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# Logistic platforms: conceptual elements and the role of the public sector

This edition of the FAL Bulletin approaches the issue of logistic platforms and the public sector's role in the development of the logistic sector. The authors are Erick Leal and Gabriel Pérez Salas. For further background, please contact gabriel.perez@cepal.org

## INTRODUCTION

The 20th Century witnessed a series of global structural changes that had a particular impact on the logistic industry. The world's leading economies became more open to trade and this, together with emerging economies such as China and India, the appearance and consolidation of container traffic as a technological paradigm, the onset of deregulation in the North American transport industry and increasing integration of the European Union, have resulted in a high and complex demand for logistic services on a global, regional and local scale.

Globally, the development of multi-modal infrastructures has been a key factor in trade integration, supporting complex stock exchanging processes on an unprecedented scale. In order to support these complex processes, the integration of maritime, land and air transport modes has been a fundamental factor in the operation of these networks. In developed countries, port, and particularly logistic platform development has played a crucial role in facing up to this challenge.

More than 80% of global foreign trade currently involves maritime traffic, and access to an increasingly broad and competitive hinterland has required growing integration between maritime and road traffic and, depending on volumes, rail transport.

As a result of enormous changes in the global economy in general, and in the aforementioned production and distribution systems in particular, the very concept of logistics has been altered, and it is now a key factor for industrial and commercial competitiveness. Integral logistics, defined as the synchronisation of multiple organisations involved in the logistic and transport chain, has given rise to complex logistic systems based on process synchronisation and information feedback leading to multi-modal transport methods. They are defined according to freight characteristics, time, distance and geography, and make the most of each mode of transport in order to benefit the freight's competitiveness. In this respect, logistic platforms have been of the utmost importance, not only helping to solve port congestion problems, but also facing the challenges of postponement[1] and cross-docking[2] strategies aimed at minimising total logistic costs and tackling the growing volatility of consumer markets, where integration with air transport is fundamental for products with greater added value or very short shelf-lives. This type of infrastructure also enables the use of agglomeration economies in relation to the services required by platform operators, and also helps to reduce transport externalities such as congestion and pollution.

Significant progress has been made in the development of infrastructure and its productivity, in Latin America and the Caribbean, increasing the respective quality and efficiency standards. There is, however, a pending problem which is of key importance for exporters: high-quality logistic services which support a country's competitiveness by effectively reducing logistic and transport costs.

In this context, our objective is to present some conceptual and practical elements which will enable an initial approach to the conditions required for the successful implementation of logistic programmes, and to analyse the role of the public sector in the development of national logistics.

[1] It consists of postponing some activities or decisions such as assembly in order to tackle demand volatility and avoid over- or under-stocking costs.
[2] Node combining one high volume mode with several lower volume modes. It has the advantage that it makes use of the scale economies of the high volume mode, delivering a service tailored to the needs of the markets associated to the smaller volume nodes.

This is particularly important considering the private sector's enormous interest in the development of these infrastructures, which are currently lacking in the region, as are competitive transport and logistic services. However, active governmental involvement is essential for the sector's development, in the form of either sectoral regulation, coordination of facilitation activities or the management or operation of such infrastructures. Indeed, the absence of high-quality logistic and transport infrastructure and services could constitute a serious problem for the future development of regional economies, especially those based on exports. The burden of the excess costs affecting their products, in terms of both time and money, affects both their competitiveness and the end price paid by consumers.

## 1. CONCEPTUAL ELEMENTS

The best known definition of logistic platform is probably that provided by the European Association of Freight Villages EUROPLATFORMS, as "a defined area within which all activities relating to transport, logistics and the distribution of goods, both for national and international transit, are carried out by various operators. It is run by a single body, either public or private, and is equipped with all the public facilities to carry out the above mentioned operations".

In simpler terms, a logistic platform can be defined as a specialised area with the infrastructure and services required for co-modal transportation and added value services, where different agents coordinate their activities to benefit the competitiveness of the products making use of the infrastructure.

Based on the above definition, it is important to distinguish between different types of logistic platform, according to their operative complexity and operational integration:

1. Unimodal distribution centres
2. Logistic areas
3. Multimodal platforms

Unimodal distribution centres are infrastructures operating as storage facilities, largely aimed at the management of product flows and associated stocks. These infrastructures can be operated by one or several firms, and do not necessary involve joint operations. This type of infrastructure is typically unimodal and primarily concerned with road transport.

Logistic areas involve more integrated operations, with stock consolidation, local and re-directioning activities. These infrastructures include traffic concentration and freight division points for switching to different modes of transport. These areas evidently include at least two modes of transport, enabling geographical (or distribution) postponement and cross-docking activities. Typical examples are air or maritime freight centres.

Finally, multimodal logistic platforms are logistic nodes connecting different modes of transport, emphasising added value services and not the specific transport modality used. These infrastructures are also known as hubs, which are usually linked to ports, in order to make the most of scale economies on international routes. Their nodal function does not only include transport-related activities but also national and international logistics and distribution. They are generally run by several operators. Due to the large volumes handled and their excellent locations, they enable the implementation of nearly all the different postponement strategies (geographic, manufacture and assembly).

Some criteria can be proposed for the implementation and preliminary assessment of this type of infrastructure, considering different aspects of the problem. In the following section, the functional definition is enhanced with the following dimensions: (i) geographic-economic dimension, referring to the traffic/population ratio, (ii) an economic-commercial dimension, including scale, market size and type of product, (iii) a financial dimension, including risk, (iv) an industrial dimension, approaching the role of vertical integration from and to the transport sector and (v) a public dimension, referred to the necessary involvement of the public sector in the transport industry in view of its specific characteristics in terms of market structure (monopolistic potential or specific investments) and externalities (pollution, congestion and accidents).

In sum, the logistic platform concept does not only include a strictly functional dimension. Indeed, its variety of dimensions make it dynamic, taking different forms depending on the configuration of said dimensions. In the specific case of the public dimension, it is largely justified by the faults affecting the market mechanism and the need for sectoral regulation in order to ensure competition, reduce negative externalities and promote an attractive investment mechanism for the sector’s competitive development. Following is a brief description of the different dimensions and their impact on different types of logistic platform.

## 2. Preliminary criteria for the successful implementation of a logistic platform

Following is a series of recommendations to be considered for the implementation of a successful logistic platform. Although the list is not complete, it emphasises the need to approach the subject from an integral perspective, coordinated between the public and private sectors, to ensure that investment in this type of infrastructure is due to a real sector requirement and not a mere real estate operation.

### 1. Local distribution centres

It has already been established that these platforms are oriented towards ***local end markets***, where the ***size of the market*** concerned is basically the population of a city or group of small towns. This makes it difficult to obtain major ***scale economies*** and distribution efficiency is the primary objective. Their location is usually peripheral and the operation is usually part of the freight owner's main business. In some cases, national or sub-national governments have participated in the design, funding or operation of these platforms, as a means to regulate traffic congestion in cities or ensure sufficient food provisioning.

### 2. Logistic distribution areas

***Scale economies*** start to become important in these infrastructures, which are usually located near ***ports***, generally in the context of north-south maritime routes or regional routes in which cabotage makes up for railway shortages or reduces the burden on roads. Inland areas are usually connected by road or rail.

Regional centres also aim at two types of market, one of which is local or immediate and the other is usually a small, secondary market supplied by distribution centres. The importance of the ***size of the local market*** goes hand in hand with a reduced operating risk, as the local market is associated to covering overheads. In view of the importance of such infrastructures for national competitiveness, some governments have created the bases for regulating participation in and the location of these platforms.

The operators are usually private. In ports, global operators limit their participation to part ownership of local firms. However, the maturity of the container market in the world's leading markets in the next few years will lead to an increased presence of global operators in this type of centre. In logistics, there are operators who are starting to internationalise their operations in order to transfer their know-how to less developed markets. Likewise, given the importance of logistic capabilities in the retail sector, it is considerably involved in the operation of regional distribution centres, which are usually closely linked to their local distribution facilities.

### The dry port concept

Dry port is a concept often mistaken for different variants of the above mentioned concept of logistic platform. A dry port is an infrastructure developed to take all the activities which do not necessarily have to take place within port facilities outside the port area, leading to more efficient transfer operations, in ports with growth constraints and therefore have higher operating costs and lower service levels, so their primary objective is not logistic as such. Associated logistic activities often arise in dry ports, however, generating a logistic area for distribution purposes. This only occurs for given transfer volumes, location relative to maritime routes, types of product, market size, risk and types of operator. Ultimately, a dry port alone does not comply with the definition of a logistic platform, and should not therefore be used other than in relation to port operations.

## 3. Hub infrastructure

This type of multimodal infrastructure is based on making use of ***scale economies*** on international and domestic routes. Hence the importance of a port with an infrastructure and superstructure capable of handling large maritime vessels or freight aircraft.

They tend to be located in an ***intermediate position*** between the points of production and consumption of the global supply chain, in order to ensure the necessary volumes and obtain scale economy gains. The size of the local market where these infrastructures are located is usually not sufficient to obtain scale economies, so their physical location requires simultaneous access to as many secondary markets as possible.

***Local market volume*** is not only necessary to obtain scale economies, but also represents a captive market, involving much less ***risk*** than the traffic associated to