

Tom 56(70), Fascicola 1, 2011

## The Extension and Modernisation of the Water and Sewerage Systems in the Timiș County

Ilie VLAICU<sup>1</sup>, Teodor Eugen MAN<sup>2</sup>

**Abstract:** Starting with 2010, Aquatim is the regional operating company for the water and sewerage system in the Timiș County, operating in around 40 localities. For major investment programmes, Aquatim applied for external funds. The project "The Extension and Modernisation of the Water and Sewerage System in the Timiș County" has a value of 118,871,000 Euro and an implementation period between 2011 and 2014.

**Keywords:** Aquatim, European Union, Cohesion Fund, environmental infrastructure.

### 1. INTRODUCTION

Starting with 2010, Aquatim is the regional operating company for the water and sewerage system in the Timiș County, operating in around 40 localities. The company has a first class operating license (issued by the national regulating authority in the field, ANRSC) and an integrated quality, environment, health and safety management system (ISO 9001, ISO 14001, OHSAS 18001).

Aquatim ensures quality services in the new operating area by supplying drinking water at the quality standards imposed by the legislation in force. Also, Aquatim's strategy implies connecting the areas to the water and sewerage public systems, new treatment plants and new wastewater treatment plants. By upgrading the existing technologies, the company wishes to reduce the environmental impact.

The operating area is divided into five branches: Buziaș, Deta, Făget, Jimbolia and Sânnicolau Mare, which have specialised teams and equipment for quick interventions. All the clients' problems are sent to the central dispatch unit and then, online, to the intervention teams. The drinking water quality is monitored by the specialised Drinking Quality Control Laboratory from Timișoara on the basis of a monitoring programme established together with the Public Health Department.

For extensions and upgrading of the water infrastructure, the European Union offers grants with the purpose of supporting the water reform. All these grants have a condition – the unique tariff.

The unique tariff means that the customers from the supply area of a regional operating company will pay and equal price in order to receive a similar treatment according to the objectives of the European Union – accessibility and correctness.

### 2. SUSTAINABLE DEVELOPMENT

For major investment programmes, Aquatim applied for external funds.

In this sense, a specialised department has been set up in 2001 for applying for grants. It is made up of specialists in the field of water and sewerage infrastructure, economists, translators and public relations officers. The role of this department is not only to apply for grants, but also to implement projects, monitor them and raise awareness regarding European grants.

The efforts of this department have been rewarded in 2002, when the ISPA (Instrument of Structural Policies of pre-Accession) measure no.2000/RO/16/P/PE/004 by which the European Union contributes to the „Rehabilitation of the wastewater treatment technology and improving the sewerage system for the city of Timisoara, situated in the Timis County in Romania”. The measure has a budget of 45.36 mil. Euro, out of which 71% represents a grant. Aquatim ensured co-financing by an EBRD loan and by its own funds.

The measure has the following components:

A: Rehabilitation of the treatment technology from the WWTP

B: Rehabilitation (of 7 km) and extension (with 10 km) of the sewerage system

C: Technical assistance for implementation and supervision

D: Technical assistance for regionalisation

### 3. APPLICATION FOR THE COHESION FUND

Aquatim prepared the Application for the improvement of the water and sewerage infrastructure in the Timiș County, financed from the Cohesion Fund. The application was prepared within the ISPA Measure 2000/RO/16/P/PE/004 – “Technical assistance for strengthening institutional capacity for the regionalisation of the water and sewerage services in the Timiș County”. The Consultant was a consortium made up by Eptisa Servicios de Ingenieria, Spania and W.S. Atkins, UK.

The project “The Extension and Modernisation of the Water and Sewerage System in the Timiș County”

<sup>1</sup> SC Aquatim SA, General Director, 11A Gheorghe Lazăr Street, 300081 Timișoara, Timiș County, e-mail: [i.vlaicu@aquatim.ro](mailto:i.vlaicu@aquatim.ro)

<sup>2</sup> Faculty of Hydrotechnical Engineering Timisoara, CHIF Department, George Enescu Str. No. 1/A, 300022 Timisoara

has a value of 118,871,000 Euro and an implementation period between 2011 and 2014.

The planning and implementation stages of the project are:

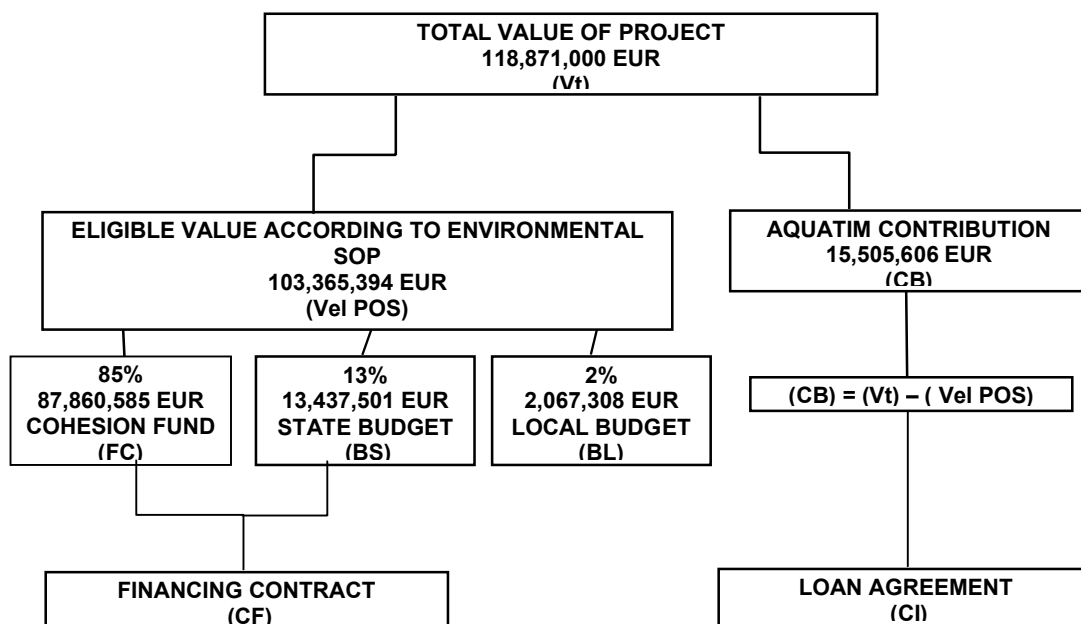
- Approval of the Master Plan in March 2009
- Approval of the Feasibility Study in December 2009
- Approval of the Environmental Impact Assessment in May 2010

• Approval of the Financing Application in January 2011

• Issuing the Decision for approving the financing in January 2011

• Issuing the Order for approving the financing in February 2011

The Programme is financed as follows:



The project develops in 11 localities from the Timiș County, namely: Timișoara, Sânnicolau Mare, Jimbolia, Deta, Buziaș, Gătaia, Recaș, Făget, Ciacova, Săcălaz, Sânmihaiu Român and involves 390,000 inhabitants which will benefit from water and sewerage infrastructure as follows:

- Extension of the water network - total 42.11 km - value 4,421,550 Euro
- Rehabilitation of the water network - total 59.78 km - value 6,276,900 Euro
- Extension of the sewerage network - total 176.47 km - value 37,058,700 Euro
- Rehabilitation of the water network - total 23.39 km - value 4,911,900 Euro
- New treatment plants - 3: Sânnicolau Mare, Recaș and Gătaia - value 3,090,030 Euro
- New wastewater treatment plants - 7: Sânnicolau Mare, Jimbolia, Deta, Buziaș, Făget, Recaș and Ciacova - value 23,879,000 Euro

After the project the degree of coverage of the water and sewerage infrastructure will be of 99%. More details about the comparative situation of the investments in each locality are presented below:

		Before the project	After the project
Timișoara	Water	99%	99.8%
	Sewerage	96%	99%
Sânnicolau Mare	Water	76%	99%
	Sewerage	40%	99%

Locality	Service	Before the project	After the project
Jimbolia	Water	79%	99%
	Sewerage	41%	99%
Deta	Water	86%	99%
	Sewerage	42%	99%
Buziaș	Water	97%	99%
	Sewerage	64%	99%
Gătaia	Water	77%	99%
	Sewerage	32%	99%
Recaș	Water	76%	99%
	Sewerage	32%	99%
Făget	Water	90%	99%
	Sewerage	42%	99%
Ciacova	Sewerage	0%	99%
Săcălaz	Water	86%	99%
	Sewerage	0%	99%
Sânmihaiu Român	Water	22%	99%
	Sewerage	0%	99%

The investments for each locality are detailed below:

#### Timișoara

Extension of the water network	4.74 km
Replacement of the water network	4.73 km
Extension of the sewerage network	15.85 km
Replacement of the sewerage network	12.16 km
Upgrading of the wastewater pumping station	
Sludge dehydration system	

Total	27,580,143 Euro	Rehabilitation of the Hitias treatment plant	
<b>Sănnicolau Mare</b>		Re-equipment and rehabilitation of Chlorination station	
Testing and re-equipment of drills	7	Rehabilitation of reservoir 1.000 m <sup>3</sup>	2
Replacement of drills	2		
Feed pipe	2.09 km	Extension of the water network	1.67 km
Treatment plant	1	Replacement of the water network	11.52 km
Rehabilitation of reservoir 2.000 m <sup>3</sup>	1	Extension of the sewerage network	7.26 km
Rehabilitation of pumping station	1	Replacement of the sewerage network	1.33 km
Extension of the water network	5.40 km	New backwater pipes	0.21 km
Replacement of the water network	18.11 km	Replacement of existing backwater pipes	0.21 km
Extension of the sewerage network	20.60 km	New wastewater pumping station	1
Replacement of the sewerage network	4.03 km	Wastewater Treatment Plant	1
Replacement of the backwater pipes	2.50 km	Total	8,530,234 Euro
Rehabilitation of wastewater pumping stations	3	<b>Gătaia</b>	
Wastewater Treatment Plant	1	Testing and re-equipment of drills	4
Total	18,955,467 Euro	Replacement of drills	1
<b>Jimbolia</b>		New drills	2
Testing and re-equipment of drills	6	Feed pipe	1.11 km
Replacement of drills	3	Treatment plant	1
Feed pipe	3.90 km	Rehabilitation of reservoir 200 m <sup>3</sup>	2
Extension of the water network	1.57 km	Rehabilitation of reservoir 500 m <sup>3</sup>	1
Replacement of the water network	4.48 km	Rehabilitation of pumping station	1
Extension of the sewerage network	37.44 km	Extension of the water network	1.49 km
Wastewater pumping stations	4	Replacement of the water network	3.78 km
Backwater pipe	1.10 km	Extension of the sewerage network	6.92 km
Wastewater Treatment Plant	1	Replacement of the backwater pipes	0.57 km
Total	17,718,428 Euro	New wastewater pumping station	1
<b>Deta</b>		Total	3,498,017 Euro
Testing and re-equipment of drills	2	<b>Recaş</b>	
New drills	1	Testing and re-equipment of drills	4
Replacement of feed pipe	11.10 km	Feed pipe	0.57 km
Rehabilitation of reservoir 100 m <sup>3</sup>	1	Treatment plant	1
Pumping station	1	Rehabilitation of reservoir 300 m <sup>3</sup>	2
Rehabilitation of treatment plant		Rehabilitation of water castle 300 m <sup>3</sup>	1
Extension of the water network	4.95 km	Rehabilitation and re-equipment of pumping station	1
Replacement of the water network	4.22 km	Extension of the water network	0.71 km
Extension of the sewerage network	6.64 km	Replacement of the water network	2.25 km
Replacement of the sewerage network	1.17 km	New sewerage system	21.52 km
Replacement of the backwater pipes	0.34 km	Backwater pipes	1.03 km
Wastewater Treatment Plant	1	New wastewater pumping station	2
Total	9,003,107 Euro	Wastewater Treatment Plant	1
<b>Buziaş</b>		Total	8,485,194 Euro
Testing and re-equipment of drills	9	<b>Făget</b>	
Replacement feed pipe	2.34 km	Testing and re-equipment of drills	4
Re-equipment of the Hitias pumping station		Replacement of drills	
		Feed pipe	3.31 km
		Pumping station	1
		Chlorination station	1

Rehabilitation of reservoir 500 m <sup>3</sup>	1
Rehabilitation of water tower 300 m <sup>3</sup>	1
Replacement of the water network	9.79 km
Extension of sewerage network	2.66 km
Replacement of the sewerage network	4.69 km
Backwater pipes	1.03 km
New wastewater pumping station	2
Wastewater Treatment Plant	1

Total 7,145,016 Euro

#### Ciacova

Extension of sewerage network	11.01 km
Backwater pipes	1.98 km
New wastewater pumping stations	3
Wastewater Treatment Plant	1

Total 3,498,972 Euro

#### Săcălaz

Feed pipe Timișoara – Săcălaz	5.50 km
Rehabilitation of reservoir 1.000 m <sup>3</sup>	1
Pumping station	1
Chlorination station	1
Extension of the water network	3.62 km
Replacement of the water network	0.60 km
Extension of sewerage network	14.91 km
Backwater pipes	7.44 km
New wastewater pumping stations	8

Total 6,682,700 Euro

#### Sânmihaiu Roman

Feed pipe Timișoara – Sânmihaiu Român	4.30 km
Extension of the water network	0.30 km
Rehabilitation of the water network	0.60 km
Rehabilitation of reservoir 500 m <sup>3</sup>	1
Pumping station	1
Chlorination station	1
Extension of sewerage network	24.16 km
Backwater pipes	6.99 km
New wastewater pumping stations	6

Total 7,773,719 Euro

### 4. INVESTMENT PLANNING FOR MEDIUM AND LONG TERM

	Total (thousand Euro)	Stage 1 2009- 2013	Stage 2 2014- 2018	Stage 3 2019-2038
Investment costs	1,042,841	122,182	268,413	652,246
Operation and Maintenance costs	953,420	134,491	77,416	741,513
Total costs	1,996,261	256,673	345,829	1,393,759

After this project is finalised from the Cohesion Fund (Stage 1), Aquatim will apply for new grants in order to improve the water and sewerage infrastructure for the communa bigger than 2,000 inhabitants from the Timiș County (Stage 2) in order to respect Romania's Adhesion Treaty to the EU. Further on, the water and sewerage infrastructure from all communa and villages of the county will be improved.

### 5. CONCLUSIONS

In order to comply with the conditionalities regarding the water and wastewater infrastructure, major investments are necessary at the level of the Timiș County, investments which considerably exceed the financial capacities of the majority of the local authorities.

The Cohesion Fund, available through the Environmental Sectorial Operational Programme represents the main financing source for the localities included within the investment list.

### REFERENCES:

- [1] Master Plan for the Timiș County.
- [2] Feasibility Study "The Extension and Modernisation of the Water and Sewerage System in the Timiș County".
- [3] Application for the Cohesion Fund for the project "The Extension and Modernisation of the Water and Sewerage System in the Timiș County".

