51) significant internal inconsistencies of provisions existed. On the one hand, static criterion of 25% was retained as a basic criterion for determination of position of significant market power. On the other hand, regulator was bound to perform market analyses in accordance with a new regulatory framework of the Acquis Communautaire. The Act also contained the provision stating that analyses should be carried out on the basis of appropriate regulation. Due to that, the Croatian Telecommunication Agency did not have a legal basis for issuing decisions on position of significant market power.

Therefore, Ordinance on Manner and Conditions of Determining the Relevant Markets in Telecommunications has been enacted upon the adoption of the Act on Amendments to the Telecommunications Act (Official Gazette 70/05). In the amended Article 51 of the Act, amongst other things, definite legal basis, upon which the regulatory body may make decisions regardless of the fact of existence of non-existence of the Ordinance itself, has been determined. Resorting to static criterion of 25% provided the Agency with a temporary transitional deadline, in which it shall develop further capacities and knowledge for performance of complex market analyses according to procedures envisaged in Articles 15 and 16 of the Framework Directive⁶. In the contrary case, regulatory body would be effectively disabled in determining positions of significant market power, which is a necessary condition for implementation of regulatory measures in telecommunication markets.

Ordinance on Manner and Conditions of Determining the Relevant Markets in Telecommunications (Official Gazette 127/05) operationalises procedures envisaged in Article 51, paragraphs 2 and 3, of the Act, and introduces a list of 18 markets in the field of services, which are suitable for performance of *ex ante* regulation⁷. The Agency can determine and analyse⁷ markets from this list without application of procedures of market analyses usual in the field of regulation of free market competition, since services from the said list have already been

⁶ 2002/21/EC European Parliament and Council Directive on a Common Regulatory Framework for Electronic Communications Networks and Services, 2002, OJ L108/33.

⁷ List of markets is taken from: 2003/311/EC Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communication networks and services, 2002, OJ L 114/45.

determined as the ones forming separate relevant markets in the field of services. A characteristic of the legal solution, pursuant to Article 51 (1, 2, 3, 5) of the Law, is that it, through application of the Ordinance, enables partial relaxation of regulatory development in previously widely defined markets (in accordance with *acquis* from 1998), in such a way that based on Article 51(2) previously declared SMP operator is freed from SMP position in that widely defined market (Article 6(1) of the Ordinance), in which development of efficient market competition would possibly occur. Furthermore, Article 51(3) of the Law stipulates that any company with market share of less than 25% in a relevant market can be declared a SMP only on the basis of the procedure determined by the Ordinance, that is to say only in narrowly defined market. In such a way a transitional system is introduced, the role of which is to enable the Agency an active access to acquiring of necessary competencies and experiences in defining and analysis of relevant markets, having during that time at its disposal completely clear and simple criterion of determination of position of significant market power, which represents necessary condition for implementation of regulation of prices in the concerned relevant market. Therefore, the Ordinance does not stipulate the final deadline by which the Agency has to harmonise decisions on significant market power with its provisions. It only established that decisions have been reached according to previous regulations in force and effect up to that harmonisation. Thus, the Agency has been provided with necessary freedom and elasticity in determination of its own rhythm of harmonisation, in accordance with progress achieve by it in envisaged time frame of approximately two years. For the purpose of achieving objectives of this Strategy, the Agency has to adopt in an accelerate manner skills and procedures, which will enable complete harmonisation with *acquis* and practice of the European Union, whereby it is particularly necessary to emphasise the area of defining and analysis of relevant markets, and implementation of the regulatory cost accounting system.

Strategic orientation of the Government of the Republic of Croatia is that the area of market definitions and analyses, as well as market regulation, is completely harmonised with the *Acquis Communautaire* of the EU by the year 2008 at the latest. This *de facto* means harmonisation with general law of the Union on market competition applied in the telecommunications sector (electronic communications). Harmonisation must also be carried out in regulations themselves, but also in the area of regulatory practice. By the said deadline, the Croatian Telecommunication Agency must entirely carry out all necessary preparations for implementation of procedures pursuant to requirements of the *acquis*. For the purpose of adjustment of activities, a cooperation of the Croatian Telecommunication Agency with the Ministry of the Sea, Tourism, Transport and Development is necessary.

STRATEGY OF THE GOVERNMENT OF THE REPUBLIC OF CROATIA IN THE FIELD OF BROADBAND INTERNET ACCESS

Bearing in mind the said evaluation of status of broadband development, the Government of the Republic of Croatia emphasises as the main strategic objective within the period of time ending at the end of 2008 decreasing the gap between Croatia and EU Member States in respect of penetration rate of broadband access.

According to this criterion, at the beginning of the year 2005 Croatia was lagging behind the European Union average with approximately nine percentage points. Current average rate of growth of broadband penetration in the European Union accounts for four percentage points, whilst rate in new Member States accounts for 2 percentage points annually.

By the end of 2008, Croatia must achieve the level of density (penetration) of broadband connections of at least 12%. This means that within that period of time the Republic of Croatia must achieve a number of at least 500.000 broadband connections.

The Government of the Republic of Croatia, all central bodies of the state administration, as well as Croatian Telecommunication Agency and other state bodies, will contribute to creation of conditions for fulfilment of this ambitious strategic objective acting accordingly to the following fundamental principles:

- promoting free market competition in telecommunications markets;
- promoting development of competition regarding infrastructure, technologies, services and contents;
- stimulating demand for broadband access services through comprehensive informatisation of system of the government and administration at all levels, and particularly through provision of accessibility of public services to the broadest circle of population through use of broadband access to these services;
- promoting structurally balanced development of infrastructure and services of broadband communication in regions of Croatia including policy of state subsidies and use of international sources of financing;
- including all categories of population in the knowledge society;
- promoting development of electronic trade and business, as well as legal environment for safe electronic transactions;
- intensive political activity for reinforcement of confidence of population and entrepreneurs in safety of electronic transactions;
- through complete harmonisation of legislation, regulatory policy and practice of market regulation in electronic communication by the end of the year 2008 at the latest.

Strategic orientation of the Government of the Republic of Croatia is that state intervention in telecommunication markets should be carried out through competent market institutions for that purpose, the Croatian Telecommunication Agency, as well as independent regulatory body, in cooperation with the Croatian Competition Agency, under conditions and in the manner stipulated by the Telecommunication Act.

Therefore, great demands are put on the Croatian Telecommunication Agency, not only in the context of securing implementation of legal regulations and strategic orientations of the Republic of Croatia in

the field of broadband Internet access, but also in the general context of telecommunications (electronic communication). The Croatian Telecommunication Agency occupies one of the most important places in realisation of objectives of this strategy.

Regulatory policy must be consistent, clear, foreseeable, stimulating for investments in all types of business transactions in the area of electronic communications, as well as responsible and legal, and must primarily be guided by public interests and interests of users, in the sense of local regulations and appropriate EU Acquis Communautaire. It must not allow keeping obstacles to free market competition, and it must not create new barriers to efficient competition through making decision with such impacts, i.e. failure to make appropriate decision.

Regulation of prices of wholesale offers for broadband Internet access shall be guided by objective of realisation of conditions for long-term development of infrastructural competition, and shall be stimulating for investments into the most efficient technologies of access. Investments into new network resources must not be discouraged by regulatory intervention in amounts and relative relations of prices of available wholesale options of access. A balance has to be established between aspiration for unquestionably necessary faster development of competition through ensuring favourable conditions of entry for new entrepreneurs into the market and long-term interests for development of realistic infrastructural competition, which enables permanent progress of supply of the most advanced and most diversified services, and development of a solid, consistent and efficient competition. Regulatory policy must be led proactively, transparently, in constant cooperation with all interested parties, and must adjust to dynamic trends of technological development.

Regulatory body must at an accelerated pace improve its knowledge, human capital, as well as analytical methods and tools for definition and analysis of relevant markets, determination of position of significant market power, imposition of regulatory obligations, and implementation of price regulation, which are based on appropriate cost accounting systems that are used by regulatory bodies in the European Union countries. By the end of 2008, regulatory system in Croatia must be able to switch completely and efficiently to the system of regulation of significant market power introduced by way of new regulatory framework of the European Union.

One of the most efficient mechanisms of stimulating free market competition, increase of safety for investments, and protections of users, is implementation of consistent policy of openness of regulators towards the public. Therefore, regulatory body must establish a system of detailed monitoring of static and dynamic market indicators in all relevant markets, as well as all data important for users of telecommunication services, and regularly and promptly publish these data in a wide form. Also, it must ensure appropriate standard in relation to speed of processing of received items.

In the field of development of broadband Internet access, it is of the utmost importance to monitor regional divisions of use of broadband Internet access, primarily at the level of counties. The strategic objective of the Republic of Croatia is that this development is taking place at the highest possible level of evenness, both through various regions of Croatia and in all categories of population. Therefore, regulatory body must especially, and thus on at least a quarterly basis, monitor regional development of broadband, and in accordance with this publicly publish collected information and regularly inform the Ministry of the Sea, Tourism, Transport and Development.

Internet website of the Agency must contain all data required by companies and entrepreneurs already working in telecommunication markets or envisaging the possibility of investing into new businesses in them, as well as by users of all telecommunication services, and thus regardless of which institution is producing these data. The entire relevant documentation of the Agency and all other relevant contents must be made available in an electronic format free of charge on Internet web pages of the Agency. This does not refer only to data, which, according to regulation, represent official secret. As a measure of stimulating foreign investments and increasing legal security, it is necessary that all information important for commencing and performance of activities in the telecommunication market are made available on web pages of the Agency at least also in the English language.

Whilst efficient regulatory system will provide stimulating conditions on the side of offer of broadband communication services, in particular of access, state administration bodies and other state bodies must continuously act on stimulating and incentives for development of contents, without which appropriate development of demand for broadband services cannot be achieved, and therefore significant increase of broadband penetration, as basic comparable indicator, cannot occur. Number of connections is not an objective *per se*, but only an indicator of successfulness of development of broadband communications. In order for it to occur, it is necessary to increase quantities and availability of Croatian contents, whether it is the matter of contents from the area of government, legislation, health, culture, education, science and similar, or commercial contents. State administrative bodies and other state bodies must approach stimulating of development of high-level quality Croatian contents within the frame of their scope of activity, guided by guidelines from the Action Plan enacted on the basis of this Strategy, but also on own initiative.

STRATEGY OBJECTIVES REALISATION POLICY

Strategy implementation action plan

Based on this Strategy the Government of the Republic of Croatia shall adopt the action plan with a purpose of realising its objectives. Action plan measures will be applied by state administrative bodies, Croatian Telecommunication Agency and other state bodies. These measures will include the following areas of activities:

1. Provision of conditions for development of free market competition and infrastructural competition.
2. Supporting adoption of new broadband technologies, i.e. their development.
3. Supporting development of electronic transactions.
4. Decreasing digital divide and realisation of conditions for an even participation of all social groups in the information society.
5. Contribution to protection of privacy of communication and data safety, and strengthening of users' confidence.
6. Balanced access to stimulating development of broadband access in all regions of the Republic of Croatia.
7. Participation and active contribution in international processes important for development of broadband Internet access.
8. Continuous collection and evaluation of indicators of performance of strategy objectives, as well as of measures of the Action plan.

The above-mentioned state administrative and other state bodies will not be restricted exclusively to implementation of the Action plan measures, but shall also proactively act on promotion of objectives of this strategy in accordance with their legal competencies. Action plan measures represent minimum required activities.

Supply-side incentives

Supply-side incentives relate primarily to realisation of conditions for realistic free market competition in the field of broadband (and other telecommunication) services, and only then to tax reliefs and other measures that will be applied only in cases when market mechanisms, that is to say mechanisms of implementation of policy of supply-side incentives, cannot themselves balance structural (regional) development of these services in an appropriate manner, particularly in areas where commercial interest for investments into the broadband Internet access infrastructure is insufficient.

The Action plan implementation can provide, in the shortest possible deadline, sufficient conditions for initial acceleration of growth of broadband services. Outside the reach of these measures balanced regional development can remain, in which case the Government shall adopt decisions on tax reliefs for entrepreneurs, who decide to invest into the broadband infrastructure development in areas in which demand is low, in order to stimulate private investments.

Pursuant to Article 16 paragraph 4 of the Telecommunication Act, the Government of the Republic of Croatia shall distribute the surplus of funds for the purpose of stimulating broadband infrastructure in areas with insufficient interest for development and investment into the broadband infrastructure.

The Government of the Republic of Croatia and central state administrative bodies will also stimulate participation and undertaking initiatives by local and regional self-government bodies for establishment of favourable environment for the broadband infrastructure development in local communities, through programmes for training of local and regional self-government for preparation of development projects, analysis of the best practice from Croatia and abroad, preparation of overviews and guidelines for development of the public-private partnership model and other.

On the basis of monitoring the market status per regions, which will be promptly performed by the Croatian Telecommunication Agency in accordance with measures, which will be determined in the Action plan, the Ministry of the Sea, Tourism, Transport and Development shall consider requirements for undertaking appropriate actions and shall coordinate activities with competent local self-government authorities on the one hand, that is to say with the Government of the Republic of Croatia and Central state office for e-Croatia on the other.

Demand-side incentives

The Government of the Republic of Croatia shall through the Central state office for e-Croatia, the Ministry of the Sea, Tourism, Transport and Development and other state administrative bodies as well as other state bodies, efficiently implement:

- programmes and projects within their scope, which stimulate use of Internet in general, and broadband Internet access, by public administrative bodies, as well as by citizens in communication toward these bodies, of which the most important are the following:
 - e-Croatia 2007⁸ Programme;

⁸ See Operational Plan for implementation of the e-Croatia 2007 Programme for the year 2004 available at: http://www.e-hrvatska.hr/ehrvatska/modules/Downloads/upload/operativni_plan_eHR2004.pdf

- One-stop-shop Programme⁹;
- National Programme for Information Security¹⁰;
- policy of strengthening of confidence of Internet services users in safety of their personal information and business transactions performed electronically;
- policy of stimulating electronic transactions;
- policy of broadband services use by public administrative bodies for the purpose of improving efficiency of the public administration and communication with citizens, that is to say improving the scope and standard of services, which are to be provided to citizens of the Republic of Croatia by these bodies;
- policy of monitoring development of the above-mentioned areas in the international environment, as well as active participation in this development.

Electronic commerce development stimulation policy (e-commerce)

Although from the broadband development point of view, electronic commerce development stimulation belongs to the supply-side policy incentives, it is specially emphasised here because enhancing of electronic commerce development depends greatly on political measures, and not only, or even predominantly, on economic ones. Electronic commerce is being naturally developed through private initiative of entrepreneurs, and is traditionally outside the direct reach of the state, but level of acceptance and use of this type of commerce greatly depends on confidence of entrepreneur and user in safety of electronic transactions. Also, central questions that are imposed are: a question of content transferred via the Internet (as subject matter of transaction – content with conditional access) and a question of protection of intellectual ownership. Therefore, the state has a significant role in realising preconditions for development of electronic commerce.

As far as communications content transferred over the Internet , it is important to emphasise the following:

- *An issue of content regulation.* Taking into account the inherent global character of the Internet, competent state administrative bodies and other state bodies have to monitor and participate in international development of regulations and policy related to content, particularly regarding the policy towards forbidden contents as spreading of hatred, promoting violence, pornography, contents harmful for underage persons, as well as other contents that may be questionable due to cultural diversities, i.e. diversities of legal system of government of states. Policy towards such type of contents must achieve protective effects towards targeted social groups, and at the same time must not create or serve as an excuse for creation of commercial barriers.
- *An issue of fraud prevention.* Perhaps the biggest problem that has been standing on the way of development of electronic commerce to date is lack of confidence of users in safety of Internet communication. This problem originates from the series of contents and actions, by which users

General information on the programme are available at the address:

<http://www.e-hrvatska.hr/ehrvatska/modules.php?name=Sections&op=viewarticle&artid=12>.

⁹ See Document the One-stop-shop Programme Strategy available at the address:

http://www.vlada.hr/Download/2004/12/16/Strategija_POSS_V2.pdf.

¹⁰ See the National Programme for Information Security in the Republic of Croatia available at the address:

<http://www.e->

[hrvatska.hr/ehrvatska/modules/Downloads/upload/Nacionalni%20program%20informacijske%20sigurnosti%20u%20RH.pdf](http://www.e-hrvatska.hr/ehrvatska/modules/Downloads/upload/Nacionalni%20program%20informacijske%20sigurnosti%20u%20RH.pdf). General information on the programme are available at the address:

<http://www.e-hrvatska.hr/ehrvatska/modules.php?name=Sections&op=viewarticle&artid=18>.

of electronic commerce have been harmed, from frauds by theft of confidential personal data, i.e. credit card numbers, to spreading of false information on business results and value of company shares, through which massive frauds of private investors have been performed. The state administrative bodies and other state bodies have to monitor and participate in creation of policy towards frauds on the Internet, at international level, and promptly implement policy that protects interests of participants in electronic commerce and users of the Internet in the widest sense. Confidence and safety of citizens in the Internet communication must also be strengthened, and their interests in all cases of Internet frauds must be protected to the highest possible level. Increase of the level of confidence of the widest layer of population and companies in safety of communication during performance of electronic transactions and commerce is a very significant objective.

Ministry of the Sea, Tourism, Transport and Development, Ministry of the Economy, Labour and Entrepreneurship, Central State Office for eCroatia, Croatian Standards Institute and Croatian Telecommunication Agency must also, within the scope of their competencies, monitor and actively participate in processes of international standardisation, and execute implementation of internationally accepted (or those developed within the industry) standards, in the following areas:

- broadband access and network technology;
- exchange of digital structures and data;
- video and data conferences;
- electronic copyright management system;
- communication safety (confidentiality, authorisation, data transfer integrity, data access control);
- electronic payment;
- electronic signature.

Inseparably connected to electronic commerce over the Internet are issues of customs clearance and taxation of such commerce, which are inherently international. Whilst in the case of commerce of “tangible” assets there are actually no specificities in relation to established systems of customs and tax collection, issues within the area of commerce of assets and services produced, i.e. transferred, in an electronic format are being opened. However, this area is not subject matter of this Strategy.

Also, although they are outside the scope of the broadband development strategy, the issues of intellectual property rights protection in the context of electronic commerce and business must be mentioned. It can be assumed that in time development of international agreements for protection of copyrights, patents and trademarks will occur. Although specific technologies and technical procedures (for example protective coding of data) enable specific high level of protection of intellectual property rights, appropriate measures in legislation will also be necessary with a view to averting frauds and thefts of intellectual property rights, and penalising such committed actions.

CONCLUSION

This Strategy has been adopted by the Government of the Republic of Croatia in order to formulate clear strategic objectives by the end of the year 2008 in the area of the broadband Internet access development, as the fundamental infrastructure of information society. The Strategy defines firm objectives based on the current status and realistic economic potentials of the Republic of Croatia. The areas, in which state administrative bodies and other bodies within their legal competencies, can contribute to acquiring conditions for acceleration of the broadband development leading the policy, the principles of which are indicated and argued in this Strategy, are defined.

The Government of the Republic of Croatia is of the opinion that the Republic of Croatia can and must accelerate development of this sector of economy on the model of the EU Member States, and therefore the main objective it is setting in the next two years is decreasing the lag behind average the level of use in the EU Member States. By achieving at least 500.000 broadband connections by the end of the year 2008 Croatia will significantly reduce this gap and thus will create high quality basis for development of information society in the Republic of Croatia.