

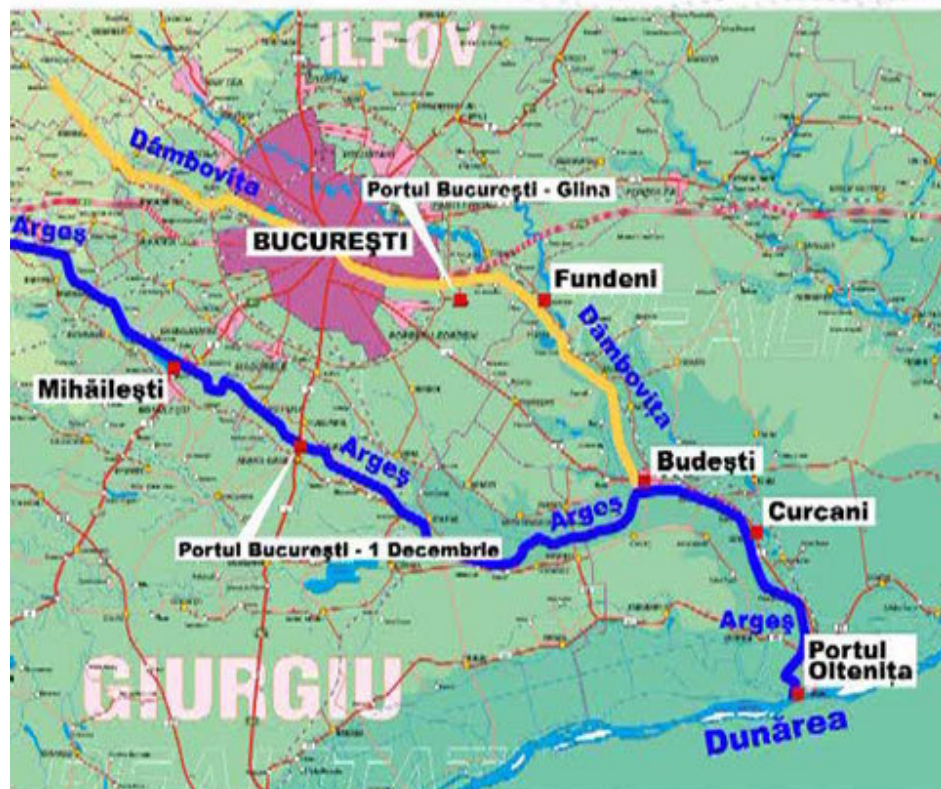


GOVERNMENT OF ROMANIA

DEPARTMENT FOR INFRASTRUCTURE PROJECTS
AND FOREIGN INVESTMENT

FINANCING, DESIGN AND EXECUTION OF BUCHAREST - DANUBE CANAL.

SYSTEMATIZATION OF ARGESŞ AND DÂMBOVIŢA RIVERS
FOR NAVIGATION AND OTHER USES



1. Main indicators of the project

1.1. Investment value

EUR 1.706 billion (VAT included)

Of which **C + M = EUR 1.234 billion (VAT included)**

The investment value according to the Feasibility Study (VAT included) was determined at the exchange rate valid on 30.04.2012: 1 EUR = 4.3970 lei.

External / Internal financing sources for 2013: No budgetary allowances or external funds are anticipated for the year 2013 for this investment objective.

1.2. Location / Length of waterway

Location: The course of Argeş river downstream of Mihăileşti – Cornetu lake and the course of Dâmboviţa river downstream of the bridge on Bucharest municipality's beltway, on the territory of Ilfov, Giurgiu and Călăraşi counties:

- a) The course of Argeş river shall be navigable starting from the Danube and up to Bucharest – 1 Decembrie port, on a length of approximately 73 km.
- b) The length of the waterway on Dâmboviţa between Glina and Budeşti shall be of approximately 31 km.

Length of waterway : **104 km**.

1.3. Estimated completion deadline

The completion deadline for the execution of works is estimated at **60 months (5 years)**.

1.4. Beneficiary

Currently, the investment objective „Systematization of Argeş and Dâmboviţa rivers for navigation and other uses” is with **CN Administraţia Canalelor Navigabile SA (National Company “Administration of Navigable Canals”)**.

2. Necessity and opportunity of the investment

The systematization of Argeş and Dâmboviţa rivers will lead to the development of objectives and activities. The investment „Systematization of Argeş and Dâmboviţa rivers for navigation and other uses” complies both with the development policy of the EU fluvial transport network and with the Government’s policy to align the national transport system with the European one.

2.1. Economic objectives

By the execution of the works for the „Systematization of Argeş and Dâmboviţa rivers for navigation and other uses” the following objectives shall be achieved:

Navigation:

- ✓ By the connection of Bucharest Municipality with the Danube river through a waterway with a transport capacity of over 24 million tons/year, Bucharest Municipality shall connect to the main trans-European navigation artery, which shall enable Bucharest’s direct communication with other European capitals and metropolis, such as: Belgrade, Budapest, Bratislava, Vienna, Frankfurt, Duisburg, Rotterdam etc.;
- ✓ Furthermore, the direct access to Constanţa Maritime Port, and through Rhine – Main – Danube Canal to the European network of waterways - The Pan-European Transport Corridor VII shall be possible.

Electricity generation:

- ✓ The execution of Bucharest - Danube Canal shall make possible the generation of approximately 126 GWh/year of electricity, renewable in the hydroelectric power plants from the hydrotechnical nodes of the arrangements.

Flood protection:

- ✓ By the execution of the investment objective, a number of 11 localities, approximately 9,797 individual households, and up to 50,00 ha of land, 378 km of roads, 5 km of railway and 126 socio-economic objectives shall be protected against floods.
- ✓ monitoring and transit of flood overflows with design values of approximately 1.740 cm/s in Grădinari section and of 1.900 cm/s downstream of Budeşti.

Water supply and irrigations:

- ✓ Possibility of water supply of the neighbouring localities and ensuring the necessary water for the future irrigation of a total surface of agricultural land of up to 150 thousand ha.
- ✓ Also the possibility of executing drainage systems and the disposal of the excess water on a surface of up to 30 thousand ha.

Tourism development in the area:

- ✓ Development of recreational and cross-border tourism, by the execution of touristic ports and landing places in Oltenița and Bucharest - 1 Decembrie ports.

Arrangements for pisciculture:

- ✓ Development of the possibility of executing arrangements for pisciculture on a surface of approximately 1,250 ha.

2.3 Social objectives

- ✓ By the systematization of Argeș and Dâmbovița rivers, related objectives and activities shall develop, which lead to the creation of new jobs and thus assimilating the unemployment.
- ✓ Logistic areas and possibly industrial parks shall develop in the proximity of ports.
- ✓ The localities situated along Argeș river shall benefit from a high development potential by the execution of the arrangement, the urban development towards the river's bank being imperative.
- ✓ In the riverside areas, where greenfield industrial projects shall be developed or other specific activities shall be conducted, specialized terminals shall be placed, especially for grain and other types of freight.
- ✓ The project's social importance in the development area is obvious by the creation of new jobs, both during the execution and exploitation stage.

3. Characteristics of the arrangement

By the execution of the works, a 104 km waterway, of which 73 km from the systematization of Argeș river and 31 km from the systematization of Dâmbovița river, shall be commissioned.

On Argeş river.

The course of Argeş river shall be navigable starting from the Danube and up to Bucharest – 1 Decembrie port, on a length of approximately 73 km. Towards upstream, the river was further embanked up to the dam of Mihăileşti – Cornetu lake, on a length of approximately 10 km, thus ensuring the protection of the bordering localities and lands against floods.

The works for the systematization of the lower course of Argeş river consist in the river's harnessing, in order to allow the access of the convoys formed of a barge (2,000 tons) and the related tugboat, as well as its embankment and sectioning by 4 lock stages which take over the difference of level of approximately 53 m, between the levels of Argeş waters in Bucharest port and the confluence with the Danube.

The transport capacity of the waterway on Argeş river, determined by the adopted design convoy and the dimensions of sluices, is of up to 16 million tons/year.

On Dâmboviţa river. The arrangements for rendering Dâmboviţa river navigable consider the canalization, embankment and sectioning of the course along the section between the road bridge crossing the river at Glina and its confluence with Argeş river at Budeşti. The waterway on Dâmboviţa river and its related structures, including the sluices from the hydrotechnical nodes Tânganu and Cucuieti, considered the design convoy formed of one barge with a capacity of 1,500 tons and the related tugboat. The transport capacity of the waterway on Dâmboviţa river - Glina - Budeşti section - is of 4 million tons/year.

For the systematization of the lower courses of Argeş and Dâmboviţa rivers, a design convoy formed of one barge of 2,000 tons with a 800 HP tugboat was adopted. In this way, up to Bucharest's two ports (1 Decembrie and Glina), the following self-propelled vessels frequently transiting the European waterways shall have access: container ships with a capacity of 200 TEU, cargo ships with a capacity of 600 vehicles, RO-RO vessels for 72 units, passenger ships for 150 passengers etc.

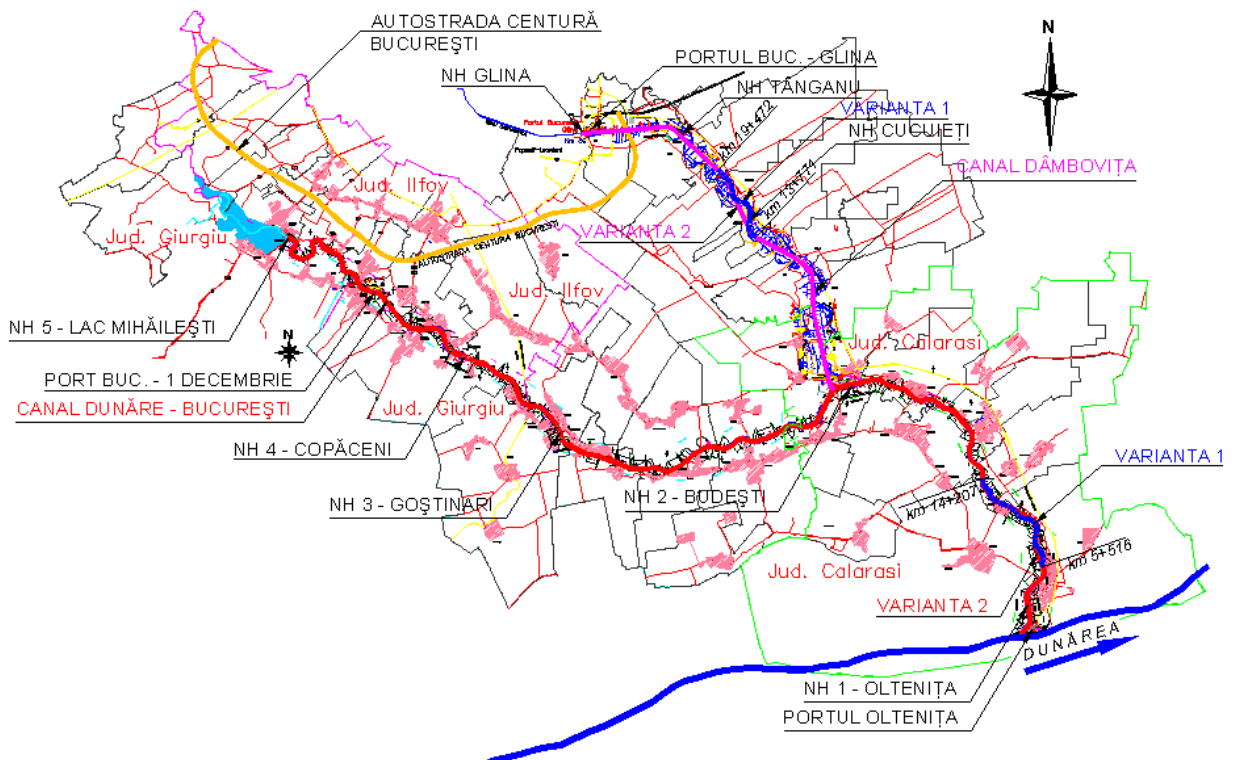
The two waterways (Argeş and Dâmboviţa) shall also be used by the vessels frequently transiting the European waterways having: a total length of 110.00 m, a width of 11.40 m and a draught (when full) of 3.00 m.

4. Technical characteristics of designed works

Taking into consideration the characteristics of the adopted design convoy, as well as the provisions of GT-20-2006 AIPCN – regarding the "Standardization of inland

waterway parameters”, the following geometrical elements were adopted for the design of the arrangements on Argeş and Dâmboviţa rivers, as follows:

- minimum range 750 - 1,000 m
- minimum width in alignment at the level of the design barge’s keel, in safety conditions of navigation 48.4 m
- minimum width at the base of the navigable channel section on Argeş river from discharge of high floods with provision of 1% 80 m
- minimum width of the navigable channel on Dâmboviţa river, at the section’s base, in alignment 40.0 m
- minimum water depth in navigable channel 4.5 m
- minimum length of alignments, between two bends - from convoy’s maneuvering requirements (GT - 20 – 2006 AIPCN recommendations)
 - in case of bends in the same direction (2 Lc) 220 m
 - in case of bends in the opposite direction (3 Lc) 330 m
- the air line above water level at the maximum navigable level (500 m³/s on Argeş river and 2% on Dâmboviţa river) 11.0 m



5. Constructive structure

5.1. Sections of arrangements

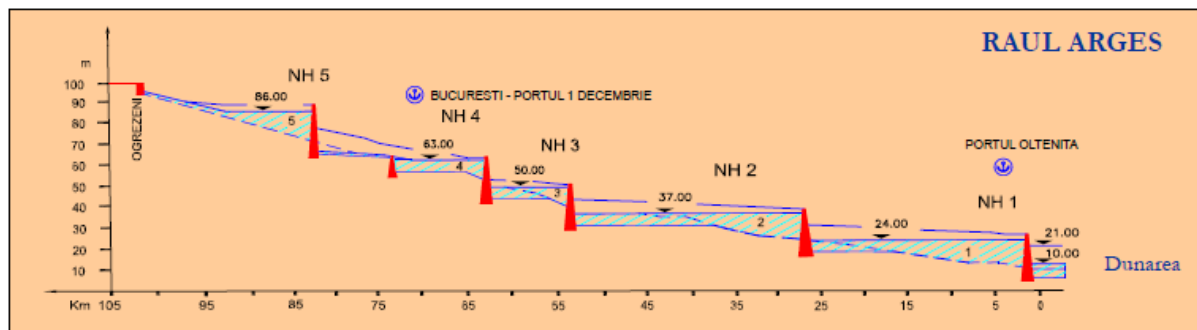
On the harnessed course of Argeş river

Longitudinal profile

4 lock stages were executed along the river's navigable sector with waterfall at a normal retention level of 13.0 m. The lock stages are designed as hydrotechnical nodes, with the same spatial location for both layout alternatives, being situated as follows:

- the hydrotechnical node NH 1 - at Oltenița; it provides connection with Danube's levels
- the hydrotechnical node NH 2 - at Budești, immediately upstream of the current Dâmbovița – Argeş confluence;
- the hydrotechnical node NH 3 - at Goștinari, upstream of Neajlov – Argeş confluence;
- the hydrotechnical node NH 4 - at Copăceni/Varlaam.

The hydrotechnical nodes together with the bottom sill from km 73+465 delimit a number of 5 sections on the lower harnessed course of Argeş river.

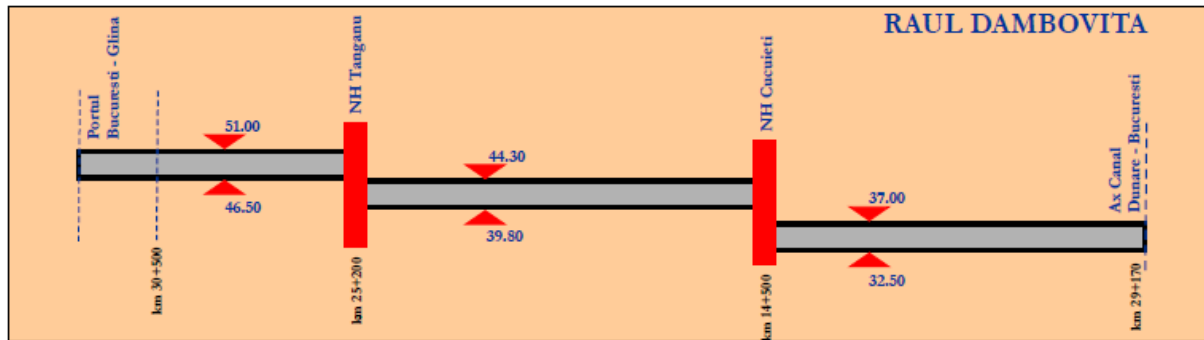


On the harnessed course of Dâmbovița river

Longitudinal profile

The lock stages, respectively the hydrotechnical nodes Cucuieți and Tânganu take over the difference of level of 14.60 m between the normal retention level downstream of NH Glina, respectively the area of Bucharest - Glina port and the normal retention level on Argeş river, in the confluence area Dâmbovița – Argeş.

The hydrotechnical nodes delimit a number of 3 sections on the lower harnessed course of Dâmbovița river.



5.2. Hydrotechnical nodes

On Argeș river

The hydrotechnical nodes designed on Argeș river are complex arrangements executed in the lock stage section. Each hydrotechnical node is equipped with:

- overflow dam of high waters with 3 surface spillways at NH 1 - Oltenița and NH 2 - Budești and 2 spillways at NH 3 – Goștinari and NH 4 – Copăceni and bottom discharges;
- double sluices ensuring the transit of vessels from one section to another;
- power plant for processing the potential hydro-energetic potential.

On Dâmbovița river

The hydrotechnical nodes designed on Dâmbovița river at Tânganu and Cucuieți consist of:

- high waters spillway;
- single sluice;
- hydroelectric power plant.

5.3. High waters spillways

On Argeș river

The high waters spillways are supplied with valve tainter gates, with a dimension of 10 x 5.75 m, (1.25 m height of valve).

The dimensions of the sluices are set in accordance with those of the design convoy, namely:

- | | | |
|--------------------------|----------|---------|
| ▪ length of lock chamber | 130.00 m | |
| ▪ functional width | | 12.50 m |
| ▪ weir depth | 4.75 m. | |

In case the flow rates on Argeş river exceed 500 m³/s, the navigation shall be stopped and the sluices shall be employed for discharging the flood.

The sluices are equipped at the upstream point with a tainter gate with the dimensions of 12.50 x 6.50 m and valve of 1.25 m.

At flood overflows exceeding 5% (over 1000 cm/s), the main sluice is used for discharging the flood as follows:

- at flow rates with provision of 2% (approx. 1400 cm/s) - with one sluice,
- at flow rates with provision of 0.1 % (over 2800 cm/s) - with both sluices.

On Dâmbovița river

The high waters spillways in each location have 3 tailboards of 8-meter width, supplied with tainter gates, with a height of 3.50 m (1.25 m height of valve).

The sluice has a functional length of 130 m, the width of the lock chamber is of 12.50 m and a weir depth of 4.75 m.

The sluice's dimensions enable the navigation of the convoy formed of one barge of 2,000 tons and the related tugboat, as well as of the specialized European vessels with a length of 110 m.

5.4. Waiting stations

On Argeş river

The waiting bays from sluices have a width of 90 m, the length of mooring structures is of 130 m and that of orientation structures of 120 m. The waiting areas are equipped with the necessary plants and facilities (lighting, buffers etc).

On Dâmbovița river

The waiting stations from sluices are located on the left bank. The mooring structures have a length of 130 m, while the orientation structures have a length of 105 m. Orientation structures with a length of 60 m are placed on the right side.

5.5. Hydroelectric power plants

On Argeş river

The hydroelectric power plants are part of the embanked side of each hydrotechnical node. They are located between spillways and sluices.

The way the hydroelectric power plants are organized and respectively supplied is similar at all the hydrotechnical nodes. The table below shows the supply characteristics of hydroelectric power plants:

Item no.	Name of hydrotechnical node (NH)	Number of energy groups	Rough waterfall (m)	Installed flow rate (m ³ /s)	Installed capacity (Mw)	Em (GWh/year average)
1.	HPP NH1 - Oltenița	2	14	55	5.25	31.12
2.	HPP NH2 - Budești	2	13	55	5.92	36.04
3.	HPP NH3 - Goșinari	2	13	55	5.92	20.63
4.	HPP NH4 - Adunații Copăceni - Varlaam	2	13	55	5.92	21.97
	Total		53		23.01	109.75

The subassembly represented by HPPs is composed of the area related to the location of the two groups the power plant is equipped with and the mounting platform below which there are two bottom discharge galleries. The dimension of the bottom discharge valves from NH1 and NH2 is of 5.50 x 3.30 m, while in case of NH3 and NH4 the valves' dimension is of 4.50 x 3.0 m.

On Dâmbovița river

The supply characteristics of hydroelectric power plants in the hydrotechnical nodes are presented in the table below:

Item no.	Name of hydrotechnical node (NH)	Number of energy groups	Gross fall (m)	Installed flow rate (m ³ /s)	Installed power (Mw)	Em (GWh/year average)
1.	HPP NH ₁ - Cucuieți	2	7.30	24	1.41	8.04
2.	HPP NH2 Tânganu	2	7.30	24	1.41	8.56
	Total		14.60		2.82	16,60

5.6. Ports on arrangements

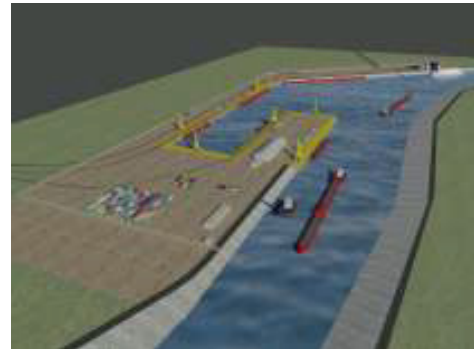
Three operational ports were designed on the harnessed courses of Argeș and Dâmbovița rivers, as follows:

- two ports for the capital - one in the South-West part of the Municipality - on Argeş river, entitled Bucharest – 1 Decembrie and one in the South-East part, on Dâmbovița river, entitled Bucharest – Glina;
- Oltenița port situated at the confluence of Argeş river with the Danube river.

Each port represents a series of structures and works consisting of: the port waters with operational berths, the mooring structures, the storage platforms, the structures serving the exploitation process, the connections with the terrestrial infrastructure etc.

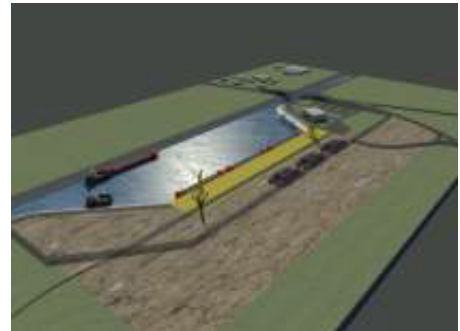
Bucharest – 1 Decembrie Port is equipped with operational quays with a length of 2.35 km, of which vertical bridges with a length of 1.45 km and lined quays with a length of 0.90 km.

1 Decembrie Port is the main port of the arrangement, with a capacity of 16 million t/year. The length of the already executed quays is of about 2.0 km, the port platforms with a surface of 10,000 sqm, also being partially concreted. The port provides the vessels' mooring for loading/unloading and the berthing of the awaiting vessels, at operation or in case of floods on Argeş river.

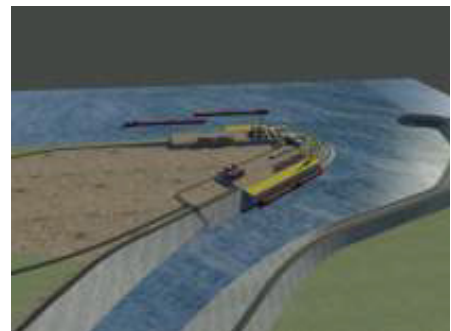


Within the ports' proximity, there are connections to the road and rail network and large areas for the development of logistic spaces and specialized terminals are available.

Bucharest – Glina Port is equipped with a bay for freight operation having a length of 345 m; on the western side is located the passenger berth and on the eastern side the waiting and bunker berths.



Oltenița Port is situated at the confluence of Argeş river with the Danube; it is equipped with operational bays both on the left bank of Argeş river with a length of 120 m, and on the Danube, with a length of 130 m. Until completion of Oltenița port at the end of the arrangement, the existing port facilities from Oltenița port and possibly the facilities from Tutrakan port can be used.



6. Functions of Bucharest - Danube Canal

6.1. Transport of freight and passengers

The main function of Bucharest – Danube connection is that the freight transport shall be performed at lower costs in comparison with road or rail transport (by 5 - 6 times lower than rail transport and up to 20 times lower than road transport). Moreover, it also presents the advantage of lower energy consumptions (low carbon footprint). The waterway has a high transport capacity, which can be operated in safety and security conditions.

The ship transport of freight and passengers shall be performed by means of a waterway partially complying with the 5th class, respectively with Large Rhine ships, the biggest vessel with access being the vessel with a capacity of 2,000 t, regularly transiting the Danube, with access also to Rhine - Main - Danube canal.

The self-propelled vessels for freight and passenger transport, regularly transiting the European waterways, shall also have access on the harnessed river, respectively:

- Container ships
- Tankers with a capacity of 2000 t
- Passenger ships with a capacity of up to 150 passengers
- Vehicle cargo ships with a capacity of 600 vehicles
- Ro-Ro vessels which can transport 72 trucks with freight

6.2. Vessels and transport statistics

Specialized companies operate in Romania which possess the available fleet of freight transport by inland waterways, barges and tugboats. They ensure a regular transport between various destinations, especially on the route Bucharest-Constanța. According to the national statistical data, in 2009, the specialized companies registered a number of **1232 non-propelled vessels** for freight transport, with a capacity of 1.533 mil. tons, **258 tugboats** or pushers and **65 passenger ships** with a capacity of 7000 seats.

Furthermore, in 2009, almost 25 million tons of freight was conveyed by inland waterways, respectively 36 million tons of freight by sea boats. The number of passengers conveyed by inland waterways was of 161 thousand in the year 2009, with an average of over 190 thousand passengers in the last 5 years.

Under the conditions of market economy, according to the EU regulations, the fluvial transport carriers from all member states can access this waterway, including

the companies from the riverside countries, the Danube river having the status of international water.

The global tendency, on long term, is for freight to be switched from the bulk transport system to containerized transport system.

The freight estimated to be conveyed is the one which can be containerized, to which are added: construction materials (steel, cement, aggregates, prefabricated products), oil products (gasoline, gas oil), biofuels and grain. For these purposes, specialized terminals are available in the Romanian maritime ports and some of the fluvial ports.

The main freight transport connection shall be with Constanța port, respectively the container terminal and the other specialized terminals, to which the specialized terminals from other Danubian ports are added.

6.3. Traffic capacities

The traffic capacities of the navigable connections between the country's capital and the Danube, of the related ports, as well as the traffic estimated for the year 2025 are presented in the table below:

Name of waterway, port Maximum traffic capacity mil. t/year

Waterway on Argeș river	16
Waterway on Dâmbovița river	4
Bucharest – 1 Decembrie (on Argeș river) Port	15
Bucharest – Glina (on Dâmbovița river) Port	3.0
Oltenița Port (at the confluence with the Danube)	2.5

7. Brief history of project:

The preoccupations for the construction of a navigable artery which would connect the Romanian capital with the Danube date back to more than 125 years ago, certified by the designs and proposals prepared at that time.

The technical and economic documentations for the systematization of the lower courses of Argeș and Dâmbovița rivers for navigation, irrigation, electricity generation and other uses were prepared in the year 1982.

On July 4th 1986, under the Decision no. 242 it was approved the layout of the arrangements on Argeş river, the location and the main technical characteristics of the objectives to be executed (ports, hydrotechnical nodes, waterway passages etc.). Under this Decision it was authorized the commencement of basic, related and collateral works and their performance based on the execution specifications and estimate, with constructive solutions approved by the General State Inspectorate for Investment - Constructions.

Under the Decision no. 292 dated December 28th 1987 it was approved the systematization of the lower course of Dâmbovița river starting from Vitan bridge and up to the confluence with Argeş river at Budeşti, on a length of 38.9 km. We mention that as of the confluence with Argeş river, Dâmbovița river was to be harnessed for freight transport on a length of 31.5 km, and the recreational navigation to be further considered.

Following some natural disasters, during the period 1986 - 1990, it was proceeded to the systematization for navigation, irrigations and other uses of the course of Argeş river downstream of Grădinari bridge (Bucharest – Craiova line) – in 1986 and of Dâmbovița river, from Bucharest's beltway to Budeşti (Dâmbovița – Argeş confluence) - in 1987.

In January 1990, the execution of the works for the complex arrangements on Argeş and Dâmbovița rivers was suspended and abandoned, and following that, they were - in great measure - vandalized.

Argeş remained a river partially harnessed/marked by non-completed construction works, with no economic use, and employed for the storage of household and construction waste, a non-controlled source for exploiting gravel and valorizing as scrap everything that can be recovered from the public investment of about RON 20 billion in 1990.

The abandoned gravel plants within the proximity of dykes endanger their stability. The transport of gravel products with high-capacity dump trailers on undeveloped exploitation roads causes dust pollution of all the riverside localities, as the roads are not maintained. The nearby forests were partially cut, for exploiting wood or for exploiting gravel plants.

The transport of gravel or rock products even destroyed the national roads, DN4 road from Oltenița to Bucharest being extremely affected by the execution of the aggregate terminals from Oltenița and the rock transport to Bucharest.

The works were commenced on the entire layout, some categories of works being completed in proportion of 50 – 80%.

The cost of the executed works amounted to approximately RON 15 billion (1990), respectively over USD 1 billion (1990).

The connections to the railway, the site organizations, the infrastructure of the hydrotechnical nodes were destroyed in proportion of 50-100%.

8. Feasibility Study

The Feasibility Study „Systematization of Argeş and Dâmbovița rivers for navigation and other uses” was approved in:

- **C.T.E. C.N. A.C.N. S.A.** (Approval no. 14205/19.12.2011 and no. 5713/29.05.2012),
- **C.T.E. M.T.I.** (Approval no. 71/80 of 19.07.2012),
- **The Interministerial Council for the Approval of Public Works of National Interest and Housing** (Approval no. 42/17.08.2012).

For the issuance of the Government Resolution, the assessment of the private property lands situated on the expropriation corridor related to the investment objective must be elaborated.

The designer of the Feasibility Study is the joint venture of S.C. IPTANA S..A.; S.C. ISPH S.A.; S.C. AQUAPROIECT S. A.

9. Impact on the environment

The execution of works shall have favourable ecological influences on the microclimate, given the execution of a body of water with a surface of almost 4000 ha in a area with low precipitation.

10. Economic solutions

10.1. Return on investment

The cost-benefit analysis for the investment “**Systematization of Argeş and Dâmbovița rivers for navigation and other uses**” assessed the return of the investment from two perspectives:

- In terms of **socio-economic efficiency**, where six categories of economic benefits were assessed and the level of economic return was analyzed;
- In terms of **financial return (profitability)**, where the method by which the costs of investment and of maintenance and of operation are sustained by the revenues directly obtained by the Administrator of the Navigable Canal is analyzed.

In terms of economic efficiency, **the investment has an average socio-economic rate of return** (the economic internal rate of return **EIRR is above 10%**). The major weight in the estimated benefits is held by the benefits from employment generation, by the benefits from reducing the negative effects on the environment, as well as by the benefits from increasing the revenues of the State Budget.

Although **it was avoided the overestimation of social and economic benefits** (only a part of the economic benefits were monetized), the economic efficiency indicators of the investment comply with the representative values for this category of investments in the transport infrastructure.

Within the **financial analysis**, the following financial revenues were quantified, the weights of each category in total revenues being:

- Navigation revenues (51.7%)
- Revenues from electricity supply (36.5%)
- Revenues from tariffing passengers (0.5%)
- Revenues from land leases (1.1%)
- Irrigation revenues (8.2%)
- Pisciculture revenues (2.0%)

The results of the economic and financial analysis evidence the eligibility of the investment within a EU financing program.

The classification of the project within a public-private partnership can be performed by the identification of additional income sources, as well as by the implementation of optimal rates. Detailed price analyses regarding the

determination of the rates for taxing users, for purposes of maximizing the total revenues, at the Administrator's level, are necessary to be conducted.

In case of work concessions, the concession suitability study shall establish the optimal level of the state's financial intervention, with the purpose of achieving the agreed level of financial profitability.

10.2. Capacities in physical units

Item no.	Technical specifications (capacities)	Measurement unit	Argeş	Dâmboviţa
1.	Total length of the complex arrangement	km	82.912	30.485
2.	Harnessed length for navigation	km	73.289	30.485
3.	Number of sluices in hydrotechnical nodes.		4 double sluices	2 single sluices
	Characteristics of the lock chamber:			
	functional length	m		130.00
	functional width	m		12.50
	minimum weir depth	m		4.75
4.	Traffic capacity of waterway	mil. t/year	24.00	
5.	Ports of Bucharest municipality		Bucharest – 1 Decembrie km 72+000 on Argeş river	Bucharest – Glina km 30+235 on Dâmboviţa river
	▪ dockland	m ²		
	▪ total operational berths	m	336,000	
	▪ technical berths + bunkers	m	1,580	140,000
	▪ passenger berths + touristic ports	m	250	300
	▪ waiting bays	m	215	150
	▪ multifunctional building		435	115
	▪ built area	m ²		220
	▪ spread area	m ²	2,350	
	▪ traffic capacity of port	mil. t/year	4,900	-
			20	-
				4

6.	Oltenița Port		km 0+500 on Argeș river and km 431+850 on the Danube		
		▪ dockland	m ²	265,000	
		▪ total operational berths	m	310	
		▪ passenger berths + touristic ports	m	200	
		▪ waiting bays	m	220	
		▪ draft - retrieval bays for convoys	m	350	
		▪ multifunctional building			
		▪ built area	m ²	1,195	
		▪ spread area	m ²	2,305	
		▪ traffic capacity of port	mil. t/year	3.0	
7.	Hydroelectric power plants				
		▪ installed capacity	MW	23.01	1.41
	▪ electricity production in years with average precipitation	GWh/year	109.75	16.6	
8.	Overflow dam		3 at NH1, NH2	3 at NH Cucuieți and NH Tânganu	
		▪ tainter gates	Number of mouths	2 at NH3, NH4	
		m	10 x 5.75	8 x 3.50	
9.	Water supply for the irrigation of a total agricultural surface	ha	150,000		
10.	Possibility of piscicultural arrangements on surface	ha	1,250		
11.	Favourable influences on the microclimate - body of water on a surface exceeding	ha	4,000		

10.3. Investment payment schedule

In mii lei/mii euro la cursul: 4,3970 lei/euro din data de 30.04.2012

Anul	Procent din valoarea lucrarilor	Esalonarea investitiei			
		Valoare totala (inclusiv TVA)		Din care C + M (inclusiv TVA)	
		Mii lei	Mii euro	Mii lei	Mii euro
1	10%	750.185	170.613	543.003	123.494
2	25%	1.875.460	426.532	1.357.507	308.735
3	25%	1.875.460	426.532	1.357.507	308.735
4	25%	1.875.460	426.532	1.357.507	308.735
5	15%	1.125.276	255.919	814.504	185.241
TOTAL	100%	7.501.841	1.706.127	5.430.026	1.234.939

Project phases:

The project preparation for public-private partnership and the execution of the procedures can be completed in 12 months.

The planning of works and the site organization is completed in 12 months.

The works can be executed and commissioned in stages, on sections, in 3-4 years, according to the following schedule:

	Raul Arges	Raul Dambovita
Etapa I	Realizarea NH1 (Oltenita) Amenajarea raului Arges de la Dunare pana la NH2 (Budesti)	Amenajarea raului Dambovita de la Glina la Tanganu, inclusiv NH Tanganu
Etapa II	Realizarea si darea in folosinta a NH 2 (Budesti) si amenajarea raului Arges pana la NH 3 (Gostinani)	Amenajarea raului Dambovita pana la NH Cucuieti
Etapa III	Realizarea NH3 si amenajarea raului Arges pana la NH 4 (Copaceni)	Amenajarea raului Dambovita pana la NH Tanganu
Etapa IV	Realizarea NH 4 (Copaceni), finalizarea Portului 1 Decembrie si amenajarea raului Arges pana la Portul 1 Decembrie	Finalizarea Portului Glina