

The European Corridors in Italy for the freight transport in containers

Italy, due to its geographical position at the center of the Mediterranean, has a natural and historical strategic role for trade between Europe, Eastern Countries, North Africa and America. Role that Italy, today, cannot fully carry out due to the lack of adequate infrastructure.

The real core of the infrastructural issue and the related economic development lies in the ability to put Italy in a position to intercept large trade flows that the Mediterranean area, in the globalization era, offers exponentially, so that it can credibly carry out the role of the big Mediterranean logistic platform. It is a specific goal that must be achieved promptly, in advance of solutions that can be unfavorable to Italy.

In the coming years, the choices made in the transports area, will increase or decrease the importance of Italy's strategic position in the middle of the Mediterranean.

The demand for goods mobility is growing and the distribution of terrestrial traffic confirms how road transport, in Italy especially, is becoming more important than rail transport, with consequent problems of congestion, pollution, accidents and costs for the community.

Currently in Italy, on TEN-T European railway lines, "in order not to jeopardize the full utilization of performances in terms of quality and quantity allowed by the specific characteristics of the AV/AC lines, only speed of at least 250 km/h are allowed during daytime, characteristic of Circulation AV, generally from 6.00 a.m. to 10 p.m.," – which means only AV passenger trains (*RFI SpA - PIR 2011 "3.10 UTILIZZAZIONE DELLE LINEE AV/AC": [http://www.rfi.it/ Home>Clienti e mercato>Per accedere alla rete> Prospetto informativo della rete \(P.I.R.\) ed. dicembre 2011](http://www.rfi.it/Home>Clienti e mercato>Per accedere alla rete> Prospetto informativo della rete (P.I.R.) ed. dicembre 2011)*). The mixed use of such lines for both fast passenger trains and AC freight trains significantly lowers their potentials.

The transfer of long-distance passenger traffic on the new high-speed lines, in addition to decongest the historical lines and urban nodes, is an opportunity to develop a greater capacity to dedicate the rail transport to goods, improving, at the same time, its functional and performance characteristics.

In order to maximize the potentiality of rail transport, it is necessary, among other things, to specialize the railway lines by creating axes dedicated to goods, increasing the quantity carried per "single train"/"path" as much as possible, stretching the composition of the single trains and their weight, adjusting, where necessary, the tunnels (adjustments of the loading gauge for combined and intermodal transport: Swap Bodies and Containers), improving the efficiency of the Network and its terminals in strategic areas (ports and industrial districts), eliminating bottlenecks and interference with passenger trains (metropolitan trains, regional trains and long-distance trains), meticulously observing the Technical Standards for Interoperability (STI/TSI) and adjusting the path (number and schedule). At the same time the cost of rail transport must be reduced, in order to make it competitive than road transport, identifying appropriate fares to access the network, that take into account those of the highways, to ensure equity between road and rail modes.

In this regard, the European Commission has encouraged the Member States to voluntarily select a number of "promising" freight Corridors (the *European Rail Freight Freeways*) and has issued the "EU Regulation 913/2010 on the European Rail Network for competitive freight transport", transposed from Italy in the "National Plan of Logistics 2011-2020". On March 28, 2011 the European Commission published the long-

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awaited "White Paper on transport", that is the "Schedule towards a single European transport space - For a competitive and sustainable transport policy ", which establishes the list of the 40 strategic initiatives designed to revolutionize, by 2050, the European transport system, by increasing its competitiveness, enhancing mobility and reducing CO2 emissions. At the heart of the schedule is the realization of a single European transport area through a wide-ranging review of the regulatory framework of the rail sector, in order to make rail transport more attractive and capable of absorbing a higher percentage of passengers and goods on medium distances (http://ec.europa.eu/transport/index_en.htm).

Following the publication of the European Commission's Green Paper (February 4, 2009) "*TEN-T: policy review – Towards a better integrated Trans-European transport Network at the service of the common transport policy*", the TEN-T networks have been revised for all transport modes, in order to enable the goods transport to fully use its growth potential, ensuring proper infrastructures in terms of intermodal terminal as well as road, rail and port capacity.

This process, that lasted for two years, ended on October 19, 2011.

The new proposal of TEN-T Network includes two levels: a **Central Network**, consisting of 10 corridors, to be completed by 2030, and a **Global Network**, designed to feed the Central Network, to be completed by 2050. The latter will ensure full coverage of the EU territory and accessibility to all regions.

Both levels include all modes of transport: roads, railways, airlines, inland waterways and maritime transport, as well as intermodal platforms.

This has the goal of ensuring a continuous connection between all European components in order to allow the creation of an integrated market, as indicated by the "Monti Report" to the President of the European Commission "A new strategy for the single market at the service of European Society and Economy" of 09/05/2010.

CER (Community of European Railways), among other things, promoted special studies on six major European Corridors dedicated to freight, that correspond to the ERTMS/ETCS Corridors (European Rail Traffic Management System/European Train Control System) on which to implement the conclusions of the project "ERIM-European Railway Infrastructural Master Plan" (Pilot project for European railway infrastructure). This project includes the use of 750-m long freight trains on selected Corridors, starting in 2015 and 1500-m starting in 2030, in order to allow 750m-long freight trains to regularly circulate on all main railway lines and 1500m-long freight trains on the international Corridors.

The development plan of the ERTMS/ETCS system arranged by the Italian Company "RFI SpA" (Migration Strategy in Italy 26/09/2007), estimates that a good part of the connecting lines between the European corridors and those lines that connect ports and the road-rail hub will be ready within 2018, while the remaining developments, according to the STI/TSI (Technical Standards for Interoperability), should be completed around 2026.

There are several documents about the features that the railway lines, dedicated to containerized transport, should have. Among these, the one that deserves particular attention is the "FERRMED GLOBAL STUDY – Brussels , 27 October 2009" – www.ferrmed.com: "*Characteristics of the means and of the Freight Railway Network that should connect ports, airports and the main economic and logistic centers in Europe as well as in the Mediterranean and Euro-Asian Area*".

This project, included on 19 October 2011 in the Central European Network as the Corridor n° 3 "Mediterranean Corridor" and other segments of European Corridors, has also the purpose of encouraging the rail transport of goods from Spanish and North-African ports to Central Europe, through the trans-Maghreb railway and the future "Afro-Gibraltar tunnel", that should be activated between 2025 and 2030.

In view of this scenario and in order to rebalance the future flows of goods in the Euro-Mediterranean area, Italy may propose, in the appropriate locations and in a proper timely manner, the extension of the Corridor nr. 5 of the Central Network TEN-T “Helsinki – Valletta” (the ex- Railway Axis n. 1, Berlin – Palermo) up to rejoin with the trans-Maghreb railway Network through the tunnel TUSIA (Tunisia-Sicily) proposed by ENEA (<http://www.tunnelsiciliatunisia.enea.it/>).

The use of maritime transport coordinated with rail transport, in line with what was established by the Union for the Mediterranean (<http://www.euromedi.org/>, <http://www.emuni.si/en/> e http://it.wikipedia.org/wiki/Unione_per_il_Mediterraneo), will allow the overland direct forwarding of goods in large quantities to the destination markets, reducing pollution, minimizing times and costs of transport, in favor of the modal rebalancing, creating conditions for a prompt economic return on the investment for the construction of large infrastructures, encouraging the growth of hundreds of thousands of new jobs throughout Italy, also in view of the birth of new activities related to the passage of a large international freight flow across the Italian peninsula and Sicily.

This will depend on the organizational capability to retain the flows of goods on the national territory and to add value through the final processing stages for the consumer markets. In fact the processing of containers has significantly higher impacts in terms of turnover, profits and busy products compared to the sole container transit, with this being a great opportunity for the potential economic and employment effects. Intermodality becomes this way a fully recognized strategic factor for the development and for the gradual economic readjustment between the northern regions and those in the Center-South, allowing Italy to regain at the same time a central economic role in the Mediterranean.

Table 0 -Differential in terms of added value produced by a container in transit and a “logisticized” container

	Turnover (€)	Profit (€)	Benefit for the State (€)	Persons employed per 1 .000 Teus
Container in transit	300	20	110	5
Processed container	2.300	200	1.000	42

Source. Elaboration of various sources. (Confindustria e Confetra Annual Meetings 2003 e 2004 – Ministry of Infrastructure and Transport, 2008)

The main goal, thus, must be the development of a logistic system capable of intercepting also those flows, not originating or destined to the “System Italy”, to which add processing and consequent value.

An economy, therefore, based less and less on industrial production, and increasingly on services and, in particular, on the ability to offer integrated logistics services.

For example, in Germany Logistics represents the third economic sector, after *automotive* and electronics. Practically, the 7% of the German Gross National Product is represented by Logistics (Source: *Federal Commission for Foreign Investment in Germany*).

In the light of these considerations, it might be plausible and appropriate to think that Logistics can be a very important investment area for Italy, becoming, to some extent, what oil has been for the Arab countries and some of the “southern” areas of the globe.

It is not by chance that in recent years, in those areas, especially in the Emirates, significant resources, generated by the oil, are being invested in impressive infrastructures dedicated to freight transport and logistics. Even those countries are realizing the possible future unpredictability of the oil’s role and its availability, so they are investing, among other things, in the safe and emerging area of services related to handling of goods.

Therefore it is essential to rely on an efficient transport system.

In order to give Italy the possibility to develop a logistic system capable, also, of intercepting streams, not originating or destined to the "System Italy", to which add the processes and, consequently, value, also creating conditions for the gradual economic readjustment between northern and central-southern regions, allowing Italy to regain an economically central role in the Mediterranean, it is necessary, to connect the AV/AC National lines to the AV/AC European lines as soon as possible. At the same time it is necessary to create a "multi-port system" for the "Alto Tirreno" area, the "Alto Adriatico" area, and all the ports in the South of Italy, by turning them from Hub into Gateway, and by drastically enhancing the railway transport capacity through new infrastructures and means, according to internationally agreed standards.

In addition to the implementation of the new AV/AC lines, and the adjustment of the gauge of the "Direttissima Firenze-Roma", it is necessary to adjust the loading gauge of the railway tunnels to the "Gabarit C" along all the conventional axes, in order to allow the transport of Swap Bodies/containers with no obstacles, adjusting also the circulation systems, the maximum load per axis, the signaling systems and those for the telecommunication and electrification, the maximum weight and the maximum length of the freight trains according to the proposals of harmonization of the European railway lines. In particular, it would be useful to gradually implement the Italian Railway Network so as to direct it to the transport of goods in respect of the "Ferrmed principles"(v. "THE FERRMED GLOBAL STUDY – Brussels 27/10/2009", "FERRMED Wagon Concept Study" and "FERRMED Locomotive Study").

The achievement of that purpose will allow the saving of at least 40 billion euros per year, as reported in the "National Plan of Logistics 2011-2020", as well as the creation of thousands of jobs in Italy. It is therefore essential that appropriate investments are approved at a political level, that can create the conditions for the achievement of these goals in the shortest time, coordinated with the Euro-Mediterranean interventions (see future "Euro-Mediterranean Master Plan" and http://www.transport-research.info/web/projects/project_details.cfm?id=36952).

The "Ferrmed" Project should not be viewed as a project against Italy, but as an opportunity and a challenge to profitably and promptly use Italy's central position in the Mediterranean, in order to adapt the ports, the infrastructures, the means and the national logistics chain to the new needs, creating "*main Corridor*" dedicated to freight.

Current technologies allow the realization of tunnels able to overcome obstacles, which until a few years ago were considered insurmountable for both technical and economic problems.

In fact, Italy must create, as soon as possible, tunnels that are able to eliminate the natural obstacles that isolate it, surpassing the Alps and realizing submarine connections to Sicily and Africa. Only the coordinated enhancement of the infrastructures and the reorganization of logistics will grant Italy the maintenance of an adequate economic position and a geopolitical influence in Europe and the Mediterranean.

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