

# Ignalina Nuclear Power Plant Region Regional Broadband Development Strategy

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The main goal of the strategy is to establish and evaluate key economic development opportunities in the region by utilizing broadband internet connection infrastructure, the most perspective business areas, and the necessary investment, needed to create and maintain the infrastructure; created jobs, GDP growth variations; to disclose the impact of consistent and even development of the broadband internet network in the region upon the consequences of the winding up of Ignalina Nuclear Power Plant, considering the particularities of Visaginas city and rural vicinities of this region.

This Strategy presents the situation of broadband internet access infrastructure in Lithuania and Ignalina Nuclear Power Plant region, the main goals of broadband internet strategy, the need of development of internet access infrastructure, strengths, weaknesses, opportunities and threats analysis, planned tasks for the implementation of this Strategy, impacts, and consequences, as well as the plan of the instruments used to implement the Strategy.

One of the biggest threats, often mentioned in the global context, is the emergence of new social divide, which is based on unequal opportunities as to the access and ability to use information technologies. In order to diminish this threat, more attention needs to be paid to those residents who reside in smaller cities and rural areas and, as a consequence, find themselves in an unfavorable position.

## 1. Concept of Broadband connection

Term „Broadband connection“ generally is used to characterize unbroken and far faster internet access than using modem over telephony line. Broadband connection enables supply modern content, services and applications. At this moment defining concept is using link to Data transfer channel width. Increase of data transfer channel throughput is forced by applications, which require faster data transfer, so conception of Broadband internet connection, which mostly is appeal to data throughput, is constantly fluctuating. In broadband internet access infrastructure development strategy of Lithuania of 2005-2010 years, approved by the Decision No. 1231, dated November 16, 2005 of the Government of the Republic of Lithuania, there is characterized, that „Access to broadband infrastructure – possibility to get provided constant data transfer service, which speed – no slower than 512 kilobits per second (hereinafter – kbps) to both sides in the network terminal point for every user of electronic communication services

for competitive price. Infrastructure of Broadband connection has to ensure providing of e.services, which speed of providing is influencing by their format, by electronic communication network and tools. Real time service quality has to be ensured for every user“.

Using optical cables, broadband data transfer network already is implemented in national and international main networks. These networks enable especially broad data throughput. However, on purpose to provide broadband connection for residential, small and medium size companies, the appropriate infrastructure has to be established. „Bottleneck“ effect in the broadband networks usually displays in the „last mile“ to end-user.

Currently there are a lot of various technological solutions, which can be used by increasing the penetration of broadband network. At present days broadband connection usually is providing using existing fixed lines networks, using DSL technology and cable TV networks. DSL and fixed line modems implementation is quite speed, because using these technologies is only extending already existing infrastructure possibilities.

Broadband network either is extending by creating the new infrastructure. For creation of the new infrastructure are used new technological solutions either. Advantages of new solutions are that they provide unlimited throughput (optical), flexibility (WLAN), wide geographical penetration (satellite solution) and compatibility with telecommunications (3G and more modern) solutions. Wireless technologies, for which running is used radio signals, at the moment are very popular in rural areas, where development of cable infrastructures is especially expensive.

In the nearest future DSL and cable infrastructure are expected to remain the main technologies, because implementation of new infrastructures takes a long period.

According forecasts, in the future various technologies will exist together. They will compete with each other (equipment competition) and the same will complemented one another creating hybrid technological solutions, which will spread widely providing of broadband connection services.

## 2. Broadband connection/network utility

Broadband network allows new and big value added services market to originate. Countries, fixing the importance of broadband network for regions, seek to speed up the development of broadband network. To ensure a steady direction, EU countries-members are prepared broadband network development strategies.

Broadband network enables to develop applications of bigger interaction and high quality services, and creates markets for new products. Later, while demand for new multiple applications arises, rapid grows of services spectrum and broadband network are expected, and it will give additional economical and social advantages.

Broadband network is the technology, stimulating the business. The benefits of the technology is effected by providing progressive applications and services, which will help to increase productivity both in the business, and in public administration sector (e.government, e.business will become more accessible). It enable business contracts to arrange more quickly and to rearrange supply chain.

Remote education and learning will lead to real time services, and this will lead to skills grow, will expand human capital and will ensure the process of lifetime studies. High speed internet access will enable to make the diagnostic of patients and to cure independently from geographic place in health sector.

In case of e.government, broadband network enables to provide existing and supposed public administration services on real time. It improves the quality of public services and cultivates close contacts between citizens and structures of government. Finally broadband network enable remote work and teleconferences to put into practice. Broadband network is the main factor in developing of knowledge economy, which ensures grow of economy, based on increased competition.

Development of broadband connection influences the development of economy branches and e.goods and e.services competition, their manufacture and export.

Infrastructure of broadband connection enables organize videoconferences and remote work, which reduces the level of unemployment and enable to keep high quality specialist in Lithuania.

Broadband connection makes the possibility for development of informative society and economy, makes positive influence to grow of economy and increases business competition.

### 3. Segments

Development needs and problems were analysed, distinguishing segment groups:

- Municipalities and public institutions
- Business companies
- Residents

Summarizing the needs of municipalities and public institutions, it is stated, that in INPP region:

- When fulfilling their direct functions district institutions/organizations actively exchange the information they have with other institutions and organizations of the district. Current documents/information exchange mechanisms are mostly based on physical movement of these documents from one office to the other i.e. via post office, curriers and facsimile notifications. Current information exchange mechanisms do not allow the offices to exchange information expeditiously and cost-effectively. Information exchange among the same kind of institutions in different districts is not intensive, and the work of institutions and offices is not efficient;
- The absence of data exchange mechanism determines low quality of public services – it takes much longer to provide services at public institutions, residents have to visit these institutions a number of times; residents do not have the possibility to solve their matters without leaving their homes;
- District organizations have been sufficiently computerized, however, poor data transfer infrastructure in rural areas (non-existence of such infrastructure) does not allow most of the offices to utilize broadband data communication network benefits.
- The need for expeditious services as well as the need for broad band data communication network.

Summarizing needs of business companies, it is stated, that in INPP region:

- Meanwhile, the region has not created favorable conditions for businesses and investment.
- All active Small and medium size enterprises should increase their competitiveness (modernization of technical infrastructure, development of IT technologies, and improvement of management).
- Favorable conditions have not been created to absorb both, private and foreign capital, thus, the region is not an attractive place for foreign investment.
- Profitability level of the companies in the region is low; there are no internal resources and potential for activity expansion and new jobs creation. Low level technology companies dominate the region's Small and medium size companies.

- Information technologies are a sphere, which needs the most investment.
- Regardless the facts that Visaginas city residents are well equipped with information technologies, most of small and medium companies have very low possibilities to utilize the said information technologies in their activities.
- Region does not have modern business infrastructure; business institutions and local administration do not do enough in the sphere of investment and search of business partners; lack of e-services.
- There is a great demand for internet and e-services; however, there is no broadband infrastructure which could satisfy businesses' needs. The use of internet at companies is very much encumbered as the companies do not have the possibility to use broadband data communication network.
- Requirements for internet and data communication networks in Ignalina Nuclear Power Station region are similar to those in the rest of Lithuania.

**Table. The needs of business entities**

	<i>Economy subjects</i>
Channel bandwidth need	Over 2 Mbps and more
Fast internet	+
On-line orders	+
Fast e-mail	+
Distance working	+
Teleconferences	+
Digital television	+
Voice transfer services	+
On-line trainings/seminars	+
E-commerce	+

Summarizing needs of residents, it is stated, that in INPP region:

- Even though schools' computerization tendencies are obvious, a large part of the region's schools do not have sufficient number of computers yet, computer classes are poorly equipped and lack legal software.
- The number of computers in Zarasai municipality schools is comparatively small. According to 2003 data, approximately 31.2 students shared one computer, whereas the average Lithuanian indicator was 27,4. In Ignalina and Visaginas municipalities 17,4 and 27 students shared one computer accordingly.

- In 2004/5 not all educational institutions in Zarasai district had internet access, whereas all schools of other municipalities of the region had internet access.
- A good number of teachers at Ignalina Nuclear Power Station Region are computer-illiterate. This problem is especially acute in Ignalina district, in which only 37,5 percent of teachers at comprehensive schools can work with computers. More than half of teachers working in Zarasai district and Visaginas municipalities are computer-literate.
- Municipalities and residents' communication problems; e-Government problems;
- Large differentiation between rural areas and cities;
- Low entrepreneurship level of residents, small number of households using internet;
- Low purchasing power of residents;
- The need for quality parameters of internet services and internet speed.

**Table. The needs of residents**

	<b>Residents</b>
Channel bandwidth need	Over 0,5 Mbps
Fast internet	+
On-line orders	+
Fast e-mail	+
Distance working	+
Teleconferences	+
Digital television	+
Voice transfer services	+
On-line trainings/seminars	
E-commerce	

Summarizing the situation of region's target groups, we may say that the region has so far attracted the least foreign investment, has high unemployment rates, high emigration numbers, low entrepreneurship level, deep divide between countryside and urban areas; also, the region has communication problems between Municipalities and residents. All of this is closely related to underdeveloped IT infrastructure.

With reference to the current situation at the institutions, we may distinguish the following needs of the municipal institutions of the district:

1. The possibility to quickly and expeditiously exchange information among the offices and institutions of the district;

2. To reduce the costs of information exchange as well as information technologies and telecommunication (ITT) costs;
3. To increase the work efficiency of employees of public sector administration institutions;
4. To increase confidentiality (secrecy) of information exchange;
5. To improve public services' quality.
6. To create an infrastructure for the implementation of public electronic services.
- 7.

**Table. The needs of business entities (within 2 years perspective)**

	Small size enterprises	Medium size enterprises	Large size enterprises
Channel bandwidth need	Over 2 Mbps	Over 5 Mbps	100 Mbps and more
Fast internet	+	+	+
On-line orders	+	+	+
Fast e-mail	+	+	+
Distance working	+	+	+
Teleconferences	+	+	+
Voice transfer services	+	+	+
On-line trainings/seminars	+	+	+
E-municipality	+	+	+
Data storage/archive	+	+	+
Data/task management system			+

Creation of broadband data transmission network would best satisfy the needs of the above mentioned target groups. Broadband data transmission network would increase the level of information technologies in use, it would increase work efficiency of institutions, and with proper encryption software it would ensure confidentiality of transferred documents and reduce the expenses related to information transfer. Broadband data transmission network would also provide the access to global electronic information resources and services and would increase the level of employees' computer knowledge.

#### **4. Ignalina Nuclear Power Station Region Households and Businesses**

The greater part of Ignalina Nuclear Power Station Region residents live in rural residential areas and small settlements, where broadband internet access is not available.

Current data transfer infrastructure level, limited competition environment and financially weak user market do not create the background for further broadband network infrastructure development.

In order to successfully implement the region's development vision and tasks, the following four strategic tasks for small and medium business development have been singled out:

- Promotion of development of modern and competitive industrial and business companies by implementing innovations and new technologies;
- Creation business-friendly environment and promotion of investment into this region;
- Creation of new business companies, cultivation and encouragement of entrepreneurship in the region;
- Development of the region's tourism infrastructure and tourism services.

To attain the above goals the following tasks have been singled out:

- To provide local educational institutions with computers;
- Connect educational and public institutions to broadband internet network;
- Creation and provision of e-Services tailored for residents and business;
- Training of region's residents, public institutions employees and teachers so that they can acquire computer literacy skills.
- Granting of Income tax exemptions to residents who acquire computers and other equipment.

One of the greatest consumers' (households and businesses) needs is the possibility to have broadband internet access (especially in rural residential areas). The RAIN infrastructure, which is being designed, will not be implemented in residential areas which have less than 200 residents and no public sector institutions. Ignalina district is not densely populated; however, namely this is the region which attracts great numbers of tourists each season, for instance Palūšė. The need for infrastructure creation in such vicinities is especially high. Ignalina Nuclear Power Station Region requires services with qualitative parameters as well as high internet speed.

## 5. SWOT analysis

### 5.1. Strengths

- Cities have electronic communication networks, which may be used to provide access to broadband communication network.
- Broadband communication network availability in rural areas serves as impetus for development of business environment, e-Services provision, and unemployment reduction.
- Broadband communication network infrastructure will facilitate more effective utilization of funds allocated to other information technologies and telecommunications (ITT) projects, as it will give the possibility to utilize current infrastructure.
- What concerns the formation of National infrastructure in the locations, where such infrastructure does not exist; there is a high probability that there will be a great demand for such network.
- Computer literacy of residents in remote areas will increase.
- Rising computerization level.
- Such network will create preconditions for interconnecting all self-government institutions with the help of broadband communication network.
- Strategies prepared by local government institutions and manifested needs.
- Improving economic-social situation, ability to pay and business competitiveness both in Lithuania and Ignalina Nuclear Power Station region.
- Increasing competition among broadband internet service providers and the scope of their services.

## 5.2. Weaknesses

- Investment needed to connect remote vicinities to the broadband network are very high, therefore, it will be impossible to connect all users at once.
- The issue of tax exemptions related to acquiring end-user equipment, needed to connect to broadband communication network, remains unsolved.
- In some of the vicinities of Lithuania there is no possibility to connect to broadband communication networks.
- Common CRA (Communications Regulatory Authority) statistics is conducted only on national level, thus, individual regional problems can not be defined in a timely manner.
- Insufficient computer literacy among residents.
- Insufficient social promotion (advertising) of public electronic services available to residents.
- Insufficient level of transfer of public services to internet.

- Lack of user-friendly e-Government services.

### 5.3. Possibilities

- Reduction of “digital” differentiation.
- Transfer of public services to electronic environment.
- Provision of broadband communication services to residents of rural areas for fair price.
- The infrastructure will give the possibility to state, municipal, educational, public sector, and other institutions to provide electronic services on national level.
- Creation of technical possibilities which will facilitate the provision of real-time multimedia services (voice, video conferences, TV broadcasting via broadband communication lines etc.) to users.
- Creation of possibilities to form virtual data transfer networks designed for various purposes.
- Possibility to attract more investment and partners to the region, promote cooperation between companies and state institutions, which will allow the companies working in the region to differentiate their business activities and wean off their dependency related to Ignalina Nuclear Power Station activities.
- The use of information technologies and telecommunications (ITT), creates better opportunities for knowledge economy development, manufacturing/production and export of goods and services produced by all sectors of economy, better opportunities to increase the competitiveness of goods and services of all industries of the economy.
- Development of broadband internet infrastructure creates possibilities to provide e-Services, reduce unemployment, retain highly qualified specialists, as well as develop distance learning and work.
- Possibility to use EU structural funds for the development of broadband communication infrastructure in peripheral/non-competitive territory of the country.
- Possibility to stimulate competition when providing internet access and other electronic communication services.
- Possibility to interconnect broadband communication networks, thus, ensuring high-bandwidth and secure data transfer services provided by public administration institutions and offices.

### 5.4. Threats

- Social differentiation increase due to differences in competence and ability to use ITT.
- Incompatibility of possible parallel ITT projects in progress.
- Project implementation may protract due to the lack of construction resources in Ignalina Nuclear Power Station Region.
- Increase in price of construction works.
- Limited financing possibilities.
- Low transfer level of services into electronic space.
- Unsolved ITT security problems.
- Insufficient competitive environment formation in broadband communication services market.

SWOT analysis indicates that Ignalina Nuclear Power Station region has enough possibilities to develop broadband internet structure which will have a strong positive impact on region's overall economic and social situation. Therefore, upon setting up the broadband computer network in rural areas, the most modern possibilities, which the internet provides, will be available to rural vicinities' residents, farmers, businessmen, communal organizations, schools, libraries, healthcare organizations, and all self-government and government institutions. Residents of rural areas will be able to save their time and money, which they waste when solving their matters at the offices of municipal, regional administrative units or institutions in the capital city and dealing with officials. Residents will be able to declare their land under crops, provide information regarding their cattle, pay taxes and even register for an appointment with their doctors without leaving their homes or sitting at public internet access points located at their elderships (local administrative unit). While at home or at an adjacent library, residents will be able to read electronic newspapers, visit on-line museums, conduct distance-learning courses, which they need to acquire new qualification or improve their current qualifications. People will be able not only to send and receive e-mails but also to spread information about their services and their products for sale. Moreover, people will be able to make useful contacts with residents of rural vicinities in other countries, who also use broadband internet, and share their experience on improving rural vicinities development works.

Strategy implementation goals:

- Establishing broadband communication infrastructure in Ignalina Nuclear Power Plant region;

- Creation of necessary electronic content and services;
- To achieve full-scale computer literacy tailored according to the education and professional activity in the Ignalina Nuclear Power Plant region;
- Influence social and economic development in the country.

In this Strategy were analyzed and evaluated these data transfer alternative in Visaginas industrial zone (VIZ):

- Data transfer by fiber cable;
- Fiber optics network and wireless network combination;
- Broadband wireless data transfer network.

**Table. Comparison of possible technical project implementation alternatives**

Type	Optical cable network	Optical cable + wireless connection network	Broadband wireless data transfer network
Connection of objects	All	All	All
Throughput, kbps, Mb	From 1000 Mbps	1000 Mbps (54 MbpsWiFi zone)	Up to 54 Mbps
Service provision, %, (how long the service will be available per month)	99,9%	99,9%	99,9%
Channel type	symmetrical	symmetrical	symmetrical
Average delay of packages in the network, ms	Up to 5 ms	Up to 5 ms	Up to 10 ms
Integration for new points	Depends on technical conditions	Simple	Depends on technical conditions
Implementation costs, Lt	0,94 mln.	1,12 mln.	0,7 mln.
Subscription fee per year, Lt	-	-	-

Upon analyzing technical alternatives in view of technical, qualitative and economical aspects, it is recommended to implement combined data transfer network in Visaginas industrial zone.

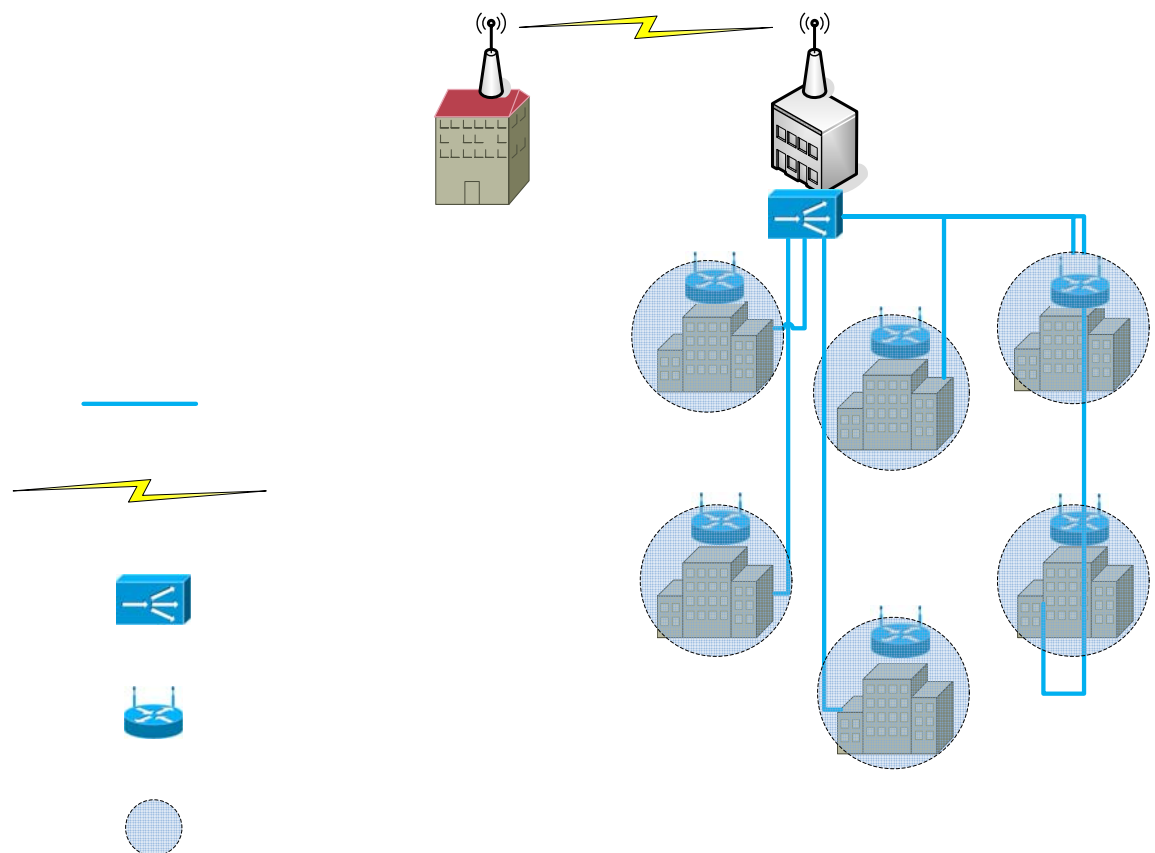
This technology allows using fiber optics lines and wireless technologies for WiFi zones solution. The technology in question has a lot of

advantages due to its large channel bandwidth, high network quality and long distances over which data can be transferred. Also there is a possibility to connect mobile users and set up public access points. However such decision has its own shortcomings.

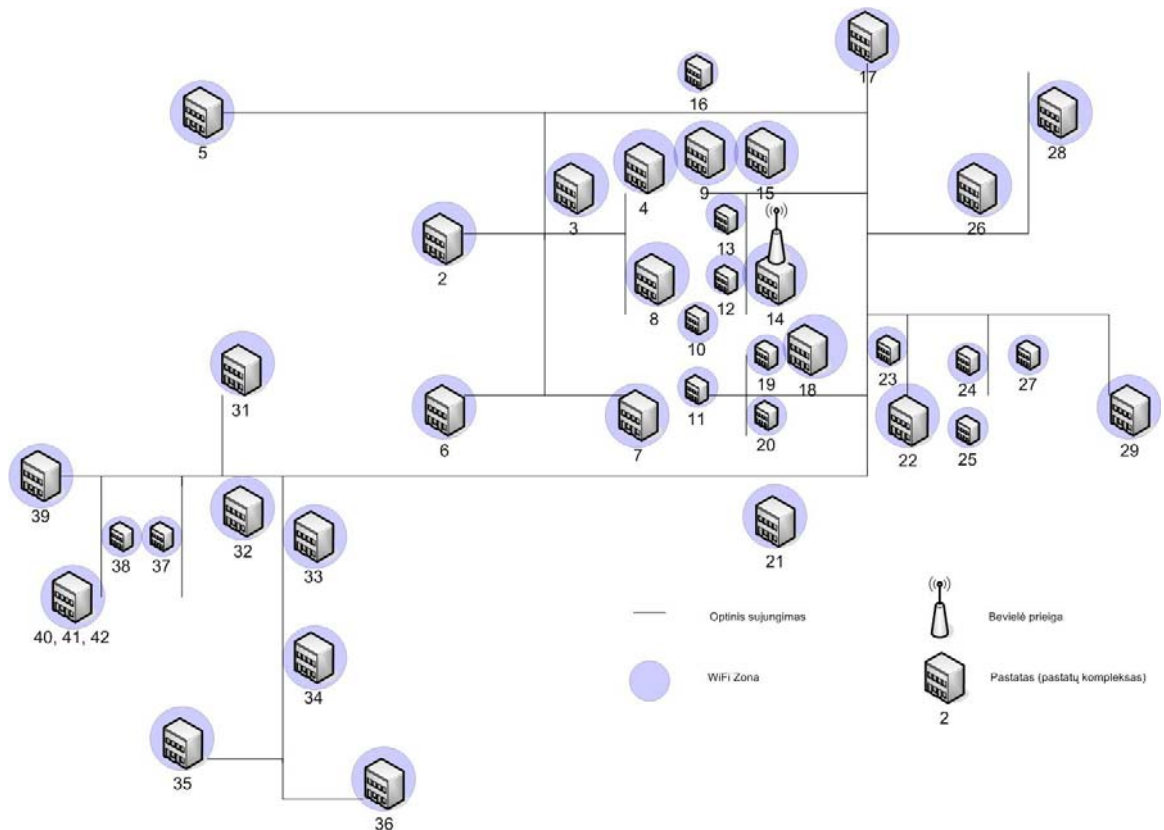
Fiber optics network and wireless network combination would be the most effective technology-wise for industrial zones.

Suggested technical realization consists of several stages:

1. To build a fiber optic lines to connect to each object in industrial zone
2. To establish local network in buildings and alternative WiFi connection, covering all industrial zone territory.
3. To install general switchboard and operating unit.
4. To select Internet services providers.



*Proposal of technical realization of combined network for Visaginas industrial zone*



*Possible scheme of fiber optics layout*

Realization of this Strategy is reflected in Strategy means plan.

In order to implement the in Strategy means plan mentioned goals it is necessary to develop ICT infrastructure, its content as well as the residents' competences. Well-developed ICT (information and communication technologies) infrastructure is the main precondition, which will enable the residents to take advantage of information society possibilities. However, such infrastructure will be of insignificant value in the event of failure to create and provide necessary electronic content and electronic services tailored to meet the needs of all residents of Lithuania, otherwise, the residents will not have necessary skills to use the said electronic services. Only by evenly expanding the above mentioned information society development trends it is possible to create modern information society, which is an educated and continually learning society, whose members base their activities on knowledge and new technologies.

**VISION, PRIORITIES, OBJECTIVES, TASKS OF BROADBAND INTERNET DEVELOPMENT IN IGNALINA NUCLEAR POWER PLANT REGION**

**6. Vision of broadband internet development in region**

**INPP region – attractive region for local and international business with advanced society and developed broadband internet infrastructure, favourable for attraction of investments.**

<b>Priority 1</b>	<b>DEVELOPMENT OF INTERNET INFRASTRUCTURE</b>	
	<b>Objective 1.1</b>	<p><b>Establishing of broadband communication infrastructure in Ignalina Nuclear Power Plant region</b></p> <p><b>Tasks:</b></p> <p>1.1.1. To establish broadband internet data network, which will connect all public institutions and organizations in Ignalina Nuclear Power Plant region;</p> <p>1.1.2. Creation of broadband internet infrastructure in rural territories that will provide the most favorable conditions for attracting private capital;</p> <p>1.1.3. Ensure establishment and operability of public internet access centers in honeypots: libraries, cultural centers, elderships (administrative areas), community centers etc. Ensure that nearest public internet access center used by rural residents is no further than 8-10 kilometers;</p> <p>1.1.4. Broadband network creation in Visaginas industrial zone.</p>

	<b>Objective 1.2</b>	<p><b>Development of broadband communication infrastructure in Ignalina Nuclear Power Plant region, by ensuring favourable conditions for investments and creation of comfortable business environment</b></p> <p><b>Tasks:</b></p> <p>1.2.1. Create the competitive environment between operators, providing broadband communication services;</p> <p>1.2.2. Develop information services for industry and business companies.</p> <p>1.2.3. Motivate residential enterprise, establishing conditions of jobs for workers at home, using broadband internet.</p>
<b>Priority 2</b>	<b>DEVELOPMENT OF FULL-SCALE COMPUTER LITERACY</b>	
	<b>Objective 2.1</b>	<p><b>Create the modern system of education in Ignalina Nuclear Power Plant region</b></p> <p><b>Tasks:</b></p> <p>2.1.1. Improve the material facilities, supplying by computers</p> <p>2.1.2. Increase computer literacy of pedagogue</p> <p>2.1.3. Motivate remote e-learning</p>
	<b>Objective 2.2</b>	<p><b>To motivate the creation of knowledge society</b></p> <p><b>Tasks:</b></p> <p>2.2.1. Ensure the competences of state, municipalities and public sector employees, which would match their education, professional activities and enable them to utilize information technologies;</p> <p>2.2.2. Improve computer literacy of residents.</p>
<b>Priority 3</b>	<b>DEVELOPMENT OF E.COMMUNITY AND E.GOVERMENT</b>	
	<b>Objective 3.1</b>	<p><b>Designing of necessary electronic content and services</b></p> <p><b>Tasks:</b></p> <p>3.1.1. Transfer of public services to electronic environment;</p> <p>3.1.2. Improve conditions for all Ignalina Nuclear Plant region residents and businesses so that they could effectively use modern ICT (Information and Communication Technologies) when communicating with governmental institutions; modernize the provision of services of public administration institutions of Lithuania as well as provision of public services by utilizing modern ICT;</p> <p>3.1.3. Improve public services accessibility both for residents and for business.</p>

**IGNALINA NUCLEAR PLANT REGION BROADBAND INTERNET DEVELOPMENT MEANS PLAN**

**1 Priority. DEVELOPMENT OF INTERNET INFRASTRUCTURE**

**1.1. Objective. Establishing of broadband communication infrastructure in Ignalina Nuclear Power Plant region**

**1.1.1. Task. To establish broadband internet data network, which will connect all public institutions and organizations in Ignalina Nuclear Power Plant region**

Mean	Achievement indicator	Achievement time	Executive institution	Source of finance			
				Municipality finance	Finance of National budget	EU funds, other foreign countries support	Private finance
1.1.1.1. Evaluate broadband communication needs of public institutions and organizations	Probability study of broadband communication needs of public institutions and organizations	2007	Ignalina Nuclear Power Plant (INPP) region municipalities	X			
	<u>Grounding:</u> Probability study has to evaluate demand of all public institutions and organizations, needs for network, services, resources (about 200 institutions, for every about 500 lt)						

1.1.1.2. Integrate to aggregate broadband data network all INPP region public institutions and organizations	All Ignalina district public institutions and organizations integrated to aggregate broadband data network	2007 – 2009	Ignalina district municipality	X		X	
	<u>Grounding:</u> for every 93 Ignalina district public institutions is planning about 5000 Lt.						
	All Zarasai district public institutions and organizations integrated to aggregate broadband data network	2007 – 2009	Zarasai district municipality	X			
	<u>Grounding:</u> for every 97 Zarasai district public institutions is planning about 5000 Lt.						
	All Visaginas city public institutions and organizations integrated to aggregate broadband data network	2007 – 2009	Visaginas municipality	X			
	<u>Grounding:</u> for every 35 Visaginas city public institutions is planning about 5000 Lt.						
		<b>Totally:</b>					

**1.1.2. Task. Creation of broadband internet infrastructure in rural territories that will provide the most favorable conditions for attracting private capital**

Mean	Achievement indicator	Achievement time	Executive institution	Source of finance			
				Municipality finance	Finance of National budget	EU funds, other foreign countries support	Private finance
1.1.2.1 Analyze the needs of seasonal settlements and foresee the creation of infrastructure which would satisfy users' needs	Probability study of broadband communication needs of seasonal settlements <u>Grounding</u> : Probability study will include determination, evaluation of settlements, their needs, technical possibilities, technical tasks, financial recourses.	2007	Ignalina Nuclear Power Plant (INPP) region municipalities, INPP Regional Development Agency	X			
	Providing electronical services in necessary localities. <u>Grounding</u> : price of 1 km of cable is about 30000 – 40000 Lt, installation of one unit – about 20000 Lt, for 20 territories are about totally 100 - 150 km.	2007 – 2009	Ignalina Nuclear Power Plant (INPP) region municipalities, INPP Regional Development Agency	X	X	SF	X

<p>1.1.2.2. Create broadband internet network in locations, which are outside the range of RAIN</p>	<p>Created broadband internet network locations, which are outside the range of RAIN (RAIN is only infrastructure without last mile. In those localities, where will be infrastructure, it will be without last mile. Commercial operators will have to establish access for about 20-25 percent of households. It is mostly likely are 7000x5000 Lt).</p>	<p>2007-1010</p>	<p>Ignalina Nuclear Power Plant (INPP) region municipalities, INPP Regional Development Agency</p>				<p>X</p>
<p>1.1.2.3. To participate in the INTEREG IIIB project "Baltic Rural Broadband project" as a partner</p>	<p>From Ignalina to Strigailiskis village will be throw the optical cable, in Strigailiskis will spread cable. Last year realization, possibility to use broadband internet, IP telephony and TV services.</p>	<p>2007</p>	<p>Ignalina distr. municipality</p>	<p>70</p>		<p>210</p>	<p>X</p>
		<p><b>Totally:</b></p>					

**1.1.3. Task. Ensure establishment and operability of public internet access centers in honeypots: libraries, cultural centers, elderships (administrative areas), community centers etc. Ensure that nearest public internet access center used by rural residents is no further than 8-10 kilometers**

Mean	Achievement indicator	Achievement time	Executive institution	Source of finance			
				Municipality finance	Finance of National budget	EU funds, other foreign countries support	Private finance
1.1.3.1. Assessing the needs of establishment of public internet access centers in honeypots: libraries, cultural centers, elderships (administrative areas), community centers etc.	Probability study of public internet access centers	2007	Ignalina Nuclear Power Plant (INPP) region municipalities	X			
	Created no less than 15 of public internet access centers in every municipality. <u>Grounding:</u> 2 centers, according market prices and practice, 1 venter – 50000-60000 Lt. In price is included installation of center (computers, furnitures, technique) and payments for internet services for 3 years.	2007 – 2009	Ignalina distr. municipality	X			
		2007 – 2009	Visaginas distr. Municipality	X			
		2007 – 2009	Zarasai distr. municipality	X			
		<b>Total:</b>					
		<b>Totally:</b>					

#### 1.1.4. Task. Broadband network creation in Visaginas industrial zone

Mean	Achievement indicator	Achievement time	Executive institution	Source of finance			
				Municipality finance	Finance of National budget	EU funds, other foreign countries support	Private finance
1.1.4.1. To throw optical lines to every object in Visaginas industrial zone	Threw optical lines to every object in Visaginas industrial zone	2007-2008	Visaginas municipality	X	X	X	X
1.1.4.2. To establish local network in buildings and alternative WiFi connection, covering all industrial zone territory.	Established local network in buildings and alternative WiFi connection, covering all industrial zone territory.	2007-2008	Visaginas municipality	X	X	X	X
1.1.4.3. Install general switchboard and operating unit.	Installed general switchboard and operating unit.	2007-2008	Visaginas municipality	X	X	X	
1.1.4.4. Select Internet services providers.	Selected Internet services providers	2007-2008	Visaginas municipality	X	X		
		<b>Totally:</b>					

**1.2. Object. Development of broadband communication infrastructure in Ignalina Nuclear Power Plant region, by ensuring favourable conditions for investments and creation of comfortable business environment**

**1.2.1. Task. Create the competitive environment between operators, providing broadband communication services**

Mean	Achievement indicator	Achievement time	Executive institution	Source of finance			
				Municipality finance	Finance of National budget	EU funds, other foreign countries support	Private finance
1.2.1.1. Means of RAIN project and his continuity, ensuring broadband internet network in INPP region rural territories	broadband internet network in INPP region rural territories with RAIN project assistance. (Preliminaries data according RAIN ir RAIN2 projects)	2007 – 2010	VšĮ „Placiajuostis internetas“		X	SF	
1.2.1.2. Information of broadband internet services providers about INPP region possibilities	No less than 3 broadband internet providers in INPP region. <u>Grounding:</u> information about possibilities, favourable conditions (conferences, press, local TV).	2007 – 2010	Ignalina Nuclear Power Plant (INPP) region municipalities	X			
		<b>Totally:</b>					

### 1.2.2. Task. Develop information services for industry and business companies

Mean	Achievement indicator	Achievement time	Executive institution	Source of finance			
				Municipality finance	Finance of National budget	EU funds, other foreign countries support	Private finance
1.2.2.1. Develop broadband internet services for business companies	Till year 2010 usage of broadband internet is about 85 percent of all INPP region business companies. <u>Grounding:</u> For municipalities – publicity, invitation. Information (10000-20000Lt), for business companies – real investments.	2007-2010	Ignalina Nuclear Power Plant (INPP) region municipalities	X			X
1.2.2.2. Develop information services	Consultations, seminars, created data basis, internet website creation, attracted investors, etc.; created united information system. <u>Grounding:</u> Inventoried data bases, servers, carried out plan to optimize DB, to foresee capacity, access to data, acquisition of content management system, etc.	2007-2009	Ignalina Business Information Centre	X		SF	
		2007-2009	Zarasai Business Information Centre	X		SF	
		2007-2010	INPP Region Business Incubator	X		SF	
			<b>Total:</b>				

**1.2.3. Task. Motivate residential enterprise, establishing conditions of jobs for workers at home, using broadband internet**

Mean	Achievement indicator	Achievement time	Executive institution	Source of finance			
				Municipality finance	Finance of National budget	EU funds, other foreign countries support	Private finance
1.2.3.1. Motivate accessibility of broadband internet services for households	Till year 2010 usage of broadband internet is about 50 percent of all INPP region households	2007-2010	Ignalina district municipality				X
			Households have to obtain computers				
		2007-2010	Zarasai district municipality				X
			Households have to obtain computers				
		2007-2010	Visaginas municipality				X
			Households have to obtain computers				
		<b>Total:</b>					
	By purchasing computer, 15 000 residents of INP region will exercise income-tax exemption	2007-2013	LR Government		X		

	Discount for acquisition of endusers equipment, needed for connection to broadband internet, for rural residents.	2007-2013	LR Government		X		
	<u>Grounding:</u> for 50 percent of all INPP region households (15312) for every is planning 500 lt.						
1.2.3.2. Motivation of youth enterprise	Paid charges for broadband internet services for new-established companies for 1 year from the moment of company establishing. <u>Grounding:</u> 150 Lt charges for internet/month per year 1800 Lt for 1 company. Foresee 50 new-established companies/year.	2007-2013	Ignalina Nuclear Power Plant (INPP) region municipalities	X			
		<b>Totally:</b>					

**2 Priority. DEVELOPMENT OF FULL-SCALE COMPUTER LITERACY**

**2.1. Object. Create the modern system of education in Ignalina Nuclear Power Plant region**

**2.1.1. Task. Improve the material facilities, supplying by computers**

Mean	Achievement indicator	Achievement time	Executive institution	Source of finance			
				Municipality finance	Finance of National budget	EU funds, other foreign countries support	Private finance
2.1.1.1. Computerize all education institutions	Prepared investment project in Ignalina district municipality	2007	Ignalina district municipality, SMM	X			
	All Ignalina district education institutions computerized, , obtained softwares, created data basis.	2007-2008	Ignalina district municipality, SMM			SF	
	<u>Grounding:</u> aquisition of 84 computers, softwares, server.						
	Prepared investment project in Zarasai district municipality	2007	Zarasai district municipality, SMM	X			
	All Zarasai district education institutions computerized, obtained softwares, created data basis.	2007-2008	Zarasai district municipality, SMM			SF	
	<u>Grounding:</u> aquisition of 67 computers, softwares, server.						

	Prepared investment project in Visaginas municipality	2007	Visaginas municipality, SMM	X			
	All Visaginas education institutions computerized, obtained softwares, created data basis.	2007-2008	Visaginas municipality, SMM			SF	
	<u>Grounding</u> : aquisition of 67 computers, softwares, server.						
		<b>Total:</b>					
		<b>Totally:</b>					

2.1.2. Task. Increase computer literacy of pedagogue

Mean	Achievement indicator	Achievement time	Executive institution	Source of finance			
				Municipality finance	Finance of National budget	EU funds, other foreign countries support	Private finance
2.1.2.1. Organize courses for pedagogue of computer literacy	Every year no less than 50 pedagogue per year pass computer literacy exams in INPP region (400 Lt per 1 pedagogue)	2007-2010	Ignalina district municipality, SMM		X	SF	
		2007-2010	Visaginas municipality, SMM		X	SF	
		2007-2010	Zarasai district municipality, SMM		X	SF	
		<b>Totally:</b>					

2.1.3. Task. Motivate remote e-learning

Mean	Achievement indicator	Achievement time	Executive institution	Source of finance			
				Municipality finance	Finance of National budget	EU funds, other foreign countries support	Private finance
2.1.3.1. Create remote e-learning system (Visaginas technical school)	Created remote e-learning system	2007-2009	Ignalina district municipality, SMM, schools			SF	
		<b>Totally:</b>					

**2.2. Objective. To motivate the creation of knowledge society**

**2.2.1. Task. Ensure the competences of state, municipalities and public sector employees, which would match their education, professional activities and enable them to utilize information technologies**

Mean	Achievement indicator	Achievement time	Executive institution	Source of finance			
				Municipality finance	Finance of National budget	EU funds, other foreign countries support	Private finance
2.2.1.1. Increasing of computer literacy of employees of public institutions	Ensure that no less than 50 state, municipality and public sector employees per	2007-2010	Ignalina district municipality	X			
		2007-2010	Zarasai district municipality	X			

	year would match their education, professional activities and enable them to utilize information technologies pursuant to the European Computer Driving License program approved by the Government of the Republic of Lithuania Decision No. 1176, dated September 15, 2005 (for 1 employee to set 1200 Lt)	2007-2010	Visaginas municipality	X			
		<b>Totally:</b>					

### 2.2.2. Task. Improve computer literacy of residents

Mean	Achievement indicator	Achievement time	Executive institution	Source of finance			
				Municipality finance	Finance of National budget	EU funds, other foreign countries support	Private finance
2.2.2.1. Increasing of computer literacy of residents of INPP	Ensure 85 percent of households obtain the European Computer Driving License program approved by the Government of the Republic of Lithuania Decision No. 1176, dated September 15, 2005 (for 1 resident to set 300 Lt)	2007-2013	Ignalina district municipality			SF	
		2007-2013	Zarasai district municipality			SF	
		2007-2013	Visaginas municipality			SF	
						SF	

		<b>Totally:</b>				
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### 3 Priority. DEVELOPMENT OF E.COMMUNITY AND E.GOVERNMENT

#### 3.1. Objective. Designing of necessary electronic content and services

##### 3.1.1. Task. Transfer of public services to electronic environment

Mean	Achievement indicator	Achievement time	Executive institution	Source of finance			
				Municipality finance	Finance of National budget	EU funds, other foreign countries support	Private finance
3.1.1.1. To evaluate the demand and possibilities of e.government services	Preparation of Probability study for e.government services	2007	Ignalina Nuclear Power Plant (INPP) region municipalities	X	X	SF	
3.1.1.2. Schedule the "electronic insertion" policies which would safeguard user-friendliness of technologies as well as their capability of conveying the content, providing services and providing the opportunities for Ignalina Nuclear Plant region subscribers to use information technologies with Lithuanian user interfaces.	Preparation policies and action plan	2007	Ignalina Nuclear Power Plant (INPP) region municipalities	X	X	SF	

3.1.1.3. To design of municipality e-services, so that residents could manage their business from home	Prepared e-services implementation plan	2007	Ignalina Nuclear Power Plant (INPP) region municipalities	X			
	Realization of E-services plan, transferring of 100 percent of public services to electronic form. Grounding: acquisition of platfor with necessary software and hardware, adaptation to real needs.	2007-2010	Ignalina Nuclear Power Plant (INPP) region municipalities	X	X	SF	
3.1.1.4. Modernization of information systems and registers' infrastructure, which would enable provision of public services based on "One Window" principle, by utilizing unified information infrastructure	Performed current situation analysis while taking into consideration the infrastructure's conformity to the strategic needs of Ignalina Nuclear Power Plant region and the state, prepared E-services launching plan.	2007	Ignalina Nuclear Power Plant (INPP) region municipalities	X			
	Provision of municipalities services based on „One Window: principle	2007-2010	Ignalina Nuclear Power Plant (INPP) region municipalities	X		SF	

<p>3.1.1.5. Transfer current cultural heritage material to electronic form; establish conditions under which users could have access to important information related to the culture of Lithuania, important historical and public events in Ignalina Nuclear Power Plant region pursuant to the Concept of Digitalization of Lithuanian Cultural Heritage approved by the Decree No. 933 (Žin. 2005. No. 105-3877) dated October 25, 2005 of the Government of the Republic of Lithuania.</p>	<p>Transferred current cultural heritage material to electronic form (it is not evaluated the amount of current material – sum is calculated roughly, it is possible to fulfil step by step, in every stage evaluating real needs).</p>	<p>2007-2013</p>	<p>Ignalina Nuclear Power Plant (INPP) region municipalities</p>	<p>X</p>	<p>X</p>	<p>SF</p>	
<p>3.1.1.6. Transfer E-Health services</p>	<p>Medical aid, medical diagnostic, remote consultations, registration of patients, records of illnesses and morbidities, other e-services (based on needs).</p>	<p>2007-2013</p>	<p>Ignalina Nuclear Power Plant (INPP) region municipalities, SAM</p>	<p>X</p>	<p>X</p>	<p>SF</p>	
<p>3.1.1.7. To create other e.government services and transfer them to electronical form (planning)</p>	<p>Creates other e.government services and transferred to electronical form (planning)</p>	<p>2007-2009</p>	<p>Ignalina Nuclear Power Plant (INPP) region municipalities, SAM</p>	<p>X</p>			
		<p><b>Totally:</b></p>					

**3.1.2. Task. Improve conditions for all Ignalina Nuclear Plant region residents and businesses so that they could effectively use modern ICT (Information and Communication Technologies) when communicating with governmental institutions; modernize the provision of services of public administration institutions of Lithuania as well as provision of public services by utilizing modern ICT**

Mean	Achievement indicator	Achievement time	Executive institution	Source of finance				
				Municipality finance	Finance of Nacional budget	EU fonds, other foreign countries support	Private finance	
3.1.2.1. To obtain friendly platform, needed for implementation of e.government and service providing.	Obtained friendly platform, needed for implementation of e.government and service providing.	2007	Ignalina Nuclear Power Plant (INPP) region municipalities, SAM	X				
3.1.2.2. Acquisition of videoconference equipment which could ensure communication between residents and self-government institutions, so that the residents would not have to travel to larger regional centers., conditions to provide Multimedia	Preparation of probability study to name e-Government problems, needs for services	2007	Ignalina district municipality	X		SF		
		2007	Zarasai district municipality	X		SF		
		2007	Visaginas municipality	X		SF		
		<b>Total:</b>						
	Acquisition of videoconference equipment which could ensure communication	2007	Ignalina district municipality				SF	
		2007	Zarasai district municipality				SF	

services to users on-line (voice, videoconference, TV broadcasting by broadband connection lines, etc.).	between residents and self-government institutions, so that the residents would not have to travel to larger regional centers., conditions to provide Multimedia services to users on-line (voice, videoconference, TV broadcasting by broadband connection lines, etc.).	2007	Visaginas municipality			SF	
		<b>Total:</b>					
3.1.2.3. Establish wireless zones in Ignalina, Zarasai district and Visaginas municipalities	Established wireless zones in Ignalina, Zarasai district and Visaginas municipalities	2007	Ignalina district municipality			SF	
		2007	Zarasai district municipality			SF	
		2007	Visaginas municipality			SF	
		<b>Total:</b>					
3.1.2.4. To creat attractive system of taxes for using of e.government services, which would motivate to use more e.government services.	Created attractive system of taxes for using of e.government services, which would motivate to use more e.government services.	2007	Ignalina Nuclear Power Plant (INPP) region municipalities, SAM	X			
3.1.2.5. To establish of public internet access centers in the premises of communities	Established public internet access centers in the premises of communities	2007-2009	Ignalina Nuclear Power Plant (INPP) region municipalities, SAM	X			

3.1.2.6. Publicity of E.government services	Publiced e.government services	2007-2009	Ignalina Nuclear Power Plant (INPP) region municipalities, SAM	X			
		<b>Totally:</b>					

### 3.1.3. Kelti viešųjų paslaugų prieinamumą tiek gyventojams, tiek verslui

Mean	Achievement indicator	Achievement time	Executive institution	Source of finance			
				Municipality finance	Finance of Nacional budget	EU funds, other foreign countries support	Private finance
3.1.3.1. Ensure competent social promotion, while providing public E-services for residents	Social promotion for residents	2007-2013	Ignalina Nuclear Power Plant (INPP) region municipalities	X		X	

Abbreviations:

SMM – Ministry of Education and Science of The Republic of Lithuania

SAM - Ministry of Health of The Republic of Lithuania

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