

# DT.1.2.1. Report on the capitalization of existing analysis

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***PP10 – BEP Report***

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## 1. SUMMARY

The present report provides an overview of the existing transport system, which is used by BEP's transport and logistics oriented members along with a preliminary analysis resulting in the identification of bottlenecks hindering the optimal performance of the transport and logistics sector in Piraeus in terms of transport infrastructure, operations and transport business environment.

Following a respective consolidation with the partners of the consortium, and taking the nature and role of BEP into account, the present exercise was implemented on a nodal point user approach, instead of an infrastructural transport provider approach. The new concept can be considered as an asset to the further implementation of NewBrain providing a comparative analysis of values between the nodal point administrators and their users.

Having the above noted, the first section of the report provides an overview of BEP's objectives, structure, its priorities as a supporting body to the members - all originating from the business sector in Piraeus - and its actions and interventions towards the development of a high-level business environment in Piraeus. An overview of the members of BEP is also presented, providing an insight of the transport and logistics operators. In addition, the main ports serving the flows originated or destined by the members of BEP are selected and presented as the main logistic nodes of the Piraeus transport system.

The second section presents a number of initiatives and various schemes adopted and implemented by BEP, in an attempt to support its members in transport and mobility issues focusing on a) infrastructure and mobility, b) professional training, and c) entrepreneurship development, acting as an umbrella for the support of its members.

The third section presents the main bottlenecks, identified by the BEP's members, acting as users of the present transport system and focusing on the evaluation of a) transport infrastructure and transport network connections and capacity, b) operations on nodal points for the support of infrastructure users, and c) business logistics issues on human resources, capacity and entrepreneurship in the marine and logistics sector.

The fourth section provides a first analysis of expected results prior to the elimination of the identified bottlenecks. The results are presented in three categories infrastructural, operational and business logistics.

The fifth section presents the overall bottleneck identification, performed by BEP members, along with the developed questionnaire. The exercise focused on an overall evaluation of the transport system in Piraeus, as part of a local, national and international transport network.

Finally, the sixth and final section provides the main conclusions drawn from the previous analysis and the next steps expected in NewBrain.

## 2. PORT/NODE USERS AND PRESENTATION OF SELECTED PORT/NODES

The section is divided into two categories presenting initially the scope, organisation and operation of BEP and an overview of its members, while the second refers to ports/nodes of the local and wider national and international transport system that the majority of members of BEP use as users for their imports/exports and their logistics.

### 2.1 PIRAEUS CHAMBER OF SMALL AND MEDIUM SIZED INDUSTRIES

#### Organisation

The Piraeus Chamber of Small and Medium Sized Industries, founded in 1925, is a public entity, with the key objective to protect and defend the interests and development regional business, including Piraeus— its center and the largest port in Greece.

It is supervised by the Ministry of Development and managed by elected representatives of a 61 member Board of Directors. The Board is elected every four years and is the central body, making the most important decisions regarding the Chamber’s activity.

The activities of BEP include:

- Issuing of certificates for any lawful use (tax office, banks, participation in competitions, etc.)
- Conducting expert appraisals for resolution of disputes.
- Providing opinions on draft laws, Presidential Decrees and decisions by the Central Administration which refer to small and medium sized industries, as well as suggesting and proposing amendments on laws and decisions already on the books.
- Monitoring the movement of the region’s small and medium sized industries with an eye on the viability of the businesses and their export activity.
- Through the idea of "One Stop Shop", facilitating, simplifying and speeding up the procedures for setting up and running a business by reducing barriers. This is possible by saving time and money for the new entrepreneur and relieving public administration of significant administrative costs, by creating an online network of cooperation amongst many departments / services.

#### Members

The Chamber has more than 15,000 active registered companies representing the majority of manufacturing activity in Piraeus. Its main business categories cover Heavy Industry Manufacturers, Manufacturers Industry, Marine Industry and Auto Industry. The chart below presents the allocation of BEP members in different

business categories belonging to the thematic area of NEWBRAIN.

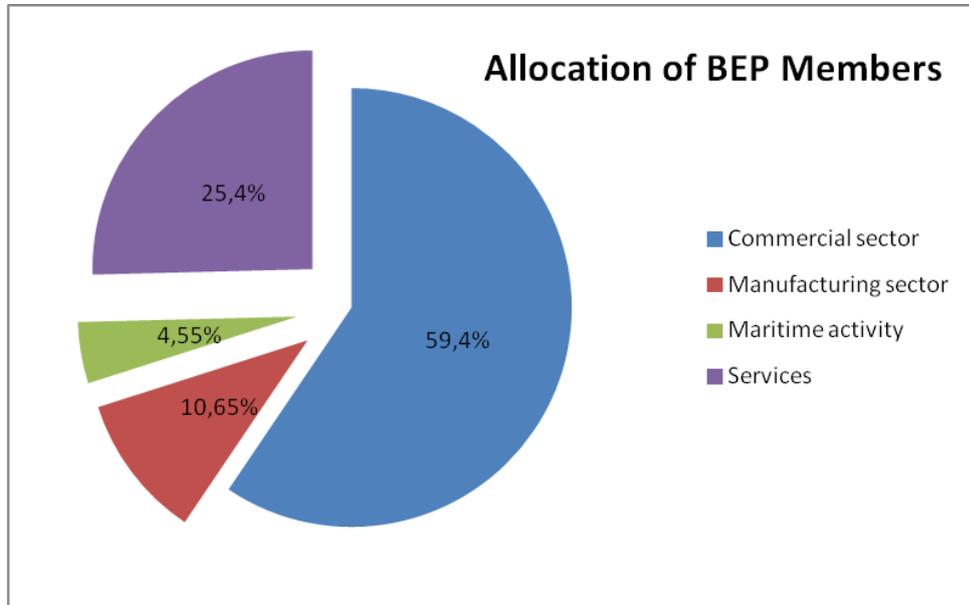


Figure 2.1: Allocation of BEP Members

In more details, the chart below presents the business category allocation of members of BEP which use the transport networks extensively.

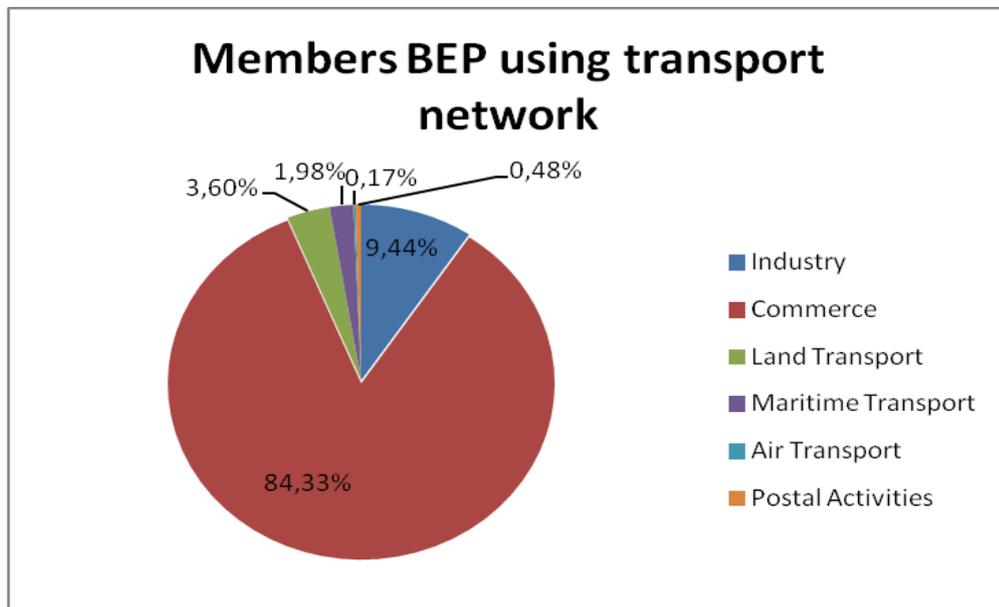


Figure 2.2: Members BEP using transport network

In terms of transport and logistics BEP members benefit on the issues by obtaining knowledge on optimized logistics services and related organizational measures and participating to activities supporting the enhancement of intermodal transports and intermodal connections to the hinterland including last-mile connections.

**Networking**

The Piraeus Chamber of Small and Medium Sized Industries supports networking and is active on relevant networks and clusters sharing their knowledge and experience and setting targets at enhancing the role of small and medium sized industries. Firstly, BEP is member of EESYM – Hellenic Chambers Transport Association, which consists of fifty chambers of Commerce and Industry from all over Greece along with several leading associations of road transport operators, shipping agents and hauliers, are currently EESYM members. EESYM is managed by a Board of Directors consisting of 11 members elected every four years by the General Meeting of its members. The key objectives and targets of EESYM and its members are:

- Exchange of experience and know-how in the sector of transports between Greek Chambers and other relevant bodies.
- Assistance in integrated national efforts to develop and modernise Greek Transport Systems.
- Study of specific transport matters locally, regionally, nationally and internationally.
- Cooperation with national and EU authorities and other European and international organisations and bodies involved in transport.

EESYM has made specific interventions and proposals to develop and modernise Greek transport systems, which were taken into account in making transport policy locally and nationally, and it has also studied several matters related to road, rail and combined transport infrastructure, port and maritime connections, and it proposed actions that became part of the National and EU priorities.

Additionally, a large number of BEP members are active in networking and they have formed a cluster, with the most representative one in the marine industry being WIMA – the Worldwide Industrial and Marine Association. WIMA is a non-profit Business Association of marine oriented companies and was founded in 2006. WIMA’s members are active in the fields of:

- Ship’s Construction – New buildings & Refitting.
- Ship Repairs.
- Ship’s Spare Parts & Supplies.
- Ship’s Technical and General Services.
- Manufacture of Marine Equipment.

**2.2 PORT/NODES SELECTED BY BEP MEMBERS**

The main ports serving the flows originated or destined by the members of BEP include primarily Piraeus and



on a smaller percentage the ports of Lavrion, Igoumenitsa and Patras. The port of Piraeus, which is the largest and busiest port of the country, is the main nodal point serving BEP members, supported secondarily by the port of Lavrion serving specific type of cargo. The present report will be presenting the two ports being considered as the main logistic nodes of the Piraeus transport system.

## 1) Port of Piraeus

Piraeus is the largest passenger port in the Mediterranean Sea and one of the largest worldwide. The port is the main passenger hub between the hinterland, the Aegean islands and Crete as well as the main maritime gateway to the European Union at its southeastern end. It is also a major commercial port handling a variety of cargoes (general cargo, containers, Ro-Ro, cars etc) along with its growing transshipment container traffic. The port of Piraeus is an international centre of transit and regional trade, with an annual container throughput of 3.6 million TEU in 2017 being ranked 3<sup>rd</sup> among Mediterranean commercial ports and 38<sup>th</sup> internationally.

The port of Piraeus is part of the core network of the Trans-European Networks of Transport (TEN-T) being a Type A port along the Orient-East Med Corridor, providing the port with the possibility of the development of a number of prioritised projects for increased capacity, operations and efficiency. Moreover its recently established shipping connections with Asia have constituted Piraeus as the premium import point from the manufacturing countries of Asia (China, Japan, Korea, India) to Europe.

### Infrastructure, activities, equipment

During the last decades, the port of Piraeus has invested in the acquisition of handling equipment necessary to cope with the constantly increasing cargo traffic and in order to improve customer services. Specifically, the Container Terminal of the port is currently equipped with straddle carriers, forklifts, heavy trucks and loading cranes. Furthermore, the port is also equipped with electric cranes, tractors, loaders, self driven cranes, and forklifts for several purposes.

Additionally, the port of Piraeus has adequate warehouse and cargo storage areas placed at the container terminal and the open space storage area, while in terms of terminals it consists of freight terminals covering container, car, ro-ro and bulk cargo traffic as well as passenger terminals serving both cruise and coastal shipping connections.

### Accessibility

The port has direct access to road network infrastructure through the national road network Athina – Korinthos and Athina - Thessaloniki. However, the road link interconnecting the port with the motorway is

often highly congested.

The rail connection serves the port of Piraeus locally, connecting the Ikonion container terminal with the Thriassion freight center. The connection consists of a single-track standard gauge railway line, of a total length of 17 km, with an alignment design speed of 90 km/h. The line serves freight trains only.

### **Existing information and communication technologies**

The operations of the Container Terminal of the Piraeus port are supported by a Port management Information System (P-MIS), operational since 2000, which electronically links all port members (port administrator, terminal operators, shipping agents, freight forwarders). It offers real time information on all cargo status, as well as availability of port facilities and billing.

## **2) Port of Lavrion**

Lavrion port is located around 60 km from the Athens city center and has a 35 km distance from the Athens International Airport. The port of Lavrion acts as a link between Turkey and Italy, serving EKOL Ro-Ro ships on a regular schedule for the transfer of trailers and containers between Yalova, Alsancak, and Lavrio to Trieste. On a domestic level the port has become a ferry boat hub for the Cyclades Islands, and a port of call for several cruise ships and sailboat companies.

### **Freight activities and equipment**

The principal products handled by the port include general cargo, bulk cargo, tankers as well as coastal ships. Port of Lavrio acts, also, as a link between Turkey and Italy, as Ro-Ro ships transfer trailers and containers from Yalova, Alsancak, and Lavrio to Trieste. Items are forwarded, utilizing unit train services, from Trieste to Cologne, Ludwigshafen, and Kiel in Germany, as well as Ostrava in Czechia. Two new Ro-Ro services are planned to facilitate direct connections between the Port of Alsancak and the ports of Lavrio and Bari, and the Port of Lavrio with the ports of Alsancak and Sète.

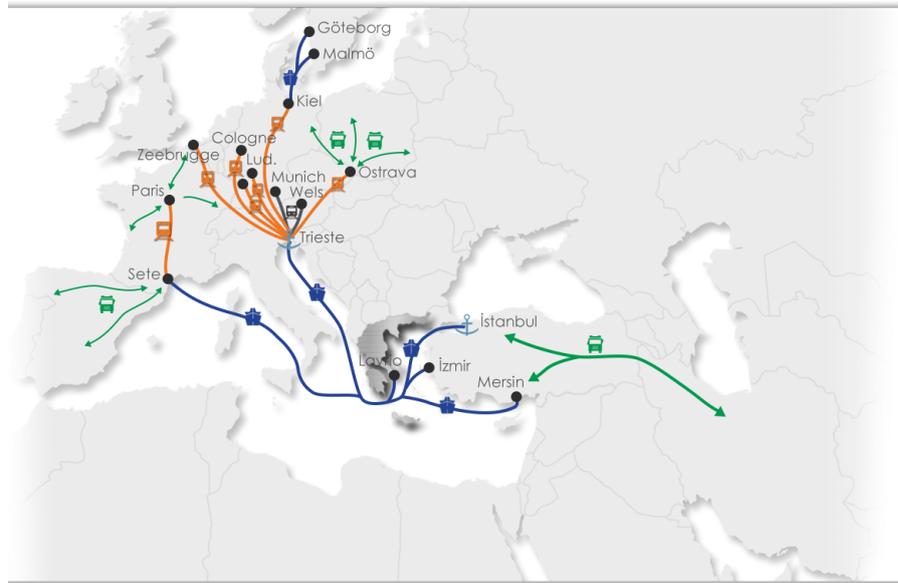


Figure 2.3: Freight flows from East to Europe

**Accessibility**

Lavrion is connected with Markopoulo via the Lavrion Avenue, which is connected with:

- Attiki Odos Motorway (access to rest areas of Greece).
- Local roads of Athens (access to city center).
- Koropi Avenue (access to East Athens).
- Athens – Sounio Avenue (access to south Athens and Piraeus).

From 1885 until 1957, there was also a rail line connecting Athens – Lavrion, constructed by the Hellenic Metallurgical Company of Lavrion. Nowadays, there are plans for reoperating this connection interconnecting it to existing railway network reaching the Athens International Airport.

**Existing information and communication technologies**

Port of Lavrion as a developing transport node has participated in pilot actions and initiatives for developing ICT systems for enhancing its providing logistics and passenger services and port security and safety. However, potential ICT systems are still under testing and analysis with the perspective of being developed in the near future.

### 3. RELATED PAST EU PROJECTS

BEP and its members are not involved in EU funded projects as per the framework set in the guidelines of the present report. However, the Chamber has adopted a number of initiatives and has established various schemes for the support of its members in transport and mobility issues, along with its recent participation in a number of proposals in EU co-funded trans-national and national programmes.

All related actions are based upon the three-priority concept of BEP focusing on a) infrastructure and mobility, b) professional training, c) entrepreneurship development, acting as an umbrella for the support of its members. The above is applied to all sectors, through specific sub-priorities, in an effort to support the smooth flow of goods and the actual and optimal performance of the transport nodes primarily used by its members:

- 1) Upgrading of transport infrastructure.
- 2) Coaching and training of technical personnel in the logistics sector.
- 3) Support of entrepreneurship and consolidation in the transport and logistics sector.

The following table presents the main activities and initiatives performed by BEP, related to the above priorities.

Activity	Bodies/actors involved	Description
Initiative for the support of training seminars for Piraeus SME's in cooperation with educational/professional institutions	<ul style="list-style-type: none"> <li>• BEP</li> <li>• Evgenidou Foundation</li> <li>• Small Enterprises' Institute of the Hellenic Confederation of Professionals</li> <li>• Craftsmen and Merchants (IME GSEVEE)</li> <li>• Directorate of Piraeus Secondary Education</li> </ul>	<ol style="list-style-type: none"> <li>1) Upgrading technical, professional qualifications of personnel/workforce involved in the transport and logistics business sector and the marine industry</li> <li>2) Mentoring and coaching programmes along with port career days for the support of human resources in logistics and the marine industry</li> <li>3) Promoting the quality jobs in ports and the logistics sector, to increase the attractiveness of professional profiles</li> <li>4) Promoting smart specialisation of logistics workforce through awarding systems such as „ARISTAIOS“</li> </ol>
Initiative on cooperation with respective professional bodies	<ul style="list-style-type: none"> <li>• FUJAIRAH Free Zone Authority</li> <li>• Stuttgart Chamber of</li> </ul>	The Chamber has established close cooperation and exchange of knowledge through a series of visits and meetings with the specific entities. The cooperation is officially established through

Activity	Bodies/actors involved	Description
	Commerce <ul style="list-style-type: none"> <li>• China Chamber of International Commerce</li> <li>• Panyu Chamber of Commerce</li> <li>• IST College</li> <li>• National Documentation Centre</li> </ul>	respective Memorandum of Understanding or Cooperation Agreements
KEPA - Centre for Entrepreneurship and Employment	BEP	KEPA is a non-profit organisation, established by BEP in 2017 with the main aim to support BEP in the development of training, vocational and educational schemes, the development of position papers as regards to operational and development master plans of the city of Piraeus, including the port of Piraeus, always in accordance with BEP's needs and the orientation of members towards the upgrading of their business with the use of new technologies and respective financial instruments the creation of clusters on a national and international level and the promotion of synergies amongst the members and beyond.
Participation and establishment of professional clusters	BEP	The clustering approach of BEP is three-levelled: <ul style="list-style-type: none"> <li>• BEP is considered a cluster itself, accounting over 15,000 members all active in the business sector of Piraeus. The Chamber has established close cooperation with the majority of its members, creating a symbiotic network and acting as a focal point of cooperation and support amongst them.</li> <li>• A number of BEP's members are cluster themselves, with the most representative one in the marine industry being WIMA-the Worldwide Industrial &amp; Marine Association, a non-profit Business Association of marine</li> </ul>

Activity	Bodies/actors involved	Description
		<p>oriented companies, founded in 2006, and successfully introducing a new concept in the maritime market; a network of certified companies with global reach, working together to effectively cover any requirement, in every sector of the shipping industry.</p> <ul style="list-style-type: none"> <li>BEP is also an active member of wider clusters covering specific sectors, with the most dominant one in the transport and logistics sector being the Hellenic Chambers Transport Association (EESYM).</li> </ul>
Seminars and summits on transport, marine, logistics concepts including professional orientation and marketing approaches	BEP, Regional Units of Piraeus and Islands, Municipality of Piraeus	SME investments and development of entrepreneurship in the logistics sector through the use of EU funded instruments.
	BEP	Industrial waste management techniques and carbon footprint mitigation measures for SME's.
	BEP, Enterprise Greece	Development of SME's based on open and competitive structures through the improvement of productivity, reduction of costs and increase of competitiveness.
	BEP	SME financing opportunities through the new established legislative framework.
	BEP, Manager Office	<p>MARINE: SALES &amp; MARKETING</p> <p>HO.RE.CA: SALES &amp; MARKETING</p> <p>Adaptive procedures on marketing retail - B2C/TIPS</p>

Table 3.1: Initiatives adopted by BEP based on their 3-priority concept

## 4. SHORT DESCRIPTION OF THE MAIN BOTTLENECKS ADDRESSED

The bottlenecks presented in Table 4.1 have been identified by BEP’s members active in the transport and logistics sector, including imports-exports activities etc. The bottlenecks were identified through the use of suitably developed questionnaires, as presented below in Section 6, and where finally addressed through three main categories covering a) transport infrastructure and transport network connections and capacity, b) operations on nodal points for the support of infrastructure users, c) business logistics issues on human resources, capacity and entrepreneurship in the marine and logistics sector.

Sector	Node/operational section	Identified bottlenecks
Infrastructural	Piraeus Port	<ul style="list-style-type: none"> <li>Local network cannot undertake the traffic capacity of the port up to the entrance of the main national motorway.</li> <li>Missing link of road connection between the port and the national road highway.</li> <li>Absence of enough parking area capacity and parking signposting.</li> </ul>
	Lavrion Port	<ul style="list-style-type: none"> <li>Port infrastructure poor - Technical features do not meet the needs of the current international trade exchange.</li> <li>Bottlenecks regarding maritime accessibility (strong winds disabling embarkation).</li> <li>Missing direct link of road connection between the port and the national road highway.</li> <li>No direct rail connection.</li> </ul>
Operational	Piraeus Port	<ul style="list-style-type: none"> <li>Traffic congestion caused at the port vehicle entrance, due to passenger traffic – poor traffic management.</li> <li>For certain BEP members time-consuming custom procedures.</li> </ul>
	Lavrion Port	<ul style="list-style-type: none"> <li>Need for development of ICT to support users’ operation.</li> <li>Customs services do not operate on a 24hour basis.</li> <li>No frequent lines to serve the users adequately.</li> </ul>

Sector	Node/operational section	Identified bottlenecks
		<ul style="list-style-type: none"> <li>• Time-consuming custom procedures.</li> </ul>
Business logistics	Piraeus	<ul style="list-style-type: none"> <li>• Moderate development and support of entrepreneurship.</li> <li>• Poor to moderate professional capacity in terms of technical, professional qualifications of personnel involved in the logistics sector.</li> <li>• Poor cooperation between companies and ports of call.</li> <li>• Poor use of existing industrial infrastructure (abandoned) by business entities within the vicinity of Piraeus, increasing operating costs.</li> <li>• Poor awareness campaigns from supervising bodies, on financial supporting opportunities and potential investments for local companies.</li> <li>• Poor awareness campaigns from supervising bodies, on new technologies in logistics and carbon footprint priorities, including detailed information on the use of alternative fuelling systems.</li> </ul>

Table 4.1: Bottlenecks hindering optimal performance of transport nodes according to BEP

## 5. SHORT DESCRIPTION OF RESULTS EXPECTED IN REMOVING BOTTLENECKS

The bottlenecks, identified by the Chamber of small and medium sized industries should be taken seriously into consideration due to the fact that BEP includes a large number of companies using transport networks. Therefore, it is in high priority the implementation of solutions and actions for eliminating the bottlenecks.

The table 5.1 below presents the main parameters of eliminating the identified bottlenecks on an infrastructural, operational and business logistics level.

Operation/sector	Expected results
Infrastructural	<ul style="list-style-type: none"> <li>• Direct port connection with national highway network eliminating traffic congestion in the local road network and offering fast and direct access to road haulage operators.</li> <li>• Extension of the current railway network for reforming port of Lavrion to intermodal node.</li> <li>• Construction of high standard parking areas for eliminating congestion issues and waiting time due to lack of free parking lots.</li> <li>• Maintenance of internal port roads for eliminating congestion issues and accidents and making ports safe nodes.</li> </ul>
Operational	<ul style="list-style-type: none"> <li>• Smooth maritime accessibility through the re-allocation of berths.</li> <li>• Direct accessibility of port to national road highway through traffic re-allocation, bypassing the town of Lavrion.</li> <li>• Increase of service frequency and compliance for operators through upgraded services and ICT supporting systems.</li> </ul>
Business logistics	<ul style="list-style-type: none"> <li>• Supporting and promoting technical education through training and mentoring schemes and intercooperation with the business sector and maritime and logistics related colleges offering qualifications for better job opportunities and upgraded work environments.</li> <li>• Operational liberalisation of transport/logistics and</li> </ul>

Operation/sector	Expected results
	import/exports sector through extroversion and cooperation on a more global business environment. <ul style="list-style-type: none"> <li>• Support of synergies and efficient and on-time adoption of new technologies (green logistics, eco-city, last mile applications, smart energy, etc.).</li> <li>• Awareness and use of various financial instruments on a national and international level, through respective awareness campaigns</li> </ul>

Table 5.1: Expected results through elimination of transport and logistics bottlenecks in the vicinity of Piraeus covering also main nodes

The first two categories presented in the above table, mainly refer to the results expected on a nodal point level. Although the expected results have been identified by the users, they can only be gathered as recommendations and not results per say.

The authorities operating and administering the specific nodal points (Piraeus Port Authority, Lavrion Port Authority, Ministry of Transport and Infrastructure) are the responsible bodies to adopt/implement any intervention whatsoever. The presented recommendations can however be used as a guidance expressing to the real needs of the operators and are promoted as such to the respective authorities. In this framework, the objective of NewBrain in those two categories lies in the development of a promotional and cooperational scheme between the nodal points and their users, through BEP.

## 6. BOTTLENECK AND INTERMODAL/LOGISTIC ISSUES' SURVEY

In order to efficiently record the practices and views of BEP's members – as nodal point users - and address their needs adequately, the developed questionnaire was modified accordingly, as presented in Annex I. The exercise focused on an overall evaluation of the transport system in Piraeus by its users, mainly transport operators, as part of a local, national and international transport network. In total, a sufficient number of questionnaires were collected and analysed for identifying the main bottlenecks that members of BEP face in their daily operation related to transport network and services.

The feedback provided by the users, addressed the main points of bottlenecks, providing actual values on a baseline and ex-post level from a user perspective and not a nodal point one. This feedback can be considered as an asset to the implementation of NewBrain providing a comparative analysis of values between the nodal point administrators and their users.

Following the statistical analysis of the completed questionnaires, the NewBrain questionnaire below presents the main bottlenecks addressed by the users, along with the average baseline and ex-post values.

Element	Sub - element	Quality indicators	Meas. unit	Baseline value	Ex post value	Performance indicators	Meas. unit	Baseline value	Ex post value
Port hinterland connection - Road	Capacity (Possibility to avoid congestion)	Lanes/carriages of the road access	N.			Transit time from motorway to terminal	h, min	60	20
	Access to road (road connection to port terminals)	Direct access to motorway	Y/N	Y	Y				
Port hinterland connection - Rail	Access to rail (rail connection to port terminals)	Direct access to main line (with one shunting)	Y/N	N	Y	Turnaround time for trains (access+marshalling+egress)	h, min		

Internal port roads	Internal road maintenance	Good maintenance level of internal roads	Y/N	<b>N</b>	<b>Y</b>	Truck damages due to bad internal road maintenance	N./year		
MoS terminal and quay characteristics	Parking signposting	Parking lots/lanes are clearly marked	Y/N	<b>N</b>	<b>Y</b>				
	Terminal organisation	Interference between waiting areas and (dis)embarkation areas	Y/N	<b>N</b>	<b>Y</b>	Waiting time due to lack of interfering areas on (dis)embarkation	h, min	<b>45</b>	<b>20</b>
	Auxiliary services	Availability of facilities for drivers (restaurant, shower, etc.)	Y/N	<b>N</b>	<b>Y</b>				
Terminal safety and security	Terminal / quay security	Availability of security measures related to MoS operation in accordance with ISPS Code	Y/N	<b>N</b>	<b>Y</b>	Illegal accesses to terminal	N./year		
Exchange of real time information between MoS service stakeholders regarding documentation of the provided MoS services	Priority to MoS cargo in customs inspections	Availability of a prioritisation system to MoS cargo in customs inspections	Y/N			Time needed for customs inspections	h, min	<b>40</b>	<b>20</b>

ICT support to promotion	Route planning	Public availability of a door-to-door route planner	Y/N	N	Y				
	Decision support systems	Public availability of a door-to-door decision support system (showing prices/times of alternative services and modes)	Y/N	N	Y				

## 7. CONCLUSIONS

The Piraeus Chamber of Small and Medium Sized Industries is a primary actor of support and monitoring of the manufacturing activity in the city of Piraeus, composed of 15,000 SMEs. The Chamber is one of the three sectoral Chambers of Greece, with a purpose to promote and contribute to wider socioeconomic objectives such as growth, jobs and sustainability. In the transport and logistics sector, BEP provides knowledge on optimized logistics services and related organizational measures and realised activities supporting the enhancement of intermodal transports and intermodal connections to the hinterland including last-mile connections. BEP members are active in logistic services, most of them either being transport operators/freight forwarders or having a high import/export activity, using mainly the port/nodes of Piraeus and Lavrion.

BEP is quite active in the implementation of initiatives and has established various schemes for the support of its members in transport and mobility issues, constituting it a dynamic and guiding body in the creation of a high-standard business environment in Piraeus and beyond. BEP is already implementing a wide range of activities, including the establishment and operation of marine and logistics clusters, providing its members with direct synergies and cooperation in various networks. The most strategically important cluster in terms of transport and logistics, is EESYM – Hellenic Chambers Transport Association, with over fifty chambers of Commerce and Industry from Greece – along with several leading associations of road transport operators, shipping agents and hauliers.

The main bottlenecks identified by BEP’s users on an infrastructural and operational level refer to missing links in the local transport network, traffic congestion related both to lack of terminal capacity and sea-entrance channel capacity, inland port access, limited capacity in port parking areas, time-consuming custom procedures, absence of ICT tools on a D2D planner level. On a business logistics level, the main bottlenecks focus on the need for workforce specialisation, technological education and familiarisation with digitalisation systems, support in transport and logistics entrepreneurship through synergies and EU financial instruments.

The bottlenecks identified on a port/node level, cannot be resolved by the users themselves, however, their identification can become an evaluation tool for the respective port authorities, which, if used efficiently may result in the adoption of suitable action plans. To what business logistics are involved, the elimination of bottlenecks is expected to provide the upgrading of human resources, capacity and the development of transport and logistics entrepreneurship in the area.

The findings of the present report are expected to be further assessed within the next steps of the NewBrain methodology and through the identification of the needs and opportunities of the users, produce a guidance on their successful adoption and implementation.

## ANNEX I - DEVELOPED QUESTIONNAIRE

### Questionnaire

**Piraeus Chamber of small and mediumsized industries (BEP) - Evaluation of logistics nodes and existing transport infrastructure by members**

**Description**

The following questionnaire aims at a first to map the transport practices and the identification of the needs of the members of BEP regarding the use of the existing local, regional and national transport system, with particular emphasis on the main nodes (Piraeus Port, Lavrio Port, Highway). The gathering and processing of the requested information will be the basis for preparing the positions and proposals of BEP, with the aim of improving the existing transport network and presenting proposals at national level for the benefits of the members, the local and regional community.

**C. ASSESSMENT OF TRANSPORT INFRASTRUCTURE AND SERVICES**

**1. 1. How do you assess the security of your existing transport network?**

	Very Good	Sufficient	Poor
a) Local road to port	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Accidents/year .....	
b) Local road network to the	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

point of entry of the national road network		Accidents/year .....	
c) Local road network to the point of entry of the railway network	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Accidents/year .....	
d) National road network	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Accidents/year .....	
e) National railway network	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Accidents/year .....	
<b>2. 2. How do you assess the capacity of the existing transport network at the congestion level?</b>			
	<b>Intense</b>	<b>Medium</b>	<b>Low</b>
a) Traffic congestion of a local road network	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Transit time (min)	Nodes	Existing time (min)	Optimal time (min)
	Starting point within Piraeus - Port(via local road network)	.....	.....
	Exit National Road Network - Port	.....	.....
	Exit National Road Network - Railways	.....	.....
<b>3. 3. How do you assess the accessibility level on the transport nodes you use mainly?</b>			
	<b>Very Good</b>	<b>Sufficient</b>	<b>Poor</b>
a) Road access to port	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b) Railway access to port	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Road access to the railway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>4. 4. How do you assess the transport infrastructure and services within a port area / hub?</b>			
	<b>Very Good</b>	<b>Sufficient</b>	<b>Poor</b>
a) Internal port road network	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Number of gates to access port terminal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Traffic management and allocation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Parking area capacity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Parking signposting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Lighting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Availability of facilities for drivers (restaurant, shower, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Implementation of ISPS code	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j) Appropriate and adequate RO-RO / RO-PAX services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k) 24h availability of stevedoring services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l) Terminal organisation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(Interference between waiting areas and (dis)embarkation areas)	Time needed for parking (min)	Existing .....	Optimal .....
	Time needed for (dis)embarkation (min)	Existing .....	Optimal .....
m) Availability of suitable ICT system for remote real time information exchange (electronic document transfer) between all MoS stakeholders	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Time required for ship documents transfer (min)	Existing .....	Optimal .....
n) Availability of prioritisation system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Time needed for inspection (min)	Existing .....	Optimal .....
o) Availability of custom inspections system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Time needed for custom inspections (min)	Existing .....	Optimal .....
p) Availability of Driver / Terminal EDI system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Time needed for documents exchange (min)	Existing .....	Optimal .....
<b>5. How do you assess the existing maritime transport services?</b>			
	<b>Very Good</b>	<b>Sufficient</b>	<b>Poor</b>
α) Frequency of lines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
β) Cover of capacity needs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
γ) Arrival / Departure Information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

d) Door-to-door route planner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Door-to-door decision support system (showing prices/times of alternative services and modes)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Notes**

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