

**Investment Project – Medical Facility**  
**SANATORIUM and Integrated Senior Home Kechnec**  
**Feasibility Study**



***Motto:***

***Maintaining and improving public health is the best investment for a strong economy and satisfied society. Health contributes to productivity, economic development and competitiveness of regions.***

**October 2013**

## 1. Basic orientation of the investment project

Construction of medical facility of the SANATORIUM and of the integrated Senior Home in Kechnec is designed as a multipurpose facility for providing medical and social services to residents of the municipality of Kechnec and of the adjacent catchment area, including the city of Košice. It will serve for ensuring high-quality health care to citizens, which will be extended by the integrated function of the Senior Home. The project proposes the health centre as a set of existing and new buildings with functions: clinic with outpatients' departments, hospital, rehabilitation and Senior Home. The project aims to provide a comprehensive range of services starting from the provision of basic health care, provided by the already existing premises of the clinic, to special care in geriatrics, rehabilitation, post-operative care and nursing of long-term care patients.

### 1.1 Basic characteristics of the region in terms of socio-economic development

Adequate medical infrastructure, health services and healthy living conditions are essential criteria taken into consideration by everyone, when he is deciding whether in a given region there are appropriate opportunities for life. A region, where population has been provided conditions for good health is at the same time in better position to become attractive in terms of available human resources also for new investors. This also ensures the development of the region.

The state of health of the population of the Košice Region – similarly to the situation in the Slovak Republic as a whole and in any other country – reflects the social, economic and cultural level of the people and of the society. At the end of 2009, Košice Region had 778,120 inhabitants. The population of the region is slightly increasing due to natural population growth. In 2009, the population growth of the region calculated per 1000 persons (after taking into account the natural increase and migration) reached 3.56 ‰ (The Slovak Republic as a whole: 1.53 ‰). Košice Region, in comparison with other regions, has a slightly more favourable age structure of the population, due to population in pre-productive age (0-14 years). In 2009, the vitality index of the population was at the level of 164.13 and the aging index reached the value of 64.04.

Life expectancy of men and women in the districts of this region is shown in more detail in the following table, which shows that the districts with significantly lower life expectancy for men include Trebišov, Sobrance, Rožňava, Gelnica and Košice-Surroundings. Differences in life expectancy of women between different districts of the Slovak Republic are not as pronounced as in the case of men. In spite of that, similarly to the case of men, as many as five districts of this region are below the standard deviation. These districts are: Trebišov, Gelnica, Košice-Surroundings, Košice IV and Michalovce. The above-mentioned review is also shown in the following table:

Table № 1

District	Men	Women
Gelnica	67,7	76,25
Košice I	72,03	79,26
Košice II	71,42	78,42
Košice III	71,41	77,17
Košice IV	69,28	76,42
Košice-Surroundings	68,12	76,84
Michalovce	69,04	76,85
Rožňava	67,59	76,94
Sobrance	67,35	78,09
Spišská Nová Ves	70,36	77,54
Trebišov	66,51	75,91
<b>Košice Region</b>	<b>69,22</b>	<b>77,39</b>
<b>Slovak Republic</b>	<b>70,4</b>	<b>78,2</b>

*x) Source of the data: The Program of economic and social development of the Košice Region*

Based on these data, future strategic plans concerning the nature of future investment in the region should also reflect these facts; especially the infrastructure in the health sector, in expanding health services and creating healthy living conditions for all population groups. Ensuring health development (promotion and health protection, disease prevention) is therefore a fundamental task for all levels – national, regional and local. This motive was essential in the decision-making process of the Municipality of Kechnec to build the medical facility SANATORIUM and integrated Senior Home in Kechnec.

When evaluating the competitiveness, it can be concluded that the largest provider of health services and social services is the Košice Self-Governing Region, which is the founder of 14 public facilities providing social services with a total capacity of 1,973 places. This number includes 10 homes of social services (retirement homes), 5 combined facilities (facilities for senior citizens, homes of social services, specialized facilities, facilities of supported housing) and 1 crisis intervention centre. They are the following facilities:

Table № 1

<b>Name and seat of the facility</b>	<b>Capacity</b>
- Amalia – Home of social services, Rožňava	25 places
- Anima – Home of social services, Michalovce	30 places
- Arcus – Specialized facility, facility for seniors, Košice	200 places
- Domko – Home of social services, Košice	60 places
- Harmonia – Home of social services and supported housing, Strážske	124 places
- Idea – Home of social services, Prakovce	132 places
- Jasanima – Home of social services, Rožňava	83 places
- Lidwina – Home of social services, Strážske	90 places
- Lúč – Home of social services, Šemša	200 places
- Lumen – Specialized facility, facility for seniors	220 places
- Ondava – Home of social services, Rakovec nad Ondavou	130 places
- Crisis intervention centre, Košice	73 places
- Subsidiium – Specialised facilities and home of social services, Rožňava	160 places
- Via Lux – Home of social services, Košice-Barca	290 places
- Home of social services, Kráľovce	55 places

The overview shows that in terms of competitiveness of the new facility in Kechnec the most important competitors are the homes of social services providing services for seniors and specialized services in the city of Košice and its nearest surroundings. They include the facilities Arcus, Domko and Via Lux with total capacity of 550 places. Considering the waiting time, which in Košice is approximately from 6 months to 1 year, the newly built facility could expand the scope of services and improve them due to the widespread nature of the services provided in the sphere of medical and rehabilitative care. In view of the broad nature of the projected medical facility of the SANATORIUM Kechnec, which in addition to social services for seniors will be providing health services, including special health services (diagnostics, surgery, rehabilitation), it can be stated that its nature of provided services is superior to the existing, narrowly specialized facilities in the region.

## 1.2 Brief characteristics of the built-up area

The plots, on which the already existing buildings of the clinic and the future investment of the SANATORIUM and of the integrated Senior Home are located, are situated in the outskirts of Kechnec, in the neighbourhood of the municipality of Seňa. The planning area of the project is located in the built-up urban area of Kechnec, while at the northern side its boundary is the existing local access road connected to the international road from Košice to Hungary. At the northern part of the area is located the already partially used two-storey building of the clinic with a parking with 40 parking spaces. The construction object passes into the shell construction of the five-storey hospital building, including the construction object of the boiler room for health centre and the hospital. The ground of the area is shaped, flat and grassy. The entire property is fenced. The property rights of the entire building plot have been legally settled, the plots are in the ownership of the municipality, registered under plot № 27/182 in the cadastral territory of Kechnec, on which the already functional health centre (SO 1) and the unfinished portion (SO 2) are built up (SO = construction object). The plots are registered in the certificate of title № 901. The book value of the land under SO 1, including the unfinished part of the building, amounts to € 1 493 225.62 and the book value of the land and of the construction object SO 2 already in operation amounts to € 1 422 288.55. The total book value of the land and of the two buildings under construction represents € 2 915 514.17.

In comparison to the book value of the buildings under construction and of the land under both of the construction objects recorded in the accounts of the municipality, it can be stated that the present value of these objects taken into consideration the updated construction budget (Annex № 3), is significantly higher. The reason is mainly the large time gap since the implementation of the construction objects SO 01 and SO 02 (years 1996 and 2004). The real value of the cost for building and land, which is considered in the current budgeted cost of this investment, is further influenced by the following factors:

- |                                                                                                                        |                      |
|------------------------------------------------------------------------------------------------------------------------|----------------------|
| • the index of construction works since the year 2002 represents increasing their value at the end of the year 2013 to | 1.313<br>€ 1 961 262 |
| • the value of land (11 159 m <sup>2</sup> originally categorized as arable land) is increased about 1.3 times to      | € 1 941 194          |
| • the price of project documentation and of the investment activity after recalculation by using the index             | € 182 566            |

The real value of the land and of the buildings can be accurately determined only on the basis of an expert opinion, taking into consideration the current market value of the land and real assessment of the buildings.

## 1.3 Current state of solution

At present, there are two construction objects on the built-up plot:

- **SO 01 Clinic** – (outpatients' departments) – partly in operation since 1996.
- **SO 02 Main Building** – (inpatient unit) – under construction since 2004.

The construction object SO 01 is functionally divided into two parts – the outpatients' departments and the hospital inpatient unit, including the operational tract, although the operational tract has not been put into operation. The original project envisaged the connection of the two construction objects. The construction object SO 02 consists of a supporting wall system and of the external cladding. A common tract connects both construction objects.

## 1.4 Proposed state

Due to the gradual development of requirements concerning the operation of the facility since the time of origination of both projects, an updated proposal addresses a change in the original concept. By linking these objects, an integrated compact unit arises, which combines the reconstructed part of the originally built construction object with the newly built parts. These are interconnected in terms of purpose and architecture. From the foyer with the reception desk the wing with outpatients' departments will be accessible. The project retains the outpatients' section (SO 1) at the original spot, envisaging that during the implementation of the project the external cladding and the roof will be reconstructed. The centre of the first floor will consist of the diagnostic part, equally accessible from the foyer and from the emergency reception. This section will include units such as MRI, CT, X-ray, mammography and central sonography. In the western part of the building plot is proposed a new wing accessible from the foyer through a new bridging. The new wing will include an indoor garden for receiving visitors for the elderly and for rehabilitation, containing wet and dry process. At the southern part the emergency ward, manufacturing of drugs, the intensive care unit and the operating tract are envisaged.

Inpatient unit – The hospital is located on the second floor of the construction object SO 02 – main building. It comprises the entrance hall, the diagnostics department, the intensive care unit, the inpatient unit of the hospital and the senior home, the dining room, the kitchen and the facilities for the hospital section. The rooms for the management and administration of the entire building are situated here. The third to fifth floors are designed homes for the senior home with complete healthcare. The technological equipment is located in the basement along with the laundry, the kitchen and the cloakroom for the staff. The basement is accessible through access ways. From operational point of view, the individual functional units are interconnected by separate lines of communication. The project takes into account the requirements for wheelchair accessibility. For this purpose new elevators, ramps, restrooms, modifications of existing premises and structures have been designed.

The architectural and visual design is based on the latest trends in the operation of this typological sort and combines the existing and new buildings in terms of materials and of visual design.

## 1.5 Basic functional content and capacities of the facility

In terms of the use of the basic functions of the facility under the original and the updated plan, its capacities can be divided into these basic categories:

### Capacities of the inpatient unit:

- **specialized medical facility (hospice, long-stay patients' department, day case surgery)** **33 beds**
- **senior home** **108 beds**
  - out of this: special care for persons with the highest degree of reliance** **40 beds**

### Capacities of the inpatient unit in total: **141 beds**

- **Visitors**
  - **estimated daily capacity** **192 persons**
- **Staff:**
  - **management/administration of the facility** **7 persons**
  - **healthcare professionals** **90 persons**
  - **auxiliary service staff** **8 persons**
  - **additional services** **18 persons**

**Staff total:****115 persons**

In addition to those basic social and health services in the context of integrated services for seniors, it is envisaged to set up nursing services that will be developed under the current legislative options and needs, according to customer demand.

Depending on the functional content of the facility and on the above-mentioned scope of services, the options of ensuring financial resources, i. e. covering of the economically eligible costs associated with the provision of appropriate and specialized medical services will be determined. The sources providing appropriate financial reimbursement of eligible costs under the Social Services Act № 448/2008 Coll. of Laws., within the meaning of later amendments, can be:

- resources of the state and/or of the regional authorities	320 – 330 €/month
- contribution from the client	380 – 500 €/month
- resources of the health insurance company	according to actually provided medical services
- resources of the municipality	approx. 230 €/month
- other resources (health insurance company + client) for above-standard medical and rehabilitation services	according to actually realized outputs

The above-mentioned resource options are considered in terms of the scope of applicable legislation. In the case of forthcoming legislative changes (in 2014 and 2015), the individual resources may differ from the contemplated values, especially contributions from the state (Ministry of Health, Ministry of Labour, Social Affairs and Family). Provision of above-standard special performances and services – particularly in the field of rehabilitation and health services – may also be reflected in a higher contribution from clients.

The Ministry of Labour, Social Affairs and Family of the Slovak Republic has worked out a program with the aim of supporting the creation of new jobs (National Project: Support of creating new jobs – XXI/§ 54). Local self-governments of municipalities can apply for financial support from this program. It is realistic to expect that in the framework of this program financial support will be obtained to the income side of the budget of the project and/or of the municipality. It will be an amount corresponding to the conditions of that support, however no more than € 456.54 per one job created for one month. It is also possible to apply for other forms of support (§ 50 – support for disadvantaged workers, for long-term unemployed and/or for unemployed with low level of education). Due to the fact that applications for financial support may be submitted about 1 to 2 months prior to the emergence of a real job, and given the relatively rapidly changing legislation in this sphere, no specific amount of income can be stated here as of now. However, this project will create 115 new jobs, creating real conditions for financial support from the Office of Labour, Social Affairs and Family, which may favourably influence the income side of the budget of the project and thus the whole economy of the project.



Slovenský text	Nemecký preklad	Slovenský text	Nemecký preklad
Mesiac	Month	Výkon	Performance
Príprava staveniska	Site preparation	Zemné práce	Earth movement
Základy pre nové objekty a prístavby	Foundations for new construction objects and annex buildings	SO 02 Hlavná budova	SO 02 Main building
Vysprávka povrchov – búracie práce	Overhauling of surfaces – demolition work	SO 16 Prístavba lôžkovej časti	SO 16 Annex building of the inpatient unit
PSV = Pomocná stavebná výroba	Auxiliary building construction	HSV = Hlavná stavebná výroba	Main building construction
SO 18 Spojovacia lávka a výtah	SO 18 Gangway and lift	SO 17 Rehabilitácie	SO 17 Rehabilitations
Rekonštrukcia prípojok	Reconstruction of connections	SO 19 Svahové oporné konštrukcie	SO 19 Support structures of embankment
Terénne a sadové úpravy	Ground shaping and organic landscaping	Ostatné stavebné objekty	Other construction objects
Kolaudácia	Final inspection		

On this basis, we propose to divide the loan for the implementation of the construction project into four basic tranches (portions), as indicated in the following table. Another individual credit tranche, which is not so exactly determined, would be intended for financing of medical technology and of furniture, serving for the inpatient unit. Its value is so far based on the indicative budget of the estimated cost specified by the designer. This portion of the drawn loans can be further specified only when the public tender for selection of an appropriate operator of the facility, based on exact specification of requirements, is terminated.

#### Drawing the credit in individual tranches

Table № 2

Tranche №	Purpose	Budget costs	Scheduled dates of credit drawing
1.	Site preparation, earth movement, overhauling of surfaces, foundations of construction objects	4 471	032014-062014
2.	Auxiliary building construction + Main building construction: construction objects SO 02, SO 016, SO 017	3 000	062014-092014
3.	Auxiliary building construction + Main building construction: other construction objects	1 898	102014-122014
4.	Auxiliary building construction + Main building construction: other construction objects	2 317	012015-042015
5.	AD, TD, SD, IČ	102	032014-052015
	<b>Building construction in total</b>	<b>11 788</b>	
	Technological equipment	4 200	032015-052015
	<b>Grand total:</b>	<b>15 988</b>	

*Note: The total value of the construction objects and of the technological equipment, including furniture, is higher by € 988 000 than the required amount of credit resources. However, that amount will be strictly limited by the extent of the required loan of € 15 million, in view of the realistic possibility of reducing costs within the public tender procedure and/or of the requirement of the investor for participation of the operator in the project costs, or following a more detailed specification of medical technology by the operator.*

The choice of a general contractor of the construction is not known yet, since the process of public tender has not started yet. The object of the public tender, pursuant to the Decree on Public Procurement Act № 25/2006 Coll. of Laws, within the meaning of later amendments, will be construction works on the completion of the construction object and also the supplies of medical equipment and of furniture. Currently, only the author's supervision and technical supervision is known, which will be exercised by ACREA Ltd., which is also the author of the architectural studies and of a part of the design documentation of the building.

## 2. Economic evaluation of the project

The assessment of the economic efficiency of the project is prepared on the basis of available data, which were updated primarily in the sphere of the investment costs necessary for completion of the project. In view of the significant time span between the current scope of the built-up part of the investment (Clinic in 1996) and the currently updated project, prepared in February 2013, aimed at the completion of the whole investment, the costs of this investment incurred so far are given only approximately and will be updated and specified more accurately by an expert opinion:

- € 4 041 667      VAT excluded
- € 4 850 000      VAT included

On the basis of the volume of costs incurred so far for the investment and of the capital required for its completion, it can be stated that the **current budgeted costs calculated for completion of this investment** (Annex № 1) are somewhat advantaged due to the fact that they do not include the current value of land and of the construction objects under construction, which are recorded in total book value of € 2915 514.17, and the indexed value of construction works and the like (according to substantiation in Section 1.2). However, on the other hand, the current construction budget prepared in February 2013, aimed at the completion of the investment, still needs to be supplemented by the operating costs of the construction work, which represent about 20 % of the total costs of the project. Under these assumptions, the investment costs of the project taken into consideration in the construction budget, should be expanded by the amount of the operating costs, which are specified in the Annex № 2 to budget, as follows

The total cost of the investment in the updated construction budget:

- investment costs, VAT excluded:                      € 9 738 180
- investment costs, VAT included:                      € 11 685 816

The estimated amount of operating costs necessary to complete the construction includes:

- medical technological equipment,  
including furniture, VAT excluded                      € 3 500 000
- technological equipment, VAT included              € 4 200 000

Other operating costs – author's supervision and technical supervision, construction supervision, cost of the tender, project management and engineering activity, are considered at total amount of € 85 500, excluding VAT and € 102 600, including VAT. The estimated volume of the cost of technological equipment will be specified after the determination of the definitive scope of health services, which is currently underway with individual health insurance companies. Equally important will be the selection of a strategic partner for ensuring the future operation of the facility, from whom will depend the scope and the specification of the services provided. This selection of the scope of services and their focus will be known only after completion of the tender aimed at the selection of the best proposal under the Public Procurement Act № 25/2006, Coll. of Laws, within the meaning of later amendments.

## 2.1 Calculation of economically eligible costs

For this calculation we have used the actual costs incurred for projects of a similar nature and the specific energy consumption projected in the part dealing with power supply of the project of the medical facility SANATORIUM and integrated senior home Kechnec, using the calculations of the advanced payments for the Slovak Gas Company (SPP) and for the East Slovakian Power Company (VSE). Other expenses (bank interest and fees) are based on the estimated cost of long-term investment loans and on variation of interest rates at the inter-bank market. The economically eligible (justifiable) costs per one month, based on expected calculations, amount to € 194 661 in total.

The overview of the total costs of the project during the period of the planned life of the investment is given in Annex № 4.

### **Economically eligible costs and expected revenues of the medical facility Sanatorium and Integrated Senior Home Kechnec**

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Revenues/month	
Number of clients	141
Revenue of pensions, approx.: 380x70	26 600,00 €
Above-standard: 38x500	19 000,00 €
Revenue from the state: 108x330	35 640,00 €
Revenue from the Municipality: 230x108	24 840,00 €
Revenue from the Ministry of Labour, Social Affairs and Family: 330x40	13 200,00 €
Revenue from the health insurance company – ZS	46 000,00 €
RS	7 613,00 €
Charges from daily clients	28 800,00 €
Revenue from sponsors	1 500,00 €
Revenue from the Municipality for credit repayment	
<b>Total revenues</b>	<b>203 193,00 €</b>

Expenditures	
Wages – 115 employees x 600,- €	69 000 €
Levies	24 300 €
Electric power	11 689 €
Water	338 €
Gas – heating, cooking	5 650 €
Municipal and hazardous waste	183 €

Insurance	113 €
Phones	451 €
Laundry	902 €
Meals 4,- € x 141	16 920 €
Lift	98 €
Protection of health and safety at work	28 €
Digital TV	42 €
Maintenance of buildings and of equipment	325 €
Rodent extermination	20 €
Cleaning agents	395 €
Clothing of employees	1 150 €
Fuel and lubricants	503 €
Repairs and maintenance of vehicles	70 €
depreciation of buildings	44 412 €
of equipment	17 508 €
Insurance of vehicles	304 €
Postage	120 €
Magazines	20 €
Training of employees	100 €
Representation expenses and advertising	20 €
<b>Total expenditures</b>	<b>194 661 €</b>

<b>Difference</b>	<b>8 532 €</b>
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The most important item of the expenditures is the cost of providing credit resources (interest) and of the repayment of the principal amount. According to the investment plan, the recipient of the loan will be the municipality, which assumes that the investment will remain in the property of the municipality, although the municipality itself will not operate it. In view of this objective, it is essential that the municipality as an investor and future owner should be involved in the repayment of the long-term investment loan. The preliminary calculation of the annuity repayment of interest and of the principal amount is given in Annex № 3. The volume of interest costs for drawing the long-term investment credit was calculated by assuming the interest rate of 3.0 % p. a. This interest, however, will be ultimately determined by the lender/the bank, after the overall assessment of the economic efficiency of the investment, of the creditworthiness of the borrower and of the overall reinsurance of the credit. According to preliminary calculation, the cost of providing credit resources and of their repayment will be approximately € 103 587 per month.

Based on this consideration, the repayment of the principal amount and of interest will be reflected in the municipal budget, and that in the current budget of the municipality prepared for the years 2013 to 2015 (Annex № 3) and then in the budget for the next budget period, until full repayment of the loan. The annual volume generated in the budget of the municipality for each year will be € 500 000 per year, monthly about € 41 666. The remainder of the cost of repayment of the principal amount and of interest will be taken into consideration within the economically

eligible (justified) costs of the project, specifically those generated from depreciation in the amount of € 61 920 per month.

The energy costs comprise:

• consumption of electric power	1 520 kWh/year
• power of the cogeneration unit	441 kWh/year
• reduced output power	1 079 kWh/year
• consumption of gas	178 800 m <sup>3</sup> /year
• output power of the cogeneration unit	76 800 m <sup>3</sup> /year
<b>annual output power after conversion to MWh</b>	<b>718 MWh/year</b>

The total value of energy consumed (electricity + gas), in financial expression, amounts to € 17 339 per year.

Other cost items were calculated by comparing the costs in facilities of a similar nature in Slovakia and in the region.

## 2.2 Calculation of expected revenues

The medical facility SANATORIUM and integrated Senior Home will provide various social services, which will make their financing also structured from multiple sources, which according to the Law on social services № 448/2008 may be claimed for the provided social and health services. Specifically, they are revenues, and/or contributions for the following services:

- **Provision of social services for seniors**

The project envisages the provision of standard social services for 68 recipients of social services. Financing of economically eligible (justified) costs is intended primarily from contributions from clients in the range of € 350 to € 380 per month and from a contribution received from the Ministry of Labour, Social Affairs and Family in the amount of € 320 per month. The maximum value of the standard contribution of the clients will represent € 700 per month.

In view of the options and of the extent of services considered in the project (air-conditioned rooms, rehabilitation options, etc.), it is possible also to consider an increase of contribution from the clients up to € 500 per month, which will take into account the extent of any above-standard services. These services can be provided to the clients within the scope of individual requirements.

- **Specialized medical services**

The facility can also provide services for seniors, including psychiatric diagnoses for 40 persons with the highest degree of reliance V. and VI., within the meaning of the Annex № 5 to the Act № 448/2008 Coll. of laws. The contribution for providing psychiatric diagnoses to seniors may be provided by the Ministry of Labour, Social Affairs and Family in an average amount of € 330 per month, the contribution from the clients is considered in the amount of € 380 per month.

- **Medical inpatient facility**

The basic project proposal envisages the provision of standard medical services, as it is considering an inpatient unit with equipment for the provision of comprehensive health care. Under this plan it is also possible to provide specialized services, such as day surgery, hospice and the like. The project envisages a capacity for 40 clients. The eligible expenses will be covered by the respective health insurance company, in the extent of services that will be specified in the decisions on issuing a license for performing professional activities.

The project also addresses the interconnection of the various functional units from the internal part – emergency reception, diagnostics – to specialized departments, such as operation tract, in-

patients' unit, preparation of medicines, technological facilities of the hospital and the like. A realistic amount of revenues paid by the health insurance companies, however, can be confirmed only after the final conclusion of contracts for the provision of health care for the relevant year.

- **Rehabilitative health services**

Providing rehabilitation health services will be above standard. It will be located in a new ground floor block with one overhead floor and partly also underground floor. For providing medical rehabilitation services, individual outpatients' departments, swimming pools and the indoor garden will be used. Also in this case a realistic amount of revenues paid by the health insurance companies can be confirmed only after the final conclusion of contracts for the provision of health care for the relevant year. However, the project also envisages rehabilitation services paid by external day case patients, who will be interested in using the services offered as self-paying patients.

The total monthly volume of revenue consisting of the above-mentioned options of resources is shown as a detailed breakdown of revenue in Table № 3 and it **could reach a value of approximately € 203 193 per month**. The estimated start-up to full designed capacity of the project is envisaged after the third year of operation

The difference between the economically eligible (justified) costs and expected revenues thus represents **€ 8 532 per month, which in annual terms can reach the value of € 102 384**.

### **3 Assessment of effectiveness of the project and calculation of selected indicators of economic efficiency**

The choice of indicators for assessment of economic efficiency of the project is built on basic criterial indicators reflecting the particular options of resources for financing of the project – in this case they are repayable sources of financing in the form of long-term investment loan – i.e. borrowed funds and own funds of the municipality (depreciations, contribution of the municipality to financing of the investment process and of the operation of the completed project). On this basis, we have selected the indicators, which reflect the informative value of the above-mentioned facts. Due to the basic purpose of the project, which is provision of social and health services, it has to be emphasized that the income part of the budgeted cash flow is dependent on several factors that may significantly affect its development. This particularly applies for the impact of possible legislative changes arising from previously existing laws on social services and contractual terms of health insurance companies confirming the amount of reimbursed performance of health services.

Based on the assessment of relevance of individual indicators for evaluation of this investment, the following indicators have been selected:

- **Cash flow of the project**
- **Cumulated cash flow**
- **Payback period of investment**
- **Internal rate of return**

### 3.1 Cash flow of the project

The basis for assessing the financial stability of the project is the cash flow, based on the envisaged financing structure, which includes operating, investing and financing cash flow. Its purpose is to determine whether the revenues generated by the project are sufficient to cover all project costs, including the cost of borrowed capital used for financing the project. The cash flow of the project calculated for the planned time span of repayment of credit resources (15 years) and for the total project life (30 years), is shown in Annex № 5 to this document.

#### Cash flow of the project

Table № 4

	1	2	3	4	5	6	7	8
<i>EBITDA</i>	477 846	698 837	847 124	847 124	845 424	845 424	845 424	845 424
<i>Depreciation (-)</i>	750 114	750 114	750 114	750 114	750 114	750 114	750 114	750 114
<i>EBIT</i>	-272 268	-51 277	97 010	97 010	95 310	95 310	95 310	95 310
<i>EBIT.(1-T)</i>	-272 268	-51 277	74 698	74 698	73 389	73 389	73 389	73 389
<i>Depreciation (+)</i>	750 114	750 114	750 114	750 114	750 114	750 114	750 114	750 114
<b>Free CF</b>	477 846	698 837	824 812	824 812	823 503	823 503	823 503	823 503

From the shortened selection of cash flows in the time span from the first to eighth year of operation of the facility it is clear that in the case of start-up to full capacity of the project, this project will generate average free cash flow over the life of the project in the amount of € 715 253. Free cash flow will cover the resources needed to repay credit resources up to about 73.5% of the required amount. The remaining need for coverage – about € 500 000 per annum, is provided by the municipality within its budget. The budget projected for the period of years 2013 to 2015 is shown in Annex № 6). The above mentioned resources of covering (revenues and contribution of the municipality) thus will ensure the repayment of the full amount required for the payment of principal amount and of interest – € 1 243 047 at 3% interest rate per annum. The prepared project budget of the municipality, including taking out of a long-term investment loan, however, needs to be approved by the Municipal Council.

### 3.2 Cumulated cash flow

In evaluating the investment in terms of payback period, we have calculated the cumulative cash flow for each year of the project life (30 years). The cumulative cash flows at the same time reflect the payback time of the investment. From this perspective, the project is repayable after the 15<sup>th</sup> year of life of the project, assuming uniformly achieved performances:

## Cumulated cash flow

Table № 5

	Free CF	Cumulated CF	Cumulated CF (with contribution of the municipality)
1	477 846	-18 167 857	-17 667 857
2	698 837	-17 469 020	-16 469 020
3	824 812	-16 644 209	-15 144 209
4	824 812	-15 819 397	-13 819 397
5	823 503	-14 995 894	-12 495 894
6	823 503	-14 172 391	-11 172 391
7	823 503	-13 348 889	-9 848 889
8	823 503	-12 525 386	-8 525 386
9	823 503	-11 701 883	-7 201 883
10	45 424	-11 656 459	-6 656 459
11	759 103	-10 897 357	-5 397 357
12	759 103	-10 138 254	-4 138 254
13	759 103	-9 379 151	-2 879 151
14	759 103	-8 620 049	-1 620 049
15	759 103	-7 860 946	-360 946
16	759 103	-7 101 843	398 157
17	759 103	-6 342 740	1 157 260

### 3.3 Average payback period

The average payback period is based on the cost of the investment and its average annual return. It indicates the time span in the course of which the investment should be paid back. In this case, the payback period is influenced by the fact that in the cash flow we differentiated the costs and revenues in two options:

- **without contribution of the municipality for covering the loan,**
- **with contribution of the municipality in the amount of € 500 000 per year to service the principal amount and interest.**
  
- **Return on investment without contribution of the municipality**

$$t = \frac{C_0}{\phi CF}$$

where:  $C_0 = € 18\,645\,703$  summary of repayments

$CF = € 715\,254$  is the average annual cash flow without contribution of the municipality

**t = 26.07 years**

- The payback period with the contribution of the municipality (in the course of 15 years) for covering the cost of credit represents:

$C_0 = € 18\,645\,703$  summary of repayments

$CF = € 965\,254$  is the average annual cash flow

**t = 19.32 years**

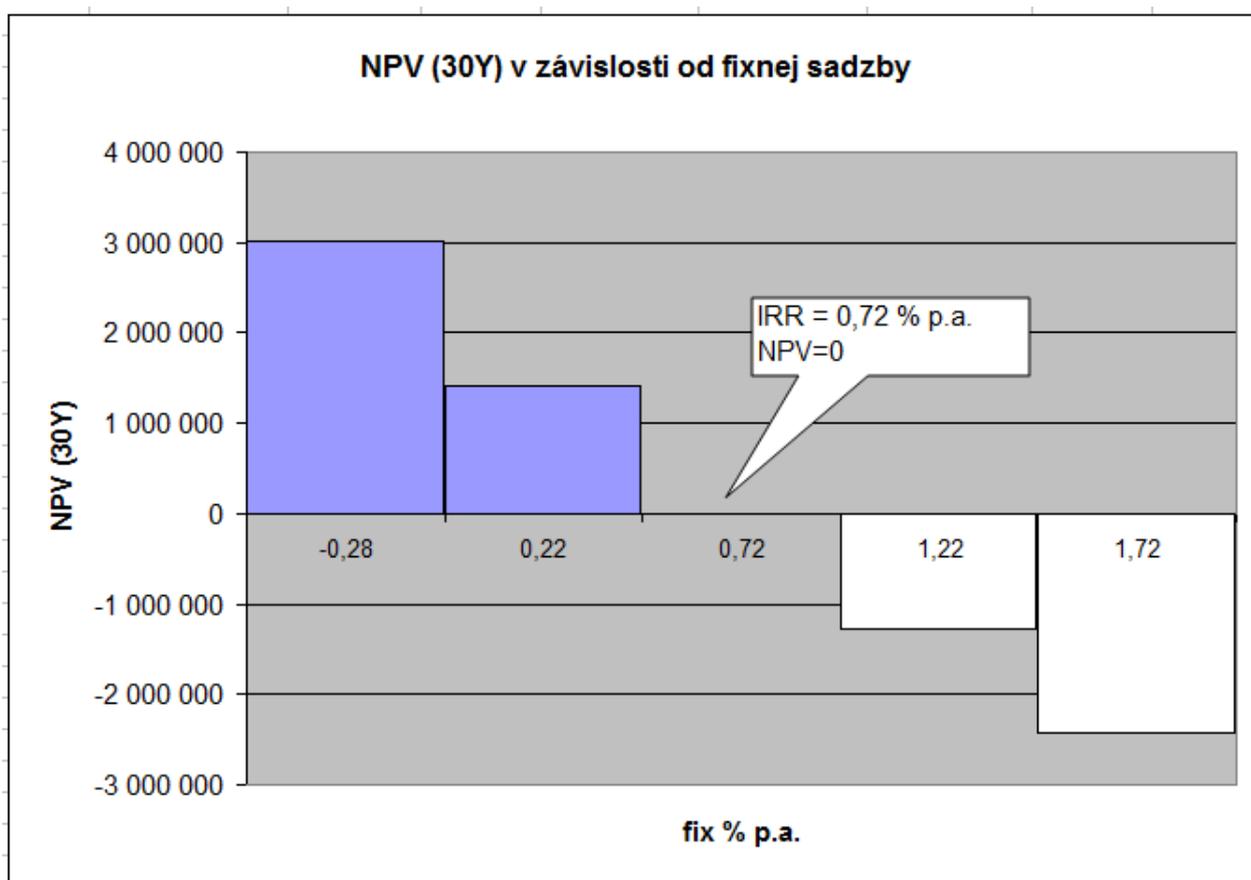
The resulting payback period – **19.32 years**, is longer than the return on investment resources expressed in the cumulative cash flow, because it is based on average cash flows for a period of 30 years, which take into account the gradual start to full capacity of the facility, depreciation of technological equipment, which we considered for a period shorter (10 years) than the projected life of the investment (30 years), renovation of the facility and the contribution of the municipality over the term of the loan (15 years).

### 3.4 Internal Rate of Return

Internal rate of return (IRR) is a dynamic evaluation method of profitability of an investment. It is defined as the discount rate, at which the net present value (NPV) of cash flows is equal to the input investment expenditure. IRR is therefore the discount rate, at which the net present value (NPV) of cash flows equals to zero. It is therefore a method of finding a discount rate, at which the present value of expected revenues is equal to the present value of capital expenditures. In comparison with the net present value (NPV), which expresses the absolute return on investment, IRR expresses the appreciation of invested funds, which in the case of the investment into the medical facility Sanatorium and Senior Home in Kechnec is as follows:

- **IRR<sub>30y</sub> = 0.72%** for the duration of the project of 30 years (without contribution of the municipality € 500 000 / year)

Chart № 1



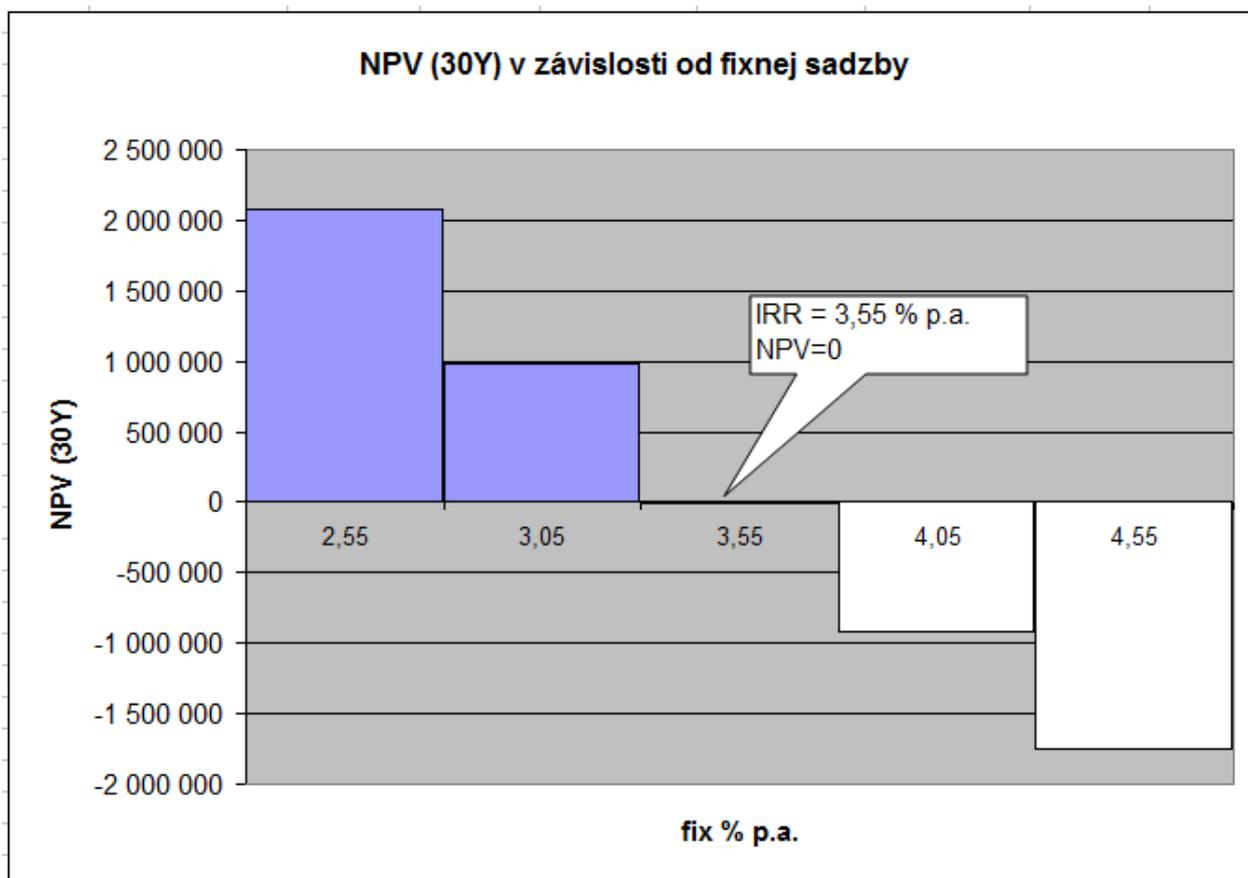
Text na obrázku: NPV (30Y) depending on the fixed rate

– **Je potrebné vložiť do obrázku, lebo neviem do neho písať priamo!!!**

It follows from the chart that in the case of repayment of credit resources only from the proceeds of the investment itself, the internal rate of return is substantially lower than is currently the real interest rate for financing this investment. For this reason, it is envisaged in the planning of the investment to take into consideration the contribution of the municipality to its financing and to repayment of the loan. Under this assumption, the internal rate of return (IRR) is acceptable:

- **IRR<sub>30y</sub> = 3,55 % (with contribution of the municipality until repayment of the loan)**

Chart № 2



Text na obrázku: NPV (30Y) depending on the fixed rate

– **Je potrebné vložiť do obrázku, lebo neviem do neho písať priamo!!!**

### 3.5 Break-even point

The break-even point expresses the relationship between costs and profit in the form of the so-called critical point (break-even point). This point is the expression of a moment in time, when the sales (turnover) cover the total cost of the project. It may also be an identifier of the impact of change of revenues and of fixed and variable costs on the profitability and the financial management of the project. In this case – in view of the nature of this line of business, this break-even point does not have quite a relevant role, since the provision of health care, including social services for the elderly, does not fall exclusively within influence of the trade policy – managed by the investor – that is, the municipality. In some cases (especially in cases of the local self-government) it is provision of social services pursuant to statutory regulations. For this reason, the simplified determination of the difference between the turnover, i.e. the yields and the fixed costs, is not exact, since they are affected by legislative changes and the contractual terms of health insurance companies. Therefore, we have not set exactly the analysis of the break-even point in this stage of the project.

### 3.6 Options of funding the investment

The economic evaluation of the project also includes the adoption of the decision, from what sources will the project be funded. Based on the review of available funding sources, we present possible options of resources that come into consideration for the long-term method of financing of this investment:

- **Depreciation** – It is the monetary expression of the gradual decrease of the value of the acquired assets, however, at the same time it may be an additional source of funding the needs of this investment. In this case, a partial use of these resources is taken into consideration, while ensuring the necessary covering of interest costs in the case of financing by a long-term investment credit.
- **Long-term investment loan** – It means immediate sources of financing, where the interest may also be paid out of future yield of investment. In this case, we calculated with a fixed interest rate of 3.0% p. a. and with term of payment of the investment of 15 years. On the basis of assessment of economic parameters of the project and in particular from the point of view of the possibility of absorbing the required amount of the credit in the amount of € 15 million by the municipality of Kechnec, it should be noted that despite the acceptable return on investment, the credit load for the municipality is high. For that reason, more suitable would be multi-source financing of this investment – preferably by combination of credit resources and of non-repayable sources of funding, which would be beneficial in assessing the profitability of the investment. A combination of several sources of financing would help to alleviate the debt burden of the municipality within the meaning of legal provisions – § 17 of the Act No. 583/2004 Coll. of Laws, on financial rules of local self-governments.
- **Partnership of the public and private sector (Public-Private Partnership – PPP)** – It is a form of cooperation between public authorities and the private sector for the purpose of financing, construction, renovation, operation and maintenance of infrastructure. It may in this case be particularly relevant in ensuring the operation and administration of medical, social and/or rehabilitation services.
- **Institutional PPP** – This is a form of cooperation between a public and a private partner in providing public services by means of a joint venture, which could also be an appropriate form of financing of this investment.
- **Use of resources from EU funds** – In the new programming period of the years 2014 to 2020 there are not yet specified in detail the areas that should be given priority in the support from the European Union. However, health promotion and prevention of health risks is incorporated into the Priority Axis 2. Construction of basic infrastructure in the health sector should nevertheless be funded from the public and/or national resources. Even with this strategy, the acquisition of non-repayable sources of funding to cover a part of the services in the social and health sphere can significantly improve the economic parameters of the project and the rate of return of credit resources.

The above-mentioned forms of financing are possible ways of securing funding for the investment “Medical facility SANATORIUM and integrated Senior Home in Kechnec”, which would be appropriate for funding of the project. At the same time, these methods of financing can be structured (combined) by using several of these options, which would then spread the risks of financing. By such structured and/or multiple-source way of funding it could be possible to select the most optimal form of financing also in terms of price.

## 4. CONCLUSION

The results of the Feasibility Study can be summarized into the following conclusions:

- The planned investment of the “Medical facility SANATORIUM and integrated Senior Home in Kechnec” will provide high-quality health and social care for the senior citizens. Its range of services can also be extended beyond the population of permanent clients of this facility by including external visitors and clients, because the capacity of the facility and its technological equipment make it possible.
- The range of provided services can be modified according to customer requirements, which may, according to the intention of the project and to the real needs, be increasing in line with demographic trend in the region and within Slovakia.
- The quality of social services will be provided at a high level, with a possibility of providing above-standard services that can be adapted to the requirements and needs of clients.
- The range of health services and the availability of qualified personnel providing those services are particularly sensitive in the institutional health care, in view of the dependence on health insurance companies, which will be reimbursing individual medical services on contractual basis.
- Alternative options, which the municipality may take into consideration for future operation of the facility, include renting of the entire facility, or of its individual parts to private tenants, providing health services in Slovakia.
- The Industrial Zone of Kechnec can significantly contribute to achieving economic efficiency of the facility by making full use of the health and rehabilitation services by the employees of the business entities established there, as well as by financial contributions and sponsorship.
- Due to the relatively close vicinity of Kechnec to the city of Košice, it is possible to assume that the facility will fill up the lack of similar facilities in the region, especially in the city of Košice, where there are relatively long waiting periods for placement in facilities providing social services for senior citizens.
- Comprehensive provision of high-quality services by a specialized institution will improve the quality of life and will increase the support for the most vulnerable part of population – the sick and the elderly.
- A major benefit of the project will be the creation of 115 new jobs, which will enhance the further development of the region and will be instrumental in reducing the high unemployment rate.

Košice, October 16<sup>th</sup>, 2013

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Annexes: № 1 – Budget of the construction  
№ 2 – Budget of the operating costs of the project  
№ 3 – Calculation of the annuity loan repayment  
№ 4 – Project costs  
№ 5 – Cash flow of the project  
№ 6 – Separate annex – Budget of the municipality of Kechnec

The document, including the annexes, has been prepared in cooperation with the municipality of Kechnec.