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Mid-term forecasting of electronic communication markets development in Croatia**

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**“Mid-term forecasting of electronic communication markets development in Croatia”
Letter of Contract N. 2006– 0707-0315**

**Report H and I
overview of strategic approach to broadband regulation and implementation of measures**

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LOT 3: Telecommunications and Information technologies

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1 Objectives of the project

The global objective of the project is to assure further strengthening of regulatory rules of the telecommunications market in Croatia (in compliance with the EU *acquis*), which will contribute to its further development.

In the Terms of reference there are two specific objectives mentioned:

To provide an overview of the entire telecommunications market in Croatia including both historical data and future projections in order to provide access to the information necessary for focusing research and development efforts and developing new products and business strategies.

To provide strategic assessment of the role of regulatory rules (laws, bylaws, decisions) in the telecommunications sector with the main focus on the role of competition in delivering benefits for customers.

Emphasis on broadband

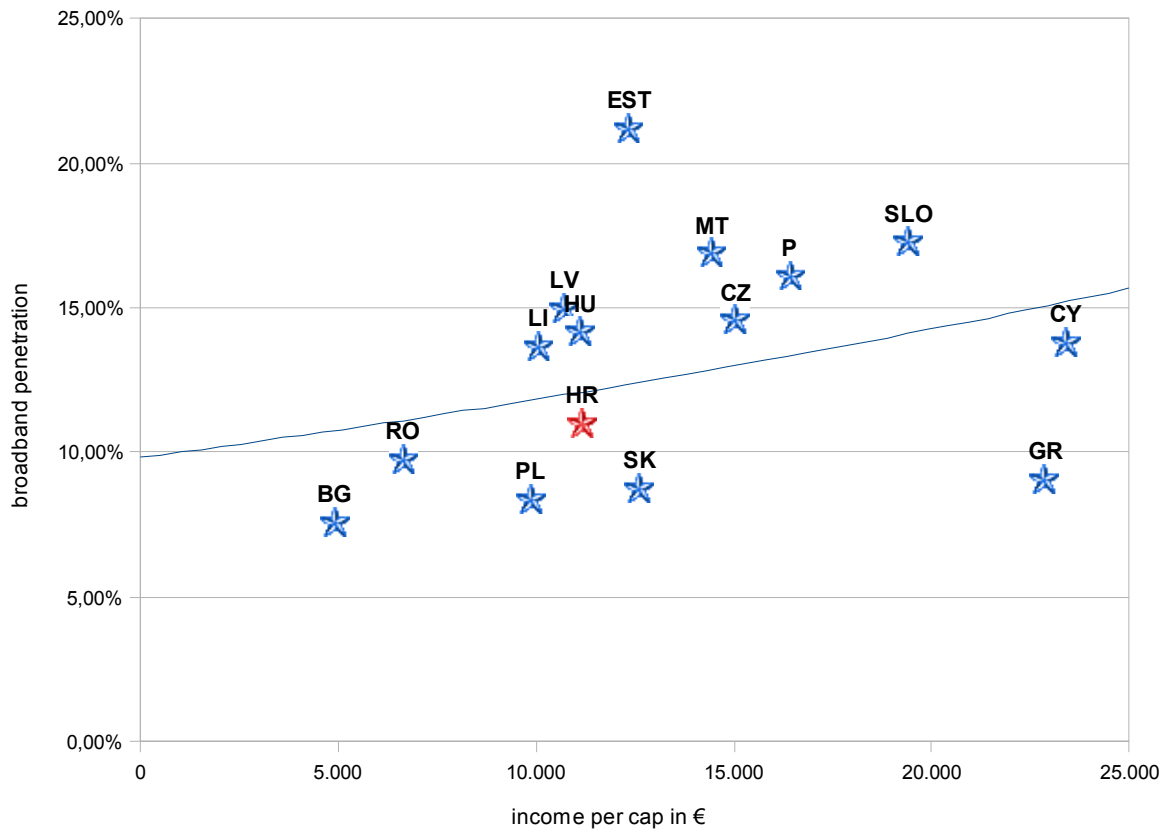
In discussions with the beneficiary it was asked and agreed that the project would put emphasis on the broadband development as this is of vital importance to the development of the information society in Croatia.

2 Introduction

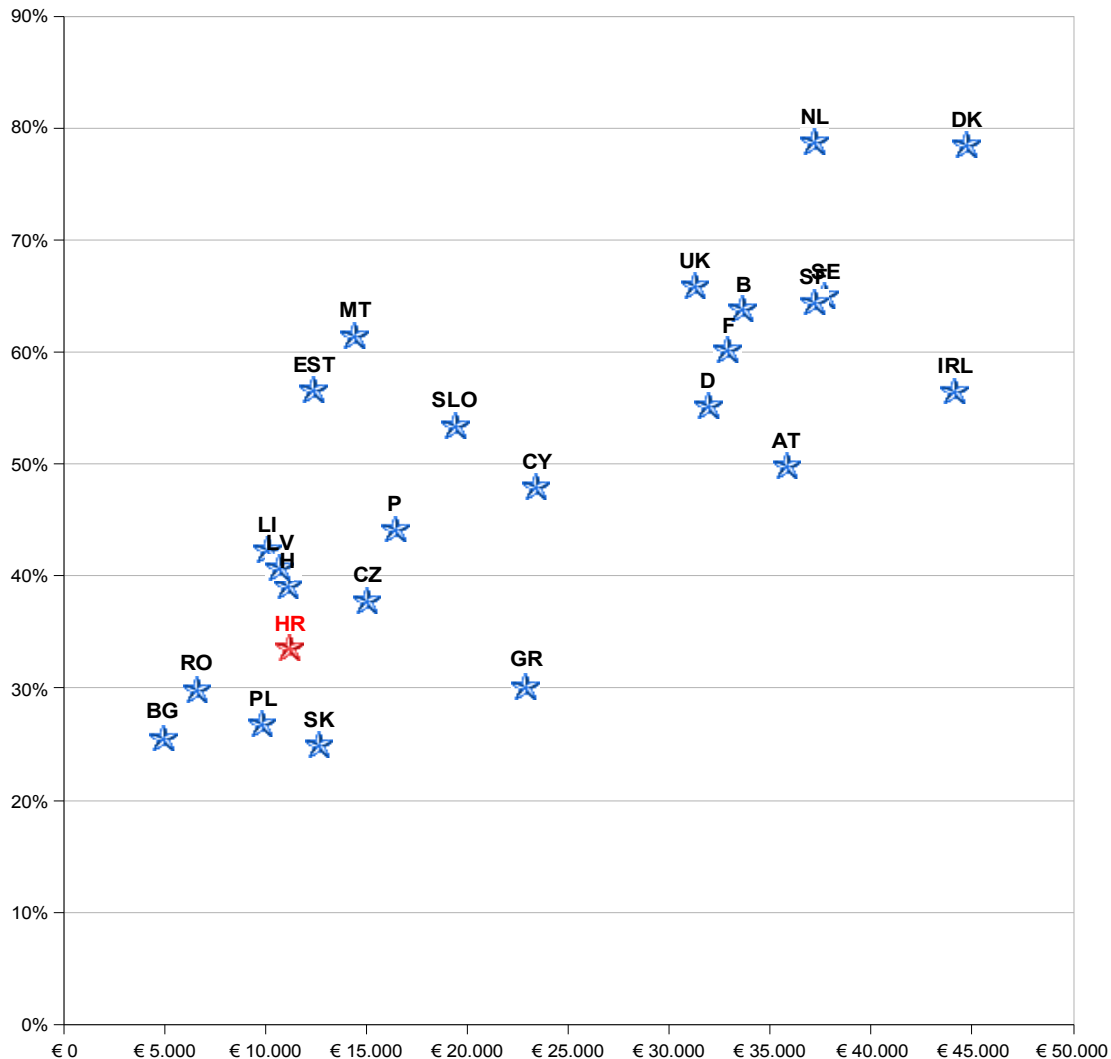
In this report we summarise the findings of our other reports, describe the issues at stake and propose a draft implementation plan.

Once again we would like to stress that the implementation of broadband is relatively well advanced in Croatia. But more can and should be done. The graph on the next page illustrates this relative position of Croatia regarding broadband penetration. We used the latest data for national income and broadband penetration and only compared the middle and lower income countries of the EU members and Croatia. The higher income countries are in different situations and should not be used to make these sort of comparisons. If we look in more detail at the position of Croatia, we can see that of the countries that have a national income of the same order of magnitude as Croatia the Baltic countries and Hungary have a higher broadband penetration. But Croatia is well ahead of countries like Romania, Bulgaria, Poland, Slovakia and even Greece that has a much higher national income.

bb penetration middle and lower income countries



In the following graph the same data are given for the broadband penetration per household. Here we included many countries of the higher income class as well.



These graphs shows that Croatia is doing relatively well compared to countries with a comparable income, except for the Baltic countries that have a higher penetration per household than Croatia.

The project has indentified a number of issues for attention. Some of them are outside the scope of HAKOM others can be influenced by it.

In the following chapters we will describe them briefly but not repeat the details as they are in other deliverables of the project. We have also included those that are outside the scope of HAKOM because it may help HAKOM in their discussions with other governmental bodies.

3 General level of competition

Based on the findings in our market overview we have calculated the Herfindahl-Hirschman Index or HHI for the markets that we have analysed. We refer to the tables in report A. The HHI index is the sum of the squares of the market shares of the different companies that are active in the market. The maximum is 100% when there is only one company active the minimum is almost 0% when there is a very large number of companies that all have a very low market share. For the market share we use the share per revenue for the different markets. In general market analysis a market is considered to be competitive if the HHI index is less than 20%.

The outcome of our analysis is the following:

market	HHI index		
	2006	2007	2008
fixed telephony	87%	71%	69%
mobile telephony	46%	46%	44%
leased lines	83%	43%	32%
internet dial up	79%	77%	74%
internet ADSL	93%	91%	92%

This clearly shows that on all markets there is strong dominance by one or a few players. None is competitive. Only in the leased line market there has been a strong movement over the years in the direction of more competition. In the other areas this movement is much smaller and in the case of ADSL even absent. On top of that, in the calculations ISKON and HT have been considered as different market players. If this were not the case the HHI indexes would even be higher.

The first firm conclusion is that none of the major telecommunications areas is competitive, the situation is worst for the Internet broadband market.

In the mobile telephony market there is a limitation, with three mobile operators the lowest possible HHI index is 33% when they all have an equal market share. At the same time having more operators may not be a solution as a minimum market share may be necessary in these markets as is described in our report B.

In the fixed telephony market there seems to be a slowing down of the pace with which the competitiveness increases. However it may be expected that with the increase of the possibilities to use VoIP the competitiveness of the market can further develop in the right direction. The hiccup here may be that for effective use of VoIP a broadband Internet connection is necessary. Therefore if the market for the provision of broadband is not regulated effectively this might hinder the further competitive development of the voice telephony market.

When the mobile operators would introduce flat rate Internet tariffs, that is to say a tariff with unlimited data usage as they have done in some other countries, the market for VoIP may grow substantially and thereby the competition in the voice market, both for fixed and mobile. For the time being we have not learned of any plan to introduce flat rate mobile internet packages into the Croatian market, but the mobile operators will at some time have to. In some countries they have blocked the use of telephony services over these Internet connections. HAKOM should be aware of this and in their discussions with mobile operators press for the introduction of reasonably priced flat fees but without blocking for certain kinds of internet usage, except of course when the customer expressly asks for it.

The leased line market seems rather well developed, but this does in no way reflect on the competitiveness on the market of Internet access.

The dial up market will further slow down with the advent of ADSL and other access techniques. All the medium and high users will move to other access technologies leaving the dial up market to the low users. It will therefore become less and less attractive for operators and the competitiveness could decrease, thereby increasing the speed of transfer to other technologies as has happened in many other countries.

In the fixed broadband access market consisting of mainly ADSL, the situation is worrisome and there is no improvement to be foreseen. Infrastructure competition is still far away.

Therefore a regulatory grip is necessary and will remain necessary for the coming years. The role of HAKOM is vital in this area and HAKOM must prepare itself for 'intensive' discussions with HT in which it will have to use its full regulatory power. Although the first steps towards fibre to the home have been set it cannot be expected that this technology will be introduced on such a wide scale that it will make a difference in the competitive situation soon.

4 Further strategic approach to telecommunications regulations

The areas that will have to be considered are:

4.1 The strengthening of consumer protection.

The Law is very clear and complete, but the follow up within HAKOM needs further attention. The tasks of the consumer interest section within HAKOM are the following:

- Informing consumers on their rights
- Check information provided by operators
- Maintenance of code of practice
- Complaints handling (over 900 received in 2008)
- USO obligations, including access for the disabled
- Code of practice for Electronic Commerce

The present staff is rather overloaded with many ad-hoc problems especially the consumer complaints that arise (over 900 in 2008) and that need full attention but that also make it difficult to consider the other, more strategic issues.

Action to be taken by HAKOM:

In 2009 make a plan to see how it is possible to reserve more capacity for long term tasks of the section.

4.2 The introduction of naked DSL

As mentioned in report C and I naked DSL is an important step forward in further increasing the broadband offering in Croatia. There are a few options for its introduction.

The first option is that HT starts to offer it, then on the basis of non-discrimination it can force it to offer it to alternative suppliers as well. This would be the simplest way and should be explored in the regular meetings between HAKOM and HT. This has been the case in some countries, although the chance that HT agrees is not very high, it should be explored first because of its simplicity.

If option 1 is not feasible then a systematic approach should be envisaged. In the first place the outcome of the market analysis for market 1 should be considered. This analysis is planned to start the next fall and can be finalised in the first half of 2010. It is highly likely that HT will be designated as having significant market power. One of the remedies could be to force HT to offer naked DSL at least to its competitors. Although it must be said that there is no full agreement between experts on the possibility; nevertheless the introduction of naked DSL is important for further development of the market and therefore should be pursued.

The question that will arise immediately is that of pricing and therefore regulatory accounting principles should be applied to fix a price that does do justice to HT and still allows for profitable competition. The new technical assistance project that is planned to start in 2010 should give some assistance there. This pricing exercise is very complex and must go into all details in order to stand up if challenged, which it probably will. These exercises cannot be completed realistically before the end of 2010 after which the introduction could start.

4.3 Regulatory accounting

The implementation of regulatory measures must be accompanied by sound economic support. Determining the right prices for services of the SMP operator is by no means a trivial job. In the new assistance project rightfully much attention is given to this aspect. This assistance can only be effective if there is designated staff that is able to work with the consultants. Therefore it is vital that HAKOM sets up a specialised regulatory accounting group that already has acquired some basic knowledge about regulatory accounting before the new technical assistance project starts. If this is done the experts do not need to spend time on explaining the basic principles of regulatory cost accounting but can immediately assist in the complicated work on assessing the allowed costs of the incumbent operator.

4.4 Fibre to the Home (FttH) Regulation

In order to prevent that an uncompetitive situation will emerge if only one operator de facto invests in FttH attention must be given to the way the FttH is built up. It must be done in such a way that technically and economically alternative providers are able to get access to the network, while at the same time allowing a reasonable profit for the incumbent. There are examples in other countries how this could be done. In order to provide the firm, predictable regulatory environment for these developments that require vast investments a policy should be worked out and submitted for consultation. This requires a close co-operation between legal, market analysis and regulatory accounting staff of HAKOM. In order to start with this before any major investments are done the preparations for this should start in 2009. The work done by the market analysis team has already laid a sound foundation under this work.

4.5 Appeal procedures

It is outside the control of HAKOM that appeal procedures through the court system take too much time to be effective. In the telecommunications market timing is essential as the developments in the markets can go quickly. In many cases the outcome of appeal procedures are not relevant any more if they come after 5 years. Therefore HAKOM might consider a way of working where an internal or external appeal procedure is present.

An example is the Danish situation where a committee of wise men have a look at decisions of the regulator when they are contested. This does not take the place of a court procedure of course but it can bring some confidence into the market about the chance a HAKOM decision will hold or not.

Another way is to organise this internally, this could be done by having all decisions prepared by the HAKOM staff and then screened by the Council in its meetings. This would require however that the Council is not involved in the day to day working of the HAKOM staff as it is vital that it gives a completely independent judgement.

It is up to HAKOM to decide how to proceed but we recommend that a way forward is chosen. This is all the more true as the powers of HAKOM are quite large compared to those of many other telecommunications regulators as most of the ordinances are produced by HAKOM and not by the Ministry as in many other countries.

4.6 Continuation of public polls

In order to get insight into the development of the market and to cross check the data received by the operators it is important that this check is made. An important outcome of the poll that was held this year is for instance that about half of the population only keeps its fixed line because of Internet. This kind of information that is important to determine policy can only be obtained in this way.

It also shows to the public and to Parliament that HAKOM takes the opinion of the consumers very serious. Therefore the first public poll that was done should be repeated at fixed intervals, preferably every year. If it is ensured that the questions do not differ too much the development in attitudes can be followed.

4.7 Market analysis

It is important that now that the first round of market analysis is well under way, the enthusiasm should not be lost. Ideally the market analysis should be repeated every three years or earlier when appropriate and the staff that has done a good job on the first round should be able to use its gained experience for further improvement in the following rounds. In the collection of data from operators the emphasis could be shifted from input data like number of staff, composition of staff according to gender or educational level towards output data like turnover for the different services etc. It is important that an agreed definition of these categories should be used in order ensure that the data is comparable over time, between operators and with other countries.

Carnet

Another aspect related to market survey is that Carnet should be continuously watched to see that it limits itself to services to the educational sector. Experience in other countries has shown that it is tempting for these sorts of organisations to widen their field outside their original scope. This may look good because more people will then have access to relatively cheap Internet access, but it will hinder working under market conditions and thereby hindering commercial enterprises to continue or enter business. This is not to say that this is now the case but a continuous surveillance is imperative.