

Contribution from HAKOM, Croatia to the GSR15 Consultation

The concept of ubiquitous broadband is not only an imperative for economic development but also a significant factor in ensuring a more efficient healthcare system, educational system, science, culture etc. It is a fact that broadband fosters employment and overall economic growth, particularly in IT-intense sectors, and it significantly improves the quality of life.

Furthermore, broadband as part of the development strategy contributes to the revitalization of rural areas by supporting the development of these areas resulting in less migration of young people, the return of educated people, increase of the intellectual potential, more contributions etc. Since overall development of Croatia cannot be achieved without the development of its regions, Croatia needed to continue encouraging the introduction of broadband access to underdeveloped regions aware of the fact that capital will not go where there is no direct profit. Croatian Regulatory Authority for Network Industries, HAKOM, started in 2011 an aids program entitled „*Programme for Internet and Broadband Access Development in Areas of Special State Concern, in Highland Areas and on Islands (Programme)*“. The covered rural areas mostly belong to the so-called white areas, that is, areas where broadband does not exist and it will not exist in the near future. In order to support the migration prevention program, *Programme* also covers islands out of which some belong to the so-called grey areas, that is, areas offering traditional Internet access without competition, i.e., served by only one operator. The upgrading to broadband ecosystem with the emphasis on key contents shall improve the quality of life and encourage the development of agriculture, tourism and other sectors in these areas.

The following objectives are proposed from the point of view of the broadband ecosystem:

- **High-speed network:** contribute to the creation of preconditions for quicker development of new generation networks, both fixed and mobile, assist the development of a technologically neutral broadband Internet access, including new generation access, and contribute to better penetration of broadband access in general, and, in particular, in rural areas which are not interesting for capital investments.
- **High-availability services:** contribute to the appearance of new service providers in order to increase the selection and quality of available services for education, healthcare, agriculture and tourism in the entire community, and in particular in rural areas. Provide to inhabitants of these areas free-of-charge access to services for education and health, and affordable access to services for agriculture and tourism.
- **Applications:** encourage creative and efficient development of preconditions for information society and knowledge-based economy by developing new contents and broadband applications, in particular, new contents and applications relevant for further development of these areas, that is, those contributing to the increase of intellectual capital, greater business efficiency and more quality life in these areas.
- **User:** provide to inhabitants more possibilities for Internet and broadband access use in work and everyday live regardless of the location, level of education, age or interest. Ensure to inhabitants of these areas at least one access channel by using broadband Internet access, and pay special attention to involving persons with special needs in these areas.

The objectives of the proposed *Programme* are in the first place based on long-term public interests and interests of the electronic communications sector:

- Support a balanced regional development of information and communication technology.
- Support the development of rural areas, particularly remote and less populated areas.
- Permit the inclusion of (at least a part of) population of these areas into information society.
- Support the development of education, health, agriculture and tourism in the areas in question.
- Support the development of contents and applications in the electronic communication sector.

- Promote a more dynamic development of free, neutral competition in all elements of the broadband ecosystem.

Programme comprises from three projects: development of high-speed broadband networks, development of services and applications and providing of accompanying telecommunications equipment. Duration of *Programme* is 5 years with resources of approximately 13 mil € The ideas for development of services and applications were collected by means of public invitations which were open to all interested legal or natural persons – state government bodies, local communities, educational and research institutions, private and public companies, non-profit organizations and the general public. Companies and citizens whose designs have been selected, but who are not target users, received a reward. In process of selection and implementation HAKOM took into account the feasibility criteria, estimates of costs for the realization of individual ideas and direct and indirect benefits for citizens

Eligible applications and services are those that:

- encourage creative and efficient development of preconditions for information society and knowledge-based economy by developing new contents and broadband applications, in particular, new contents and applications relevant for further development of these areas
- ere contributing to the increase of intellectual capital, greater business efficiency and more quality life in these areas

In period 2011. - 2014. HAKOM conducted 4 public invitation for the submission of designs for services and software applications and collected over 230 design proposed by nearly 170 different legal entities or individuals. Scope of eligible applications was: e-Health, e-Government, Agriculture, e-Learning, e-Commerce, Alert/rescue, Safety and humane activities. In the mentioned period HAKOM completed 12 public tenders for the development of 35 selected applications from different areas with total value of contracted applications around 2,6 mil € On the conducted tenders HAKOM received over 190 different suppliers offer.

Some of the applications that are or will be developed through this *Programme* are:

Web application for the development of digital teaching materials – the system will contribute to the development of IT literacy, promote e-learning, and it will encourage teachers to use the distance learning system. It is envisaged that the system and materials will be available online so they can be easily accessed from any area with Internet coverage.

Teleradiology - application represents the solution that centralizes collection of all the radiology data and their distribution to all of the authorized medical staff. Simple access through broadband Internet enables radiology specialists to access digital radiology scans which are imported by medical institutions, such as ambulances, clinics, hospitals or health centers. Teleradiology application reduces costs for the patients and for the State.

Mobile technologies for monitoring health condition of patients with chronic diseases – in order to improve quality of life of patients with chronic diseases and to ensure availability of health care regardless of their location, it is necessary to monitor the condition of a patient by means of mobile technologies, to provide training about diseases and about ways of managing the disease and timely reaction of healthcare institutions to changes in condition. By means of this application, health care employees will be able to carry out remote measuring of patients, to transmit results over the broadband network, to permanently and safely store measurements and to immediately deliver measurements and data to doctors.

Crops growing profitability simulator - simulator is an on-line, public available application. Simply after inputting required parameters, users are informed about profitability of growing crops in their region. The application also offers counselling and professional help to users. The application offers help with the process of: choosing the adequate crops, treating and protecting crops, harvesting, transporting and storage, market placement.

Portal for access to public sector information – it should enable access to public sector data, all with the aim to improve public services, intensify the cooperation between the bodies of public authority and the private sector and increase the transparency of the public authority. The Portal saves time for the users, creates room for innovation and economic development, improves public administration's user-orientation and strengthens the public in the process of participation in the executive power. The reuse of

public administration information is achieved by adding new values, combining information from different sources, creating complex and new applications, both for commercial and non-commercial use.