

ISPA Measure No:  
2002 BG 16 P PE 014  
**doc. no. 02/ISPA/MC/033**

**FINANCING MEMORANDUM**

**Agreed between the European Commission and  
the Republic of Bulgaria**

**Concerning the grant of assistance from the Instrument for Structural Policies for  
Pre-accession to the following measure**

**Sevlievo Wastewater Collection and Treatment  
in Bulgaria**

## FINANCING MEMORANDUM

The European Commission, hereinafter referred to as "the Commission", acting for and on behalf of the European Community, hereinafter referred to as "the Community" represented by the Commissioner for Regional Policy, Mr. Michel Barnier, for the Commission

on the one part, and

The Government of Bulgaria, hereinafter referred to as "the beneficiary"

on the other part,

HAVE AGREED AS FOLLOWS:

### *Article 1*

The measure referred to in Article 2 below shall be implemented and financed out of the budgetary resources of the Community in accordance with the provisions set out in this Memorandum. The measure referred to in Article 2 below shall be implemented in line with the General Conditions annexed to the Framework Agreement signed between the Commission and the beneficiary and supplemented by the terms of this Memorandum and the provisions annexed hereto.

### *Article 2*

#### **Identification of the measure**

The Instrument for Structural Policies for Pre-accession shall contribute, by way of a grant, towards the financing of the following measure as described in Annex I:

Measure number: 2002 BG 16 P PE 014

Title: Sevlievo Wastewater Collection and Treatment

Duration: **Start date:** The date of signature of the financing memorandum by the Commission

**End date:** 31 December 2007

Location: Sevlievo

Group: Danube river basin

### *Article 3*

#### **Commitment**

1. The maximum public or equivalent expenditure which may be taken into account for the purpose of calculating assistance shall be € 13 987 623;
2. The rate of Community assistance granted to the measure is fixed at 75 % of total public or equivalent expenditure as indicated in the financing plan in Annex II;
3. The maximum amount of assistance from the Instrument for Structural Policies for Pre-accession is fixed at € 10 490 717;
4. An amount of € 8 392 574 is committed from the 2002 budget under budgetary line B7-020. Commitments in respect of subsequent instalments shall be based on the initial or revised financing plan for the measure, subject to the state of implementation of the measure and to budgetary availability.

### *Article 4*

#### **Payments**

1. Community assistance shall cover payments on the measure for which legally binding commitments have been made by the beneficiary and for which the requisite finance has been specifically allocated. These payments must relate to the works described in Annex I.
2. Payments made before the date of signature of financing memorandum by the Commission shall not be eligible for assistance from the Instrument for Structural Policies for Pre-accession.
3. The measure described in Annex I and payments by the body responsible for the implementation of the measure shall be completed no later than 31 December 2007. The report required for the payment of the final balance should be submitted not later than 6 months after this date.
4. The advance payment is fixed at € 2 098 143, which shall be transferred as follows:
  - An amount of € 1 049 072 is paid out after signature of this memorandum by the beneficiary;
  - The remainder is paid out after signature of the first substantial works contract to be agreed between the beneficiary and the Commission and the fulfilment of the other conditions specified in the Article 8 (3) hereunder.
5. In accordance with Annex III. 1, Section III, point 5, the Commission will accept for this measure a total amount of advance and intermediate payments of 90 % of the total assistance granted.

## *Article 5*

### **Respect of Community law and policies**

The measure shall be carried out in compliance with the relevant provisions set out in the Europe Agreements and shall contribute to the achievement of Community policies, in particular those concerning environmental protection and improvement.

## *Article 6*

### **Intellectual property**

The Beneficiary and the authority responsible for implementation mentioned in Annex I point 3 shall ensure that they acquire all necessary intellectual property rights to studies, drawings, plans, publicity and other material made in conjunction with planning, implementation, monitoring and evaluation of the project. They shall guarantee that the Commission, or any body or person delegated by the Commission shall have access and the right to use such material. The Commission will only use such material for its own purpose.

## *Article 7*

### **Permits and authorisations**

Any type of permits and or authorisations required for the implementation of the measure must be provided by the competent authorities of the Beneficiary in due time and in accordance with national law.

## *Article 8*

### **Specific conditions related to the measure**

Without prejudice to the general provisions specified in Annex III the Community grant for the measure is subject to the following conditions:

1. Condition on the assumptions and the status of the assets:

The Commission reserves the right to revise the amount of the assistance for ISPA set out in Article 3 if, within five years of the date of the completion of works, the operating conditions (tariffs, revenues, etc.) vary significantly relative to the original assumptions made in determining the level of the grant and/or there is a substantial modification:

- a) affecting the nature of the operation or its implementing conditions, or giving to a private or public body an undue advantage; and
- b) resulting either from a change in the nature of the ownership of any part of the financed infrastructure, or a cessation or material change in the operating arrangements.

The beneficiary country shall inform the Commission of any such change, and shall seek the ex-ante agreement of the Commission to these changes.

2. Condition on viability:

The Community grant for the measure is subject to the authorities concerned making available sufficient resources in order to ensure the effective operation and maintenance of the assets.

3. The final payment shall be subject to:

- a) the presentation of evidence that:
  - (i) The industrial wastewater is pre-treated in compliance with EC Directives and/or recycled as appropriate.
  - (ii) The pre-treatment and/or the recycling is monitored and enforced by the appropriate environmental authorities.
  - (iii) The industrial loads are not harmful to the designed technology of the treatment plant.
  - (iv) an appropriate charge will be introduced for industries, that is acceptable to the Commission, based on the quantity and quality of effluent produced and on the cost of treatment.
- b) the presentation of a final programme for the treatment, reuse and disposal of the sludge under terms acceptable to the Commission.
- c) the presentation of an updated masterplan for water management under terms acceptable to the Commission.

*Article 9*

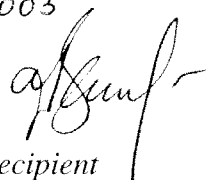
The implementation provisions described in the Annexes to this financing memorandum form an integral part of it.

Non-compliance with the conditions and implementation provisions shall be dealt with by the Commission according to the procedure stipulated in Annex III.1. Section VIII.

*Article 10*

The authentic text of this financing memorandum is the present document as signed hereunder.

21.01.2003  
Done at



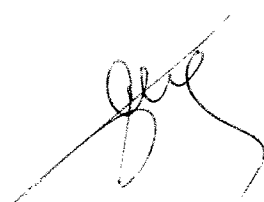
For the recipient  
National ISPA  
Coordinator  
(National Authorising  
Officer)

Done at Brussels,

13-12-2002



M. Barnier  
Commissioner



## **List of Annexes**

Annex I	Description of measure
Annex II	Financing plan

**Description of measure**  
**Sevlievo Wastewater Collection and Treatment**

**Commission code No: 2002 BG 16 P PE 014**

**1. MEASURE TITLE**

Sevlievo Wastewater Collection and Treatment

**2. AUTHORITY MAKING THE APPLICATION (National ISPA Co-ordinator)**

2.1. Name: "ISPA Co-ordination" within Directorate "Management of EU Funds, Ministry of Finance

2.2. Address: 102 Rakovski Str., 1000 Sofia, Bulgaria

2.3 E-mail: D.Krasteva@minfin.government.bg

**3. AUTHORITY RESPONSIBLE FOR IMPLEMENTATION (as defined at Section II (2) of Annex III.2)**

3.1. Name: Strategy, Accession Programmes and Projects (SAPP), Ministry of Environment and Waters (Moew)

3.2. Address: 67, William Gladstone St., 1000 Sofia

3.3 E-mail: *Marianasir@moew.government.bg*

**4. FINAL BENEFICIARY (IN CASE IT IS A DIFFERENT BODY FROM THE AUTHORITY MENTIONED UNDER 3)**

4.1 Name: Municipality of Sevlievo

4.2 Address: 17, Svoboda, str., 5400 Sevlievo

4.3 Contact: Mayor – Yovko Hristov Yovkov

4.4 Telephone: + 359 675 42 20

4.5 Telex/Fax: + 359 675 55 03

**5. LOCATION**

5.1. Beneficiary country: Bulgaria

5.2. Region: Danube river basin

## **6. DESCRIPTION**

### **6.1. Background**

The Municipality of Sevlievo borders the Municipality of Lovech in the West, Stara Zagora in the South and Veliko Tarnovo in the East. Sevlievo has, currently, a population of approximately 28 600 which will grow to approximately 32 000 in year 2022. Domestic and industrial wastewaters arising from the town are currently discharged without any treatment in a mixture with infiltration water, and when applicable storm-water flows, to the Rositza river after its confluence with the Yantra river downstream of the Municipality of Sevlievo. The Rositza river is a tributary of the Yantra river, which in turn flows north into the Danube river next to the Municipality of Russe.

The measure is one of the set of measures approved or under preparation for ISPA which will affect the Danube River section crossing Bulgaria.

The river Danube forms an international border with Romania and therefore the measure will have a positive trans-border impact through a decrease of wastewater contamination and protection of the surface waters within the Danube River basin and finally the delta of the river where it enters the Black sea, an area designated as being of international importance for nature conservation.

### **6.2. Description**

The overall project comprises the construction of a wastewater treatment plant for the treatment of wastewater generated in the city of Sevlievo, which will eliminate the discharge of untreated sewage into the Danube River, plus additional works on the existing sewerage network and on the connection with the future WWTP.

The infrastructures are designed to meet effluent standards of the EC Directive 91/271 concerning Urban Wastewater treatment, which has been transposed into Bulgarian legislation with the adoption of Ordinance No 6/09.11.2000.

Project preparation was carried out by an international consultant firm using PHARE funds for Bulgaria.

The measure will consist of the following main items:

- (i) Extension of the existing Main Collector system;
- (ii) Connection of all the existing five wastewater outfalls to the new/existing Main Collectors so that the wastewaters flow to the new urban Wastewater Treatment Plant;
- (iii) Construction of a new urban wastewater treatment plant in Sevlievo.



### ***Component 1: The Wastewater treatment plant***

At present, the Municipality does not have any treatment plant, not even partially constructed, so the wastewaters are discharged untreated into the Rositza river. The new wastewater treatment plant will provide full tertiary treatment in accordance with EC Directives. The process used, after a comparison with other possible alternatives, will be the activated sludge method including anoxic zones for nitrogen removal and anaerobic zones for biological phosphorus removal, sludge stabilisation and associated sludge thickening and dewatering equipment. This technological option has been used to elaborate the conceptual design. The new plant will be built based on the flows and loads projected in the target year 2022.

The design of the WWTP proposed is, in an indicative way, the following:

- (i) Inlet pumping station (using centrifugal pumps);
- (ii) Inlet works (screenings and grit removal);
- (iii) Activated sludge plant including anoxic zones for biological nitrogen removal and a facility for phosphorus removal. Supply of air to tank via blowers and fine bubble diffusers;
- (iv) Settlement of activated sludge in clarifiers;
- (v) Pumping station for return of settled activated sludge treatment;
- (vi) Waste activated sludge is pumped to a pre-thickener before passing to sludge stabilisation tank;
- (vii) Aerobic stabilisation in separate aeration plant. Supply of air via blowers and fine aeration;
- (viii) Post thickening of stable sludge and intermediate storage;
- (ix) De-watering to 25% dry solids for future disposal off-site to Municipal waste disposal site in first instance until the quality and suitability of the sludge for other uses is established.

The new wastewater treatment plant is expected to consist of the following main components:

- Wastewater pumping station;
- Inlet and effluent discharge works;
- Wastewater treatment facilities including biological treatment;
- Sludge treatment facilities;
- Sludge storage facilities;
- Treatment and administrative buildings;

- Ancillary works.

The new wastewater treatment plant will serve a population of 32 000 for the year 2022. It will treat a 2022 flow of 10 424 m<sup>3</sup>/day and will be designed to meet the following parameters:

#### **Design parameters for the Sevlievo WWTP**

<b>Parameters</b>	<b>Unit</b>	<b>Situation before ISPA measure (Inlet parameters)</b>	<b>Situation with ISPA measure (Outlet paramet.)</b>
Total daily average flow	m <sup>3</sup> /d	10 424	
Population equivalent		53 333	
BOD	mg/l	307	25
COD	mg/l	614	125
Suspended solids (SS)	mg/l	307	34
Nitrates - (N total)	mg/l	56	15
Phosphates - (P total)	mg/l	9	2

The effluent from the WWTP will be discharged into the Rositza River. This river flows into the “Stamboliiski” dam, which lies about 10 km downstream from the town and which is reported to suffer from eutrophication. Therefore, the receiving body is classified as sensitive.

#### ***Component 2: The Sewerage network***

The existing sewerage network in Sevlievo is a combined system (sewage and stormwater); it covers, at present, about 86 % of the population living in the municipality of Sevlievo and is 45 km long.

Approximately 32 km of the network was constructed in the 50’s and 60’s of which it has been estimated that 4 km needs to be reconstructed due to its poor condition.

In addition, a further 3 km of secondary sewers need to be constructed to complete the network.

Two Main Collectors proposed for ISPA financing intercept all the existing outfalls just before the river. These collectors, when completed as planned in this project, shall ensure interception and transport of the town’s wastewater to the WWTP site.

The sewerage component of the investment will consist of the following items:

- Construction of the Main Collector (length 2230 m, diameter 800 mm);
- Construction of the connection of 5 Outfalls to the Main Collector.

For both the WWTP and the sewerage components, there will be only one tender, which will be done according to FIDIC design-build conditions of contract (“Yellow Book”). Accordingly, the final detailed list of the project components will depend on the results of the tender process.

The Municipality of Sevlievo will be the final beneficiary of the ISPA measure.

### ***Component 3: Technical Assistance***

The technical assistance component will be mainly used to:

- as normal ISPA practice, hire independent technical expertise to participate in the international tendering process for supervision and works;
- provide management support to the project implementation unit created in the Implementing agency to carry out the measure;
- prepare feasibility studies, application form and tender dossier for an additional intervention which will be needed to cover complementary investments in the drinking water and sewerage network (to be proposed for future ISPA, Bulgarian and IFI co-financing);
- carry out the necessary information and publicity activities for the measure;
- prepare any other necessary studies to complement the implementation of the present measure.

## **7. OBJECTIVES**

### **7.1. Overall Objectives**

The overall objective of the measure is to protect the Rositza and Yantra rivers and ultimately the Danube River, from pollution from discharges of untreated sewage and industrial wastewater, by the provision of a wastewater treatment plant to treat the wastewater to acceptable effluent quality standards and by provision of ancillary infrastructures in the collection system. This measure will improve the sewerage infrastructure to contain and control sewage flows and to reduce leakage from sewers and uncontrolled overflows, which would otherwise damage ground and surface water sources.

In particular, the measure will:

- Enable the city of Sevlievo to achieve compliance with Urban Waste Water Directive;
- Reduce the risks to human health for the population living in the target areas served by the new WWTP;
- Reduce the pollution in the Trans-border region, including the Danube River and Black Sea;
- Reduce the potential risk of groundwater contamination;
- Reduce the potential risk of soil contamination;
- Improve the protection of the environment of the river basin waters;
- Improve the state of the flora/fauna of the riverine environment;
- Build-up an effective ecological infrastructure to facilitate economic activity;

- Improve the conditions for the development of key sectors of the economy – tourism and agriculture;
- Improve the quality and quantity range of services for the population in the targeted area;
- Create new employment opportunities– temporary and permanent and stimulate local and regional development.

## 7.2. Physical Indicators

Key indicators, as illustrated in the following table, will be used to monitor physical progress of the construction of the project, but as final design of certain components will be left to the contractor, the figures presented in the table are only indicative.

**Table 1**

**An indicative set of Physical Indicators for the ISPA Sewerage and Wastewater intervention in Sevlievo**

Physical Indicators		Earth Works		Construction	
		Unit	Volume	Unit	Volume
<b>1. Sewerage</b>					
<b>A.</b>	<b>MAIN COLLECTORS</b>				
1.	New Main Collectors	m <sup>3</sup>	16 056	M	2 230
2.	Interceptor Chambers with Overflows	m <sup>3</sup>	738	m <sup>3</sup>	246
<b>2. Wastewater treatment Plant</b>					
<b>B.</b>	<b>ENGINEERING</b>				
1.	Site Preparation F= 40 600 m <sup>2</sup>	m <sup>2</sup>	36 000	-	-
2.	Drainage System	-	-	-	-
<b>C.</b>	<b>STRUCTURES OF WWTP</b>				
1.	P.S. for incoming sewage with Grab Screens on the Entrance	m <sup>3</sup>	2 177	m <sup>3</sup>	905
2.	Fine Screens Chamber	m <sup>3</sup>	500	m <sup>3</sup>	1 664
3.	Aerated Grit Channels	m <sup>3</sup>	6 200	m <sup>3</sup>	2 800
4.	Stormwater Tank	m <sup>3</sup>	6 500	m <sup>3</sup>	2 600
5.	Flow Meter Chamber	m <sup>3</sup>	50	m <sup>3</sup>	20
6.	Selector Tank	m <sup>3</sup>	1 250	m <sup>3</sup>	500
7.	Aeration Tanks	m <sup>3</sup>	25 00	m <sup>3</sup>	10 000

Physical Indicators		Earth Works		Construction	
8.	R.A.S./S.A.S. P.S.	m <sup>3</sup>	600	m <sup>3</sup>	600
9.	Distribution Chamber for Sludge	m <sup>3</sup>	1 688	m <sup>3</sup>	675
10.	Secondary Sedimentation Tanks	m <sup>3</sup>	16 500	m <sup>3</sup>	6 550
11.	Chlorine Contact Tank	m <sup>3</sup>	1 950	m <sup>3</sup>	780
12.	Outlet Channel	m <sup>3</sup>	50	M	50
13.	Combined Structure: Pre-thickener, Post-thickener, Silo and PS to Sludge thickener	m <sup>3</sup>	7 625	m <sup>3</sup>	3 050
14.	Aerobic Digester	m <sup>3</sup>	7 500	m <sup>3</sup>	3 000
15.	P.S. for Supernatant Liquor	m <sup>3</sup>	375	m <sup>3</sup>	150
16.	P.S. for supply of Technical Water	m <sup>3</sup>	45	m <sup>3</sup>	15
<b>D. BUILDINGS AND SERVICE EQUIPMENT</b>					
1.*	Building over Inlet Works P.S.				
2.*	Building over Screen House				
4.	R.A.S. Pumps and Blower Building	m <sup>3</sup>	360	m <sup>3</sup>	1440
5.	Chlorine Building	m <sup>3</sup>	137	m <sup>3</sup>	455
6.	Transformer/Diesel Generator Building	m <sup>3</sup>	378	m <sup>3</sup>	1260
7.	Main Control Building	m <sup>3</sup>	576	m <sup>3</sup>	1 920
8.	Service Building and Boiler Room	m <sup>3</sup>	105	m <sup>3</sup>	350
9.	Dewatering Equipment Building	m <sup>3</sup>	563	m <sup>3</sup>	1875
10.	Covered Area for Sludge Cake	m <sup>3</sup>	683	m <sup>3</sup>	2275
11.	Transport Vehicles	-	-		
<b>E. INFRASTRUCTURE AND SITE COMMUNICATIONS</b>					
1.	Site Communications	-	-		
2.	Alignment, Planting	m <sup>2</sup>	36 000		
3.	Site Roads	m <sup>2</sup>	4 550		
4.	Fence	m	800		
5.	Electrical and Automation Boards and Equipment, SCADA	-	-		
6.	Delivering, Laying, Checking	-	-		
<b>F. OUTSIDE COMMUNICATIONS</b>					
1.	External Water Supply Main	m	350		
2.	Access Road	m <sup>2</sup>	1 200		
3.	Electric Power Supply	m	1 800		
4.	Telephone	-	-		
5.	Gas Supply	m	600		

\* Included in Section C – Structures of WWTP

\*\* Abbreviations used:

P.S. Pumping Station  
S.A.S Surplus Activated Sludge  
R.A.S Return Activated Sludge

## 8. WORK SCHEDULE

<i>Category of work</i>	<i>Start date</i>	<i>Completion date</i>
Land acquisition* <sup>(1)</sup> :	Completed	
Feasibility study:	January 2001	June 2001
Economic analysis:	July 2001	September 2001
Financial analysis:	October 2001	September 2002
Environmental impact assessment:	July 2001	October 2001
Design studies:	July 2001	September 2001
Tender documents:	October 2001	February 2003
Construction :	December 2003	January 2006

\*<sup>(1)</sup> Land purchase completed by the Municipality

## 9. ENVIRONMENTAL IMPACT ANALYSIS

The type of infrastructure investment falls within the scope of Annex II of the Directive 85/337. The competent authority is the Ministry of Environment and Water.

The resolution on EIA, including full public consultation, was taken in February 2002 with a set of recommendations, which will have to be followed before the start, during the construction and during the operation period of the plant. All parties involved in the implementation and operation of the plant are obliged to ensure that the EIA recommendations are carried out.

The measure will meet the requirements of the following EC Directives:

- 1) EC Directive 91/271 on Urban Wastewater Treatment; by ensuring that the wastewater discharges will comply with the requirements for discharges into less sensitive waters, for agglomerations exceeding 10 000 p.e.;
- 2) EC Directive 78/659 on Freshwater Fish needing protection or improvement in order to support fish life as amended by EC Directive 91/692; by treating the wastewater discharges, the measure will contribute to the improvement of the river basin waters and thus the conditions for the support of fish life;
- 3) EC Directive 80/68 on Groundwater Directive as amended by EC Directive 91/692;

- 4) EC Directive 76/464 on the pollution caused by certain dangerous substances discharged into the aquatic environment;
- 5) EC Directive 76/160 concerning the quality of bathing water;
- 6) EC Directive 75/440 concerning the quality required of surface water intended for the abstraction of drinking water;
- 7) EC Directive 80/778 relating to the quality of water intended for human consumption;
- 8) Water Framework Directive 2000/60 establishing a framework for Community action in the field of water policy.

**10. COST AND ASSISTANCE (IN €)**

**Indicative Cost breakdown**

<b>Item</b>	<b>Total eligible cost (Euro)</b>	<b>Expenditures incurred before application (Euro)</b>
Land purchase and previous expenditure*		178 588
Works and Equipment	11 236 906	
Technical assistance and Supervision	1 554 500	
Contingencies	1 196 217	
<b>TOTAL (Euro)</b>	<b>13 987 623</b>	<b>178 588</b>

\* Previous expenditure includes technical assistance for the feasibility study, the ISPA application, the preliminary design and contract documentation.

<b>Total cost</b>	<b>Private sector contribution</b>	<b>Non eligible expenditure</b>	<b>Total eligible cost</b>	<b>ISPA grant</b>

**12. SPECIFIC CONDITIONS RELATED TO THE MEASURE**

See Article 8 of the Financing Memorandum.

**13. PROCUREMENT PLAN**

The activities included in the measure will be implemented according to the procurement plan appended as annex I.a.

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## Provisional Procurement Plan

<b>Tender N°</b>	<b>Description of works and services to be tendered</b>	<b>Type of contract</b>	<b>Provisional month of launch of tender</b>	<b>Rate of reimburs. of invoices relating to specific contract</b>
1	Technical assistance	Services	1 <sup>st</sup> Semester 2003	75 %
2	Supervision	Services	1 <sup>st</sup> Semester 2003	75 %
3	Construction of WWTP and sewerage elements according to FIDIC Conditions of Contract	Works	2 <sup>nd</sup> Semester 2003	75 %

The specific terms for the award of contracts will be made available in the Official Journal of the European Communities and/or the Internet.

ANNEX II

FINANCIAL PLAN (based on commitments from EU budget)

Title of measure: **Sevlievo Wastewater Collection and Treatment**

ISPA No: **2002 BG 16 P PE 014**

Year	Total Cost	Non Eligible Cost	Eligible Cost							Euro			
			Total		ISPA		National authorities			11	12 (%) =11/11		
			3	4 (%) =3/1	5	6 (%) =5/3	7	8	9			10	
2000	-	-	-	-	-	-	-	-	-	-	-	-	-
2001	-	-	-	-	-	-	-	-	-	-	-	-	-
2002	11.190.099	-	11.190.099	100	8.392.574	75	2.797.525	-	-	-	-	-	-
2003	-	-	-	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-	-	-	-
2005	1.398.763	-	1.398.763	100	1.049.072	75	349.691	-	-	-	-	-	-
2006	1.398.761	-	1.398.761	100	1.049.071	75	349.690	-	-	-	-	-	-
non annualised	178.588	178.588	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>14.166.211</b>	<b>178.588</b>	<b>13.987.623</b>	<b>99</b>	<b>10.490.717</b>	<b>75</b>	<b>3.496.906</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>