ISPA Measure No:
2002 BG 16 P PE 018

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

Shoumen Water Cycle Improvements 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 Acting Director General for Regional Policy, Mr. Graham Meadows, 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 018
Title:	Shoumen Water Cycle Improvements
Duration:	**Start date**:The date of signature of the financing memorandum by the Commission
	End date: 31 December 2008
Location:	Municipality of Shoumen, Bulgaria
Group:	Kamchiya River Bassin

Article 3

Commitment

1. The maximum public or equivalent expenditure which may be taken into account for the purpose of calculating assistance shall be 30 130 000€ ;

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 22 597 500€ ;

4. An amount of 17 241 457 € is committed from the 2003 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 the 31st December 2008.

   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 4 519 500€ which shall be transferred as follows:

   – An amount of 2 259 750€ 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 second advance payment shall be subject to the appointment of a project manager and a project implementation unit under terms acceptable to the Commission to be located in the regional water company and assisted by a technical assistant financed by the measure.

4. The final payment shall be subject to:

a) the presentation of evidence that:

(i) Industrial wastewater is pre-treated in compliance with EC Directives and/or recycled as appropriate.

(ii) The pre-treatment and/or the recycling of industrial wastewater 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 a master plan for water management in the region covered by the project, with identification of milestones to be achieved during the implementation of the rest of the foreseen measures and ensuring compliance with the obligations resulting from the EC water legislation. The master plan will duly have to address solutions reducing the impact from rainwater on the sewerage system and wastewater treatment process.

d) the presentation of a final report addressing the mitigation measures pointed out in the Environmental Impact Assessment study.

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.

Done at Sofia

10 02 2004

For the recipient

Mr. Milen Veltchev
National ISPA Co-ordinator

Done at Brussels, 18 DEC. 2003

For the Community

Graham Meadows.

Mr. Graham Meadows
Acting Director-General

List of Annexes

ANNEX 1

Description of measure
Shoumen Water Cycle Improvements
in Bulgaria

Commission code No: 2002 BG 16 P PE 018

1. MEASURE TITLE

Shoumen Water Cycle Improvements

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

2.1. Name: Ministry of Finance, Mr Lyubomir Datzov, Deputy Minister

2.2. Address: 102 Rakovski Str., 1040 Sofia, Bulgaria

E-mail: l.datzov@minfin.bg

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

3.1. Name: EU Funds for Environment (EUFE) Department, Ministry of Environment and Waters (MoEW)

3.2. Address: 67 W.Gladstone Str., 1000 Sofia, Bulgaria

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 Shoumen

4.2. Address: 17 Slavianski Av., 9700 Shoumen, Bulgaria

E-mail: mayor@shoumen.bg

5. LOCATION

5.1. Beneficiary country: Bulgaria

5.2. Region: Municipality of Shoumen, Kamchyia River Basin

6. DESCRIPTION

The measure is a part of the National Programme of priority construction of Drinking Water and Waste Water Facilities in towns with a population above 10 000 equivalent inhabitants.

6.1. Background

Shoumen is one of the larger Municipalities in Bulgaria with a current estimated population around 96 000 inhabitants. The City has a strong industrial base resulting in many polluting industrial effluents. Both industry and the population of Shoumen are only partly connected to the sewerage system and the WWTP, which started in summer 2003 with a primary treatment process.

Untreated wastewater is discharged to the Poroiyna River which is a small tributary of the Kamchyia River. The Kamchyia River is one of the larger rivers in Bulgaria and flows eastward through Bulgaria and discharges into the Black Sea approximately 40 km south of the city of Varna in an area popular for coastal tourism.

The current pollution load discharged from Shoumen city into the Poroiyna River, in terms of Biological Oxygen Demand (BOD5) is approximately 3000 tonnes per year.

6.2. Components of the measure

6.2.1. Investment programme

The investment programme covered by the scope of the measure comprises the following components:

A) Reconstruction of the Water Supply System

A1) Refurbishment of the water distribution network

In order to reduce the enormous water losses (50% equal 4.9 million m3 per year) and improve operation of the water distribution network, ca. 51 km of asbestos pipes and 10 km of corroded steel pipes will be replaced. This is equivalent to ca. 32% of the existing water supply network of 192 km in the city of Shoumen. Most of the pipes (53 km) will be replaced by high-density polyethylene pipes, the remaining pipes of larger volumes will be substituted by cast iron pipes.

Water losses are expected to come down by this measure by 35 -38%, which will reduce the infiltration in the sewerage network.

Under the Technical assistance component, the procurement of digital mapping/GIS equipment and leak detection facilities are also foreseen. The GIS system comprises hardware, software and includes network modelling tools. Digital mapping/GIS will be used for both water and sewerage networks. Overall, this will improve and optimise the final beneficiary's network operation and maintenance.

A2) Reconstruction of pumping stations

The component will ensure compliance of a significant portion of Shoumen's drinking water supply with the requirements of the Drinking Water Directive (DWD). This is achieved by ensuring that sufficient and continuous pressure is maintained in the pipes to avoid contamination of drinking water by ingress of contaminated groundwater.

The objective of this project is to eliminate the reduced drinking water pressures and interrupted (scheduled) supply to customers in several districts of Shoumen and to improve the security of supply for all customers in Shoumen.

Low water pressure in these districts results in some 30 000 people not having a permanent water supply of sufficient pressure. Low water pressures can cause health problems since ground water of dubious quality can enter pipes through joints or cracks when they are not pressurised.

The component will refurbish 8 pumping stations (1300, III uplift, Middle zone, V uplift, the airport, B.Balgaranov, the Hut, the Madara Horserider) and one booster station for an agglomeration of multi floor block of flats. The pumping stations, established in the 1960s are working with lowest efficiency. Each pumping station has between 1 and 4 pumps, which will be replaced and upgraded by electrically activated valves, new transformers and automation equipment (SCADA).

A3) Refurbishment of water supply main from Ticha lake surface water source

The main water source for the towns of Shoumen, Targovishte and Veliki Preslav is the Ticha dam, which is situated ca. 20 km southwest of Shoumen.

The main water supply pipe is a DN1200 to DN 900 pipe of a total length of 22 km. This pipeline was constructed in the 1978 for the town of Targovishte and extended in 1981 for the town of Shoumen. It has deteriorated severely showing frequent failures with large water losses to currently up to 30 %. Taken into account the reduced water storage capacity in the reservoirs closed to Shoumen, the recently registered multiplication of failures and the ongoing increase of water losses may seriously affect the drinking water supply of Shoumen.

Most seriously damaged is the 9 km long the DN 1200 pipe from the dam to the first distribution point drawing off water for Targovishte. The further 3 km DN 1000 steel pipe until the distribution point for Veliki Preslav and 10 km of DN 1000/900 steel pipes until the Shoumen pumping and storage facilities are less seriously affected and need only punctual refurbishments.

On the stretch between the dam and a first distribution point emergency repair works have been furthermore delayed by the limited accessibility of the pipes.

It is, thus, proposed to replace entirely the outworn pipes on the first section by a DN 1200 fibre glass pipe and to retrace the drinking water main along the road to the storage lake in order to facilitate the accessibility for repair works.

Further significant reductions of water losses can be achieved by punctual replacements (around 0.5 km of DN 900 pipes) on the stretch between the distribution point and storage facilities in Shoumen.

B) Extension and Refurbishment of the Sewerage Network

B1) Extension of the sewerage network

Three new main collectors of a total length of around 7,2 km, sewerage extensions of around 5,6 km and a pressure pipe of around 4km will connect around 30 000 inhabitants in Shoumen and the neighbouring village Divdyadovo to the waste water network.

This sub-component will include the installation of a new waste water pumping station. The supply of maintenance and sewer survey equipment in order to increase the operation and maintenance efficiency, i.e. mobile unit for sewerage cleaning, including CCTV and mobile sludge extractor will be provided within the Technical Assistance component.

B2) Refurbishment of the sewerage network

After a first detailed inspection of the sewer system the final beneficiary identified 12 sections of frequent collapses and dysfunction of the pipe work in particular due to outworn materials and under dimensioning of the sewers in place. The sub-component B2 foresees to replace around 5 km of sewerage by using different pipe diameters between 300 mm and 800 mm.

Execution of additional sewer surveys, the modelling of the sewer network (including rain-water facilities), detailed design of the sewer rehabilitation component, which will have to address solutions for reducing the impact of rainwater on the waste water treatment cycle, and advice to the water company on the further development/maintenance of the system will be provided under the TA-component.

C) Extension of Waste Water Treatment Plant to secondary treatment

Shoumen Municipality and Regional Water Company (RWC) have completed construction of a preliminary and primary stage WWTP which has been operating since 21 July, 2003. This plant has been constructed on an immediate adjacent site and the proposed secondary biological WWTP will integrate fully with the existing plant.

Accordingly the proposed works for extension of the WWTP consists of the following main elements:

- Selector tank with distribution chamber
- Aeration tanks with air diffusers and mixers and anoxic zones,
- Variable speed blowers for aeration tanks
- Distribution chambers
- Secondary settling
- Sludge pumping stations
- Digester for primary and aerated excess sludge
- Sludge storage/ thickening facilities
- Gas holder
- Pipe work for connecting of all elements of the WWTP.

The WWTP will be upgraded estimating an average dry weather flow of 29 460 m³/day in order to serve a connected population of ca.110 000 inhabitants in 2022.

In terms of biological load, the plant will be rehabilitated for some 156 000 p.e. (population equivalent) composed of 110 000 p.e. from domestic consumers, 46 600 p.e. (ca. 29%) for industry.

Parameters	**Unit**	**Situation without ISPA Measure** **(Outlet parameters)**	**Situation with ISPA Measure** **(Outlet parameters)**
Overall design capacity	m^3/d	54 350	29 460
Population equivalent	p.e.	126 000	156 000
BoD	mg/l	239	25
CoD	mg/l	476	125
Suspended solids (SS)	mg/l	245	35

The works are designed to meet effluent standards within the Urban Wastewater Directive for discharges from agglomerations greater than 10 000 population to waters that have not been designated sensitive waters.

The plant rehabilitation will include provisions to enable cost-effective process upgrading to meet the requirements of discharge to sensitive waters (tertiary treatment) when required. Sludge treatment facilities will be improved during the present works.

Given some uncertainties regarding wastewater quantities and qualities (due also to the relatively low level of knowledge of the sewerage network), a review of the WWTP hydraulic and pollution load will be undertaken before the preparation of the relevant tender documents.

D) TA/Supervision component

D.1) Technical assistance for procurement support and to assist project implementation:

- Advice to the Project Implementation Unit (PIU) on the use of mapping, GIS and network models equipment in order to undertake a proper inventory of the water supply and sewerage network assets;
- Execution of additional sewer surveys, digital mapping, modelling the sewer network model (including rainwater facilities), detailed design of the sewer rehabilitation component addressing solutions for reducing the impact of rainwater on the waste water treatment cycle and advice to the water company on the further development/maintenance of the system;
- Review of the hydraulic design and pollution load for the WWTP (installation of an on-line registration flow to the WWTP, installation of automatic sampling equipment and proper analysing facilities of the wastewater samples, inventory of industrial wastewater flows, inventory of rainwater flows);
- Advice to the PIU on tendering, tender evaluation and award of contracts.

D.2) Supervision during implementation: a FIDIC supervising engineer will be in place to supervise implementation of the works, and act as FIDIC engineer for the foreseen three works contracts. The supervising engineer will also assist the PIU in the following activities:

- Ensure that contractors fulfil all obligations with regard to provision of operating manuals and training of the staff of the utility company in the operation of newly constructed/rehabilitated infrastructure.
- Development of an operation and maintenance strategy in order to optimise asset management.

D.3) Publicity for the project**:**

- This will cover both publicity of the EU contribution to the ISPA measure and also an awareness campaign as regards the improvements in the quality of services following the investments.

6.2.2. Right of ownership

All new constructed water and wastewater assets will be owned by the Municipality of Shoumen. The operation and maintenance of the assets will be provided by the Shoumen Regional Water Company. The shareholders structure of the Shoumen RWC is as follows:

- 51 % State ownership;
- 23 % Shoumen municipality ownership;
- 26 % Nine smaller municipalities situated in the Shoumen region – Veliki Preslav, Venec, Varbica, Kaolinovo, Hitrino, Kaspichan, Nikola Kozlevo, Novi Pazar and Smjadovo.

If the Bulgarian authorities decide to select a new regional operator, this operator will have to:

- be selected through an open and transparent tendering procedure, under terms acceptable to the European Commission;
- present a specific operation and maintenance programme under terms acceptable to the Commission.

7. OBJECTIVES

The overall objective of the measure is to protect the Poroiyna and Kamchyia Rivers (and ultimately the Black Sea) from polluting discharges of untreated sewage and industrial wastewater as well as to minimise the environmental impacts and the risks to human health for the population living in the target areas served by the new upgraded WWTP**,** in the areas around the receiving waters and in the Black Sea coastal area.

In particular, the measure will:

- Help to meet the provision of drinking water standards set by the EC Drinking Water Directive 98/83/EC.
- contribute to the implementation of the Water Framework Directive 2000/60/EC by introducing greater efficiency of water use through improved supply and demand management.
- Enable the city of Shoumen to achieve compliance with Urban Waste Water Directive 91/271/EEC for discharging into non-sensitive water bodies;
- Mitigation of health risks in Shoumen town by refurbishment of the sewerage network.
- Build-up an effective environmental infrastructure to facilitate economic activity;
- Protect the developing tourism industry in the region and in the Black Sea Coast area.
- Improve the conditions for the development of regional economic activities and tourism in the Black Sea area.

7.1. Physical Indicators (indicative)

Key indicators will be used to monitor physical progress of the measure implementation. However, as a final design of all components will be prepared by the Contractor, the figures will be presented after approval of Tender Dossier for works contract.

8. WORK SCHEDULE (INDICATIVE)

	Component	Tendering	Award	Completion
1	Preparation of Tender documents, Technical Assistance and FIDIC works supervision	January 2004	September 2004	December 2008
2	Rehabilitation of water supply and water supply networks	January 2005	September 2005	June 2008
3	Rehabilitation of the sewerage network	June 2005	December 2005	December 2008
4	Rehabilitation of the WWTP	June 2005	December 2005	December 2008

9. ECONOMIC AND SOCIAL COST-BENEFIT ANALYSIS

An economic internal rate of return has not been calculated due to the difficulties in quantifying many of the economic benefits of the project. These benefits include in particular: (i) Better quantitative and qualitative water supply guarantee for the population of Shoumen (ii) environmental benefits resulting from improved water quality in the receiving waters and in Black Sea; (iii) health impacts resulting from reduction of waterborne diseases, (iv) the long term commercial implications of improved wastewater treatment facilities related to development of tourism industry.

A cost effectiveness analyses was carried out to consider the technical and financial impact of alternative solutions and to help select the optimal solution.

10. MAIN ELEMENTS OF FINANCIAL ANALYSIS

A financial analysis of the project has been carried out to ensure its viability and affordability. This shows that the investment is fully able to meet the projected operating and maintenance costs over its expected lifespan. Without ISPA grant at the proposed 75% the project would not be viable and would not be able to proceed.

An overall assessment of the ability of the area concerned to support this project and other related investments in the water sector was also undertaken. The results of this global analysis demonstrate that the project is affordable to the local population under agreed assumptions relating to tariffs, likely income growth and the impact of other essential investments.

11. ENVIRONMENTAL IMPACT ANALYSIS

The investment falls within the scope of Annex II of the Directive 85/337. The national authorities have discretion to decide if the EIA is required and decided to carry out the EIA. The competent authority is the Ministry of Environment and Water.

The Decision on EIA for the WWTP was taken in April 2002 with three distinct categories of detailed recommendations which will have to be followed before the start of the measure, during the construction and during the operation period of the new wastewater treatment plant. The public consultation was held on March 2002.

In Bulgaria the municipalities are obliged to take into account the EIA recommendations.

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

1) EC Directive 91/271 on Urban Wastewater Treatment;

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;

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.

12. COST AND ASSISTANCE (IN €)

A. Indicative Cost Breakdown between types of Expenditure

Item	Total costs (Euro)	Non-eligible costs (Euro)	Total eligible costs (Euro)
Preparatory works	185 000	185 000	
Main works	19 386 000		19 386 000
Plant and machinery	5 075 000		5 075 000
Technical assistance /Supervision	2 744 000		2 744 000
Hydraulic TA Equipment	725 000		725 000
Contingencies	2 200 000		2 200 000
Tax/public levies	n.a;		
TOTALS	**30 315 000**	**185 000**	**30 130 000**

Total cost	Private sector contribution	Non eligible expenditure	Total eligible cost	ISPA grant	Grant Rate %
30 315 000		**185 000**	**30 130 000**	**22 597 500**	**75 %**

Rate of assistance: 75 %

The national counterpart financing will be provided by the State Budget.

13. INVOLVEMENT OF IFIS

No IFIs are involved in the co-financing of this measure at this stage. However, discussions are ongoing with the EIB and EBRD for the possible future co-financing of the water projects in Bulgaria.

14. SPECIFIC CONDITIONS RELATED TO THE MEASURE

See Article 8 of the Financial Memorandum.

15. PROCUREMENT PLAN

The works and services will be implemented according to the procurement plan appended as annex I.a.

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ANNEX I.a

Provisional Procurement Plan

Tender N°	Description of works and services to be tendered	Type of contract (works, supplies or services)	Provisional month of launch of tender (month/ year)	Rate of reimbursement of invoices relating to specific contract
1	Tender documents, technical Assistance and FIDIC works supervision	Services (PRAG)	January 2004	75%
2	Rehabilitation of water supply and water supply networks	Works – FIDIC Red	January 2005	75%
3	Rehabilitation and extension of sewerage networks	Works – FIDIC Red	June 2005	75%
4	Rehabilitation of the WWTP	Works – FIDIC Yellow	June 2005	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: Shoumen Water Cycle Improvements
ISPA No: 2002 BG 16 P PE 018

Euro

Year	Total Cost	Non Eligible Cost	Eligible Cost								Loan from IFI*	
			Total		ISPA		National authorities					
							Central Government	Regional Authority	Local Authority	Other*		
	1 =2+3	2	3 =5+7+8+9+10	4 (%) =3/1	5	6 (%) =5/3	7	8	9	10	11	12 (%) =11/1
2000	-	-	-		-		-	-	-	-	-	
2001	-	-	-		-		-	-	-	-	-	
2002	-	-	-		-		-	-	-	-	-	
2003	22.988.609	-	22.988.609	100	17.241.457	75	5.747.152	-	-	-	-	
2004		-	-		-			-	-	-	-	
2005	3.013.000	-	3.013.000	100	2.259.750	75	753.250	-	-	-	-	
2006	4.128.391	-	4.128.391	100	3.096.293	75	1.032.098	-	-	-	-	
non annualised	185.000	185.000	-				-	-	-	-	-	
Total	30.315.000	185.000	30.130.000	99	22.597.500	75	7.532.500	-	-	-	-	-

* to be specified