

• Visegrad Fund



Development of multimodal/intermodal terminals in Romania. Current status and future strategies

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THEORETICAL ASPECTS

Multimodal transport – the transport of goods from origin to destination using several modes of transportation. Each mode of transportation is the responsibility of a different entity, but which acts on the basis of a single contract.

Multimodal transport involves the movement of cargo units (truck, trailer, semi-trailer with or without tractor, mobile box or container) on public roads, during the initial and/or final course, and the rest of the transport carried out by rail or on an inland waterway or on a maritime route which exceeds 100 km in a straight line.

The initial and/or final road route can be:

- a) between the cargo loading point and the nearest railway station of expedition appropriate to this mode of transport, for the initial course, and between that nearest railway station of appropriate destination and point of discharge a goods, for the final journey;
- b) within a radius not exceeding 150 km in a straight line from/to the port river or sea loading or unloading.

Multimodal transport can be accompanied (RO–LA) or unaccompanied (containers, boxes mobiles, semi-trailers).



Intermodal transport

Intermodal transport - a particular case of multimodal transport - a transport system that involves the successive use of at least two transport modes and in which the intermodal transport unit is not divided when the transport modes are changed

More precisely, **intermodal transport** represents that transport system that involves the use of successively of at least two modes of transport and in which the intermodal transport unit is not divided when the modes of transport are changed. Also, intermodal transport is defined as the "gate-to-gate" transport system that uses at least two modes of transport in an integrated manner (definition agreed by mutual agreement by the main organizations and regional and international cooperation structures UN - EEC, ITF - formerly ECMT, EU, ICB, as well as by the ICC).

Intermodal/Export



Intermodal



The structure of the multimodal/intermodal transport system is based on 3 elements:

1. **a long-distance freight transport system** (usually involving sea, rail, inland waterways and/or air transport modes),
2. **transport terminals** that ensure the efficient transfer of cargo units from one modal transport system to another,
3. **a system of collection and distribution of flows** of goods at the points of origin and destination of the transport chain (usually carried out by means of road transport).

Intermodal transport systems are:

- Container transport system;
- Transport system using mobile boxes;
- The transport system using road trains on specialized wagons with a submerged platform along the entire length;
- The transport system using road semi-trailers on specialized wagons with pocket or basket;
- The transport system using special semi-trailers with a double running system.

In Romania, the multimodal transport system in containers is mainly used. At the beginning and at the ends of the logistics chain are road carriers who take over the intermodal transport units from the shippers and transport them to the multimodal/intermodal terminal.

Multimodal/intermodal terminals Romanian infrastructure

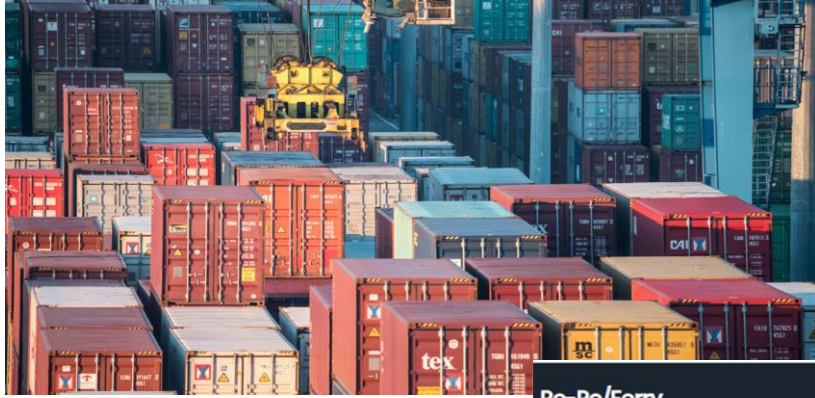
Intermodal transport has developed randomly in Romania. Minor private environment-led initiatives exist around urban agglomerations or industrial areas.

There is a lack of a centralized approach supported by the Romanian authorities to bring this terminals to the dimensions necessary to change transport patterns in order to minimize long-distance road transport considered less environmentally friendly.



Multimodal terminal in Bucharest (road - railway)

Constanța Port - Container and Ro-Ro Ferry Terminals



Ro-Ro/Ferry



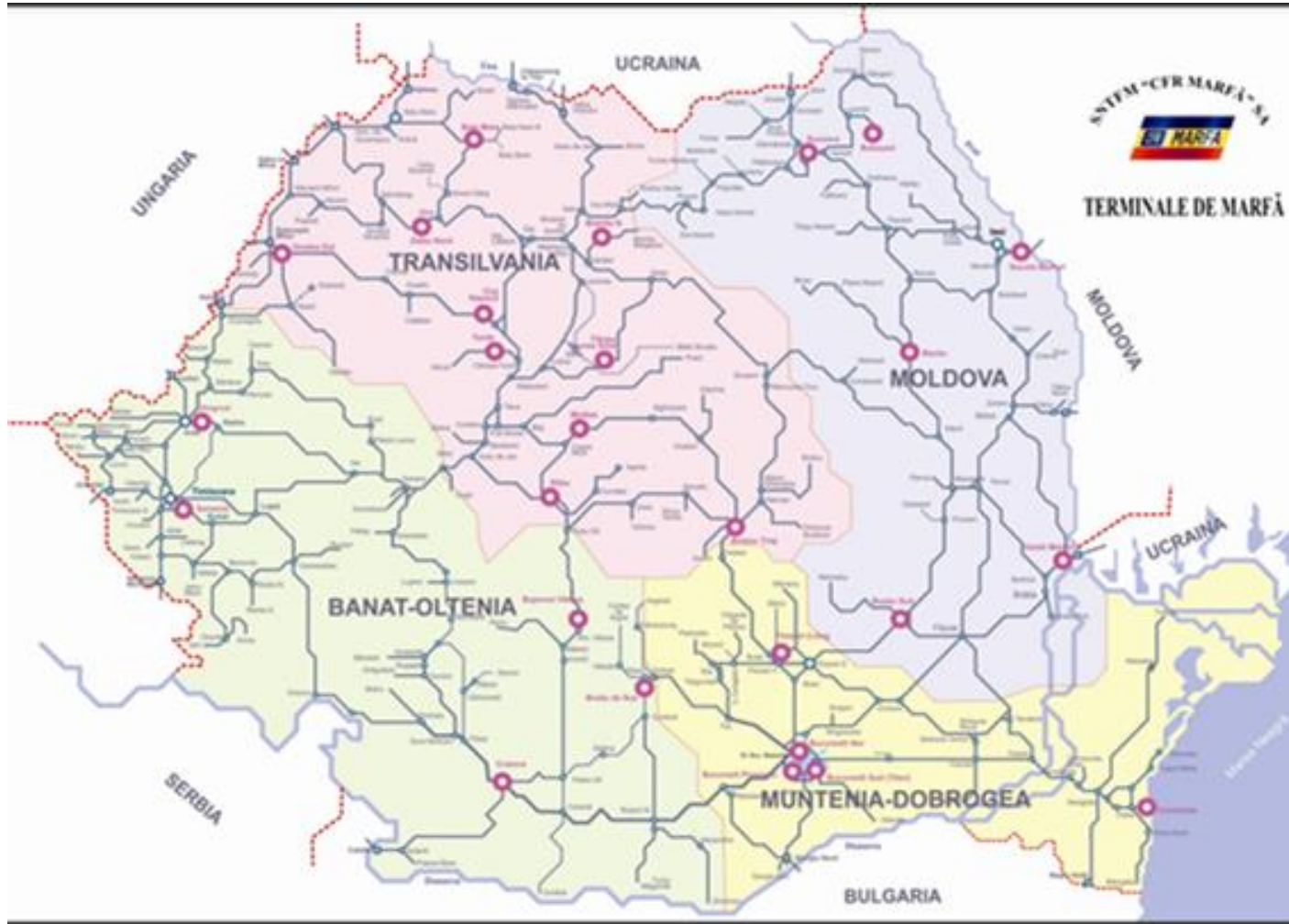
Romanian railway multimodal terminals infrastructure - 2013

~ 30 terminals altogether, but majority is non-operating



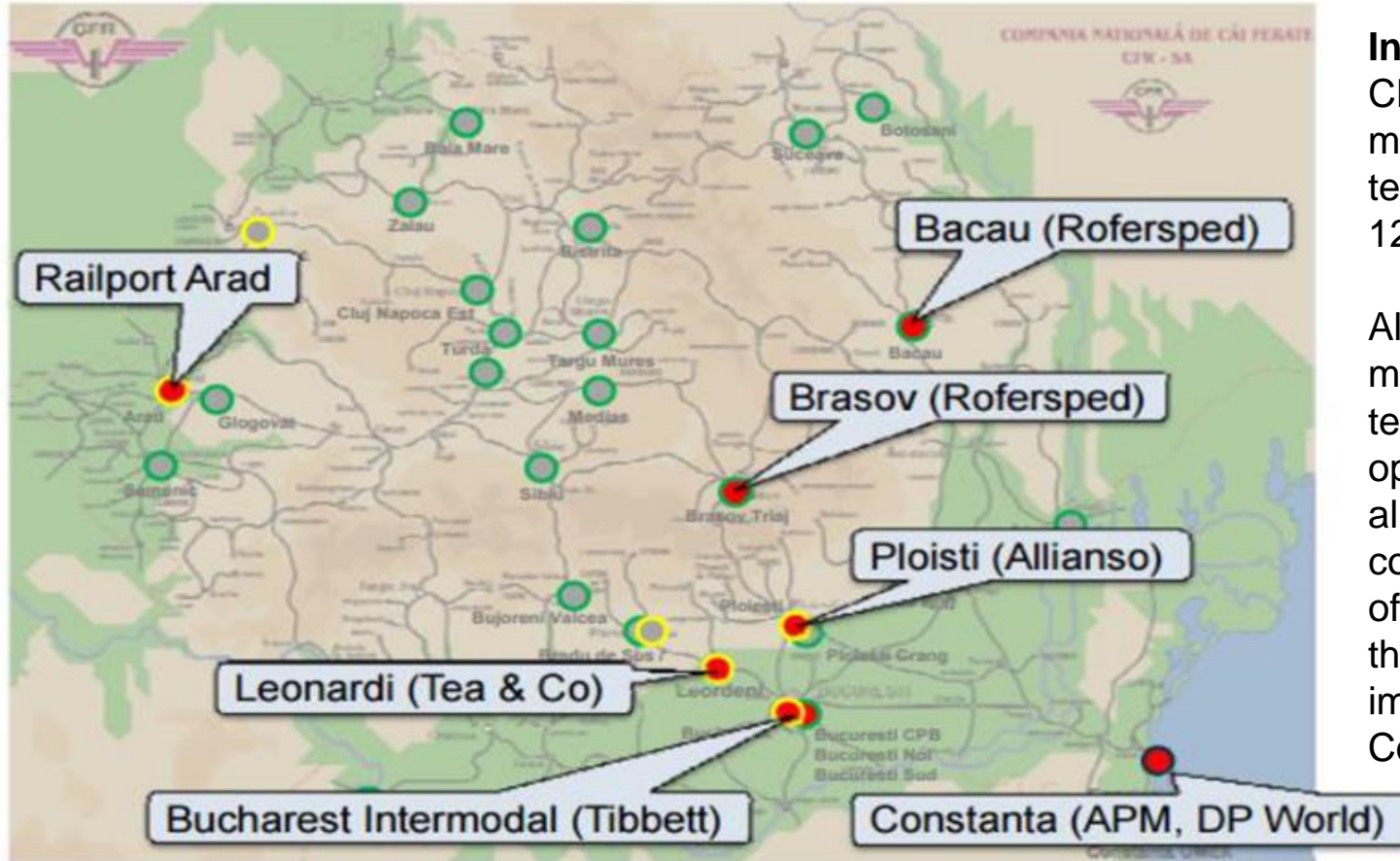
The number of the terminals with public administration is relatively limited, by their limited functions, inefficient configurations and localization unrelated to market needs.

The exclusively private initiative led to the emergence of small terminals as an investment scale, but with a capacity reserve to meet a growing potential demand.



The railway terminals are connected to the primary railway network, which completely overlaps the two European multimodal transport corridors: the TEN-T Rhine-Danube Corridor (with both branches) and the Ten-T Orient East-Med Corridor.

Intermodal terminals – Most active sites



In 2017

CFR Marfă owns 26 multimodal terminals, of which 12 are inactive.

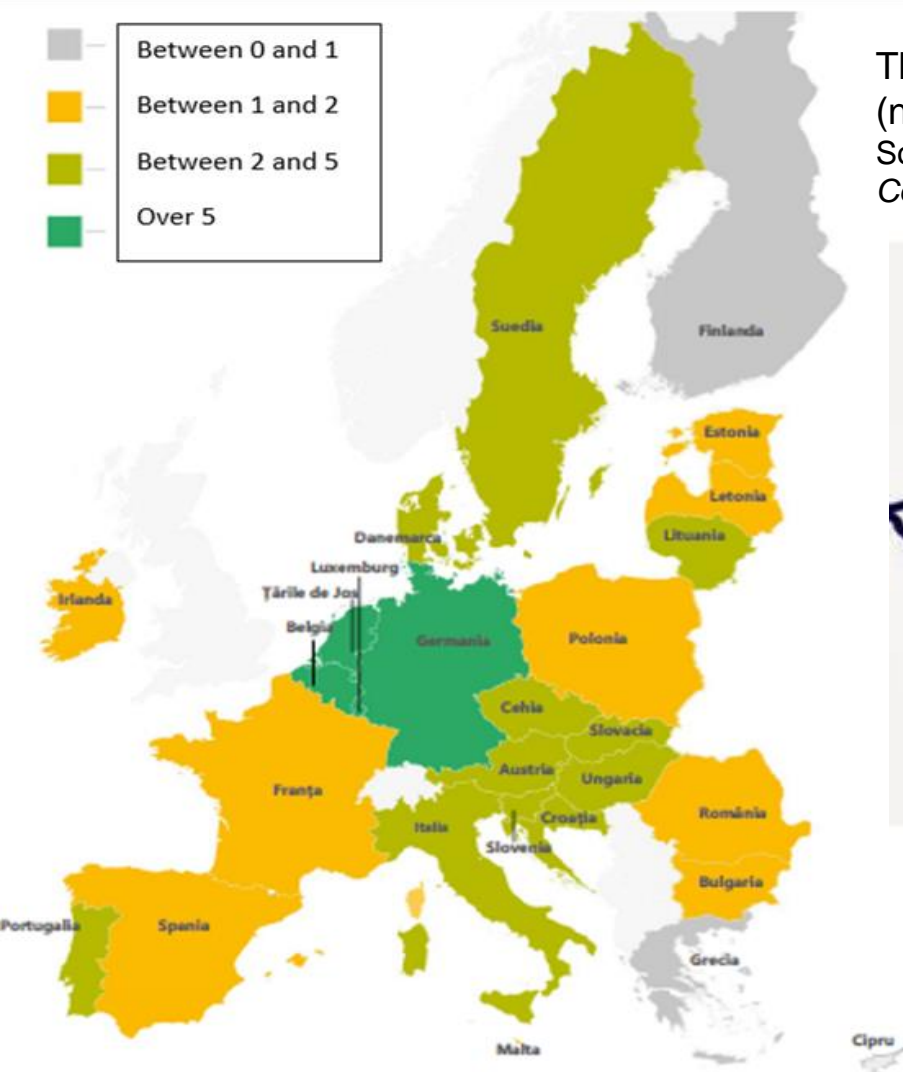
Also, 13 private multimodal terminals are operational and aligned with the commercial needs of the market and the infrastructure improvements of Corridor IV.

At the level of **2017**, intermodal transport in Romania remains, at an early level of development, swinging between a major entrance for containers in Constanța and a functional intermodal node in Arad, as the main strategic points of this mode of goods transport.

Obviously, there is a need for the development of intermodal terminals, which must facilitate the rapid transfer between transport modes (predominantly rail-road) of standardized shipping units.

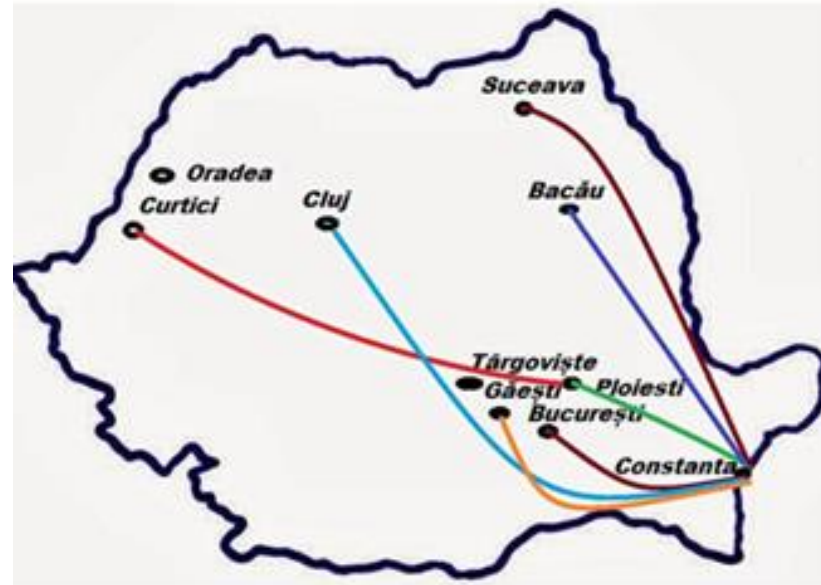
Furthermore, at the local level, they will have to play a key strategic role as a catalyst for economic development, generating increased attractiveness of the region for industry (through reduced transport costs), as well as increased access to domestic and international transport markets.

On the other hand, the primary railway network, which overlaps the entire European TEN-T Core network and partly the TEN-T Comprehensive network in Romania, the average time of the journey of a container on the wagon exceeds the travel time of the container loaded on road transport, both due to the rehabilitation works at the railway infrastructure on these sections as well as due to the delays in the transfer/handling/grouping and shipping of containers from terminals. The transport time has determined the drastic reduction in the use of the railway, and where the average speed of the trains in the service offer appears as 50 km/h, and the one achieved is 16.8 km/h, it is clear that not everything lends itself to transport by rail from Romania.



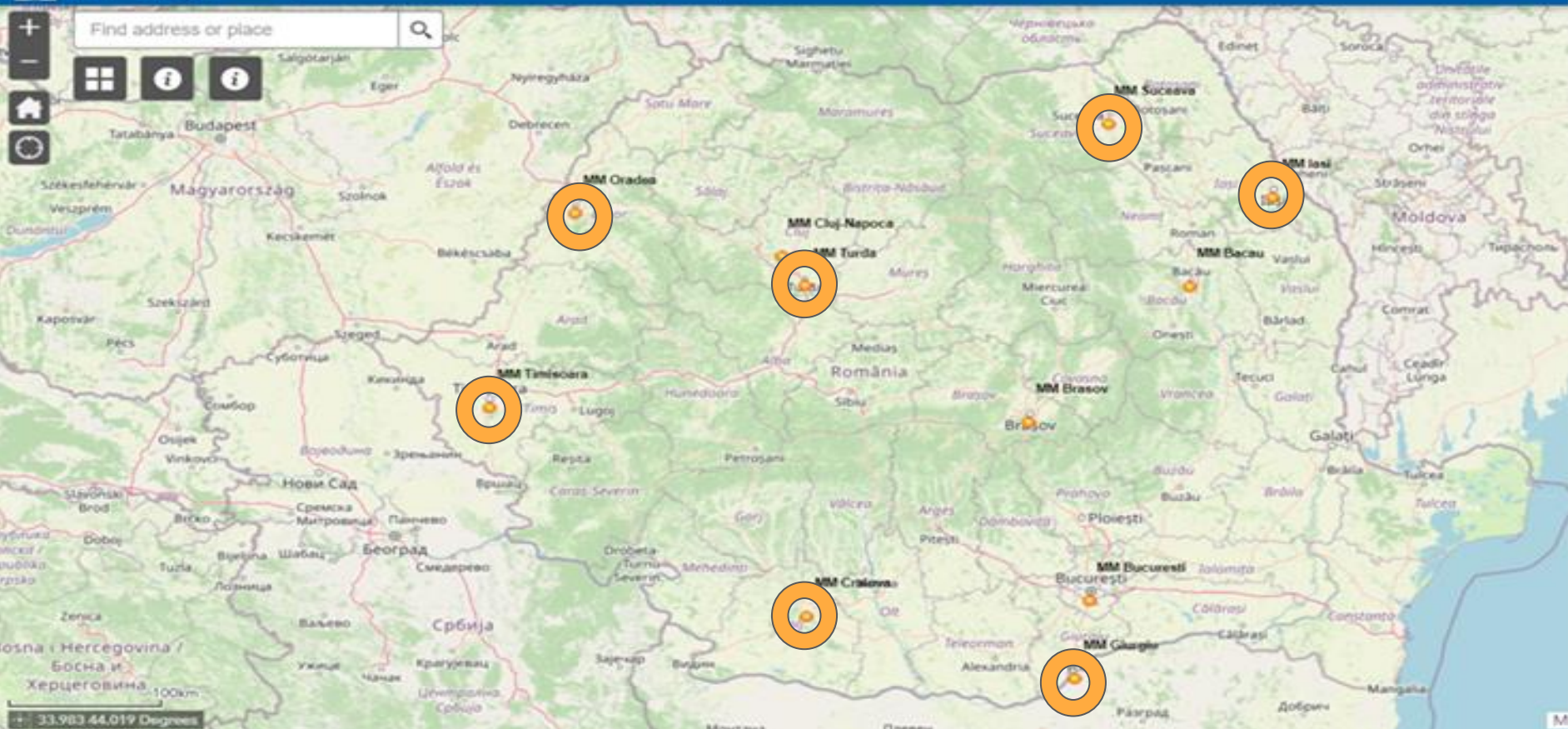
The density of intermodal terminals in UE
(number of terminals per 10,000 km)

Source: International Union of Railways, *2020 Report on Combined Transport in Europe*



The map of the main national intermodal routes

In 2019, through the concern of ROCOMBI and Airborne Global Services, the terminal in Cluj-Napoca and the Constanța-Cluj container line were reopened.



Taking into account the growth potential of containerized transport, for the period 2021 - 2027, the General Transport Master Plan of the relevant Ministry specifies the need to develop intermodal terminals in several locations in the country (Oradea, Timișoara, Turda, Giurgiu, Craiova, Iași and Suceava).

Maritime and river port infrastructures related to railway activities

Many maritime and river port infrastructures related to railway activities are managed by CFR Marfă SA.

In 2017, there were 15 such infrastructures (5 are maritime and 10 fluvial)

The 5 maritime ports are: Capu Midia, Constanta Port Mol5, Constanta Port B, Constanta Ferryboat and Mangalia, all of which are in working order.

Regarding the 10 river infrastructures, only: Orșova, Galati and Brăila are functional.

The non-functional river infrastructures are those from Giurgiu Sud, Oltenita, Drobeta-Turnu Severin, Calafat, Corabia, Turnu Măgurele and Zimnicea.

The port of Galati is composed of 3 port basins, being the largest river port on the Danube and the second largest port in Romania

The primary and secondary shipping network



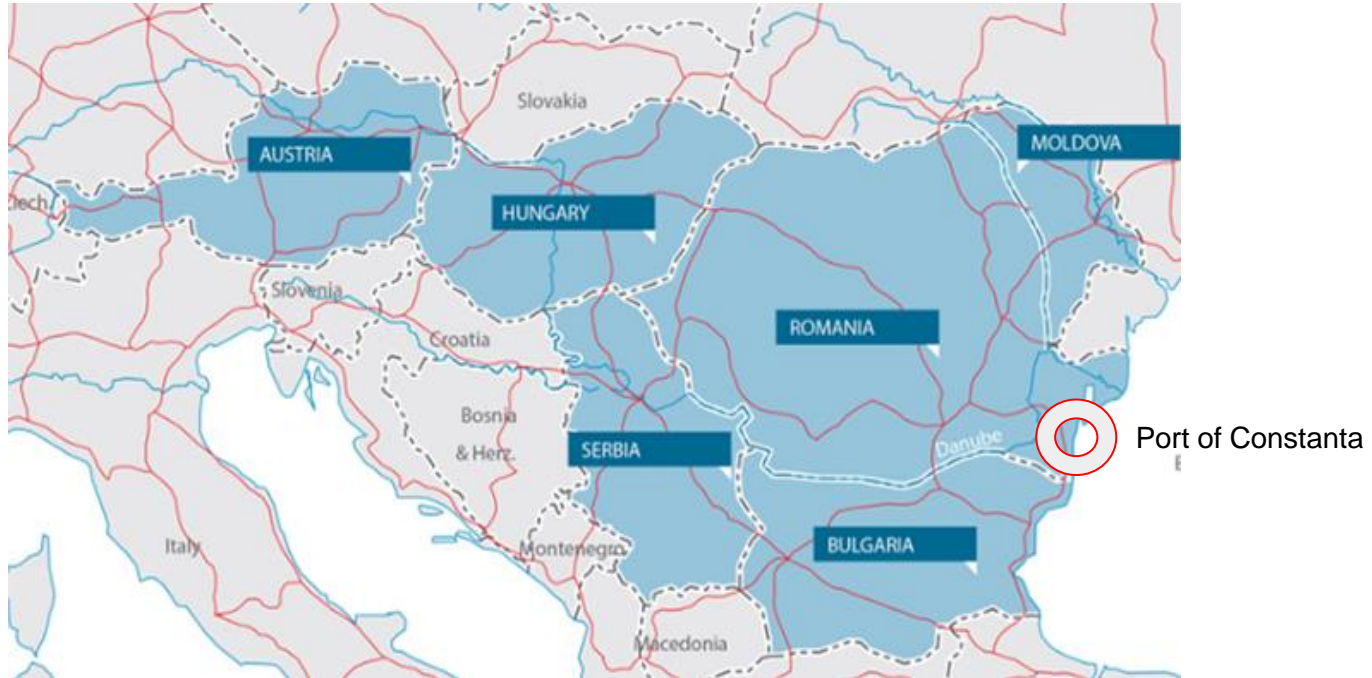
The ports in the primary network are:

Constanța, Sulina, Tulcea, Galați, Brăila, Cernavodă, Călărași, Oltenița, Giurgiu, Corabia, Calafat, Dr. Tr. Severin, Orșova, Moldova Nouă

The ports in the secondary network are:

Bechet, Tr. Măgurele, Zimnicea, Fetești, Medgidia, Basarabi, Ovidiu, Luminița, Măcin, Hârșova, Isaccea, Mahmudia, Chilia Veche

The Port of Constanta efficiently served the flows of goods coming/departing to the countries of Central and Eastern Europe, which include: Austria, Bulgaria, Hungary, Moldova, Slovenia, Slovakia, Ukraine and Serbia.



The Rhine-Danube Corridor, whose main axis is formed by the inland waterways Main and Danube, connects the central regions around the cities of Strasbourg and Frankfurt (passing through southern Germany to Vienna, Bratislava, Budapest and finally the Black Sea) with a branch important that starts from Munich towards Prague, Zilina, Kosice and the border with Ukraine

Constanța Port

- The port of Constanta benefits from an advantageous geographical positioning, being located on the pan-European transport corridor Rhine-Danube.
- The port of Constanta plays a major role in the European intermodal transport network, being favorably located at the intersection of commercial routes that connect the markets of landlocked countries in Central and Eastern Europe with the Transcaucasia region, Central Asia and the Far East.
- The Port of Constanta has the status of a Free Zone, which allows the establishment of the general framework necessary for the facilitation of foreign trade and the transit of goods to/from Central and Eastern Europe.
- It allows the access of tanks with a capacity of 165,000 dwt. and bulk carriers with a capacity of 220,000 dwt.
- The port of Constanta is both a sea port and a river port.
- The connection between the Port of Constanta and the Danube is made through the Danube - Black Sea Canal and represents one of the main advantages of the Port of Constanta.

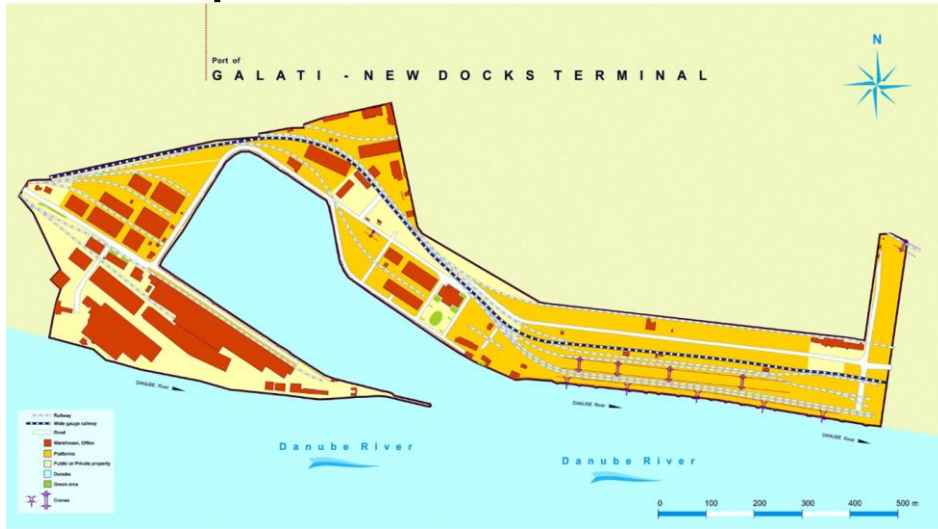
General Statistics - Constanța Port

Date de trafic	Anul 2014	Anul 2015	Anul 2016	Anul 2017	Anul 2018	Anul 2019	Anul 2020	Anul 2021	Anul 2022
Trafic total (tone)	55.641.910	56.336.772	59.424.821	58.379.154	61.303.774	66.603.292	60.375.799	67.483.435	75.537.687
Marfa vrac (tone)									
Vrac lichid	12.516.199	12.203.606	13.662.917	13.354.280	14.022.558	14.920.635	12.425.658	12.821.712	18.001.109
Vrac solid	32.666.083	33.285.131	35.189.409	34.853.978	37.192.770	41.583.345	38.580.780	44.562.451	44.831.522
Marfuri generale (tone)	3.680.744	3.998.471	3.675.137	3.646.803	3.524.788	3.546.879	3.023.669	3.915.944	4.783.304
Containere									
Cantitate (tone)	6.778.884	6.849.564	6.897.358	6.524.093	6.563.658	6.552.433	6.345.692	6.183.913	7.921.752
Numar	408.990	420.793	434.439	413.253	400.832	400.945	389.061	379.139	460.506
TEU	668.349	689.066	711.339	696.438	668.016	666.036	643.725	631.946	776.590
Numar escale nave maritime	4.771	4.605	4.331	4.093	4.139	4.176	4.031	3.985	4.498
Numar escale nave fluviale	10.060	9.765	10.203	9.272	9.487	10.395	10.344	10.619	10.890

Galati Port

- Galati Port is the largest river and sea port on the Danube and the second largest Romanian port,
- Port Bazinal NOU: operates ships in both river and sea traffic,
- Port Docuri: serves a wide range of services,
- Port mineralier: it is the only mining port in Galati, it has a strategic importance for the operation of the steel complex, being the main transit gate for raw materials but also for finished products

Galati Port - The structure



Conclusions

1. At the level of freight transport in Romania, the predominant movement of goods is concentrated in a considerable way along the IV TEN-T corridor, connecting Constanța with Bucharest and the north-western entry point of the country, Arad.
2. In the previous years, domestic intermodal traffic represented 60% of the total intermodal transport volumes, with the port of Constanța as the main entry/exit node, the remaining 40% was international traffic and includes the main links from the Arad and Ploiesti traffic nodes.
3. In terms of infrastructure, Romania has a comprehensive railway network, with a considerable density of the railway network per million inhabitants (above the European average of about 430 km/thousand inhabitants), which could successfully serve and connect a series of major intermodal terminals/nodes. But the railway network is in a continuous process of modernization and efficiency, which considerably reduces the speed of transport and increases logistics costs.
4. Currently, intermodal transport in Romania develops punctually and seasonally, depending on the interests of some operators, without a synergy for achieving the objectives of sustainable economic growth and reducing carbon emissions.
5. Romania became important internationally in the context of the war in Ukraine. Part of the traffic moved to our country, so the infrastructure projects for the development of highways and railways, carried out with European funds, acquire a strategic importance for the achievement of the objectives of the EU's solidarity with Ukraine. To ensure the success of intermodal transportation, public authorities will need to encourage the involvement of the private sector and attract the expertise of this sector in promoting, developing and managing these types of investments in intermodal terminals.