

## THE LOGISTICS PLATFORM DISAMBIGUATION

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**Abstract** Regional logistics platforms represent a modern approach and development instrument, aimed towards fostering and facilitating logistics activities and business exchange with associated flows in a specific geographic region, whose origins can be traced back to ancient trade routes. Though a widespread buzzword in political and business circles the logistics platform still lacks a clear definition and thorough understanding of the concept in its entirety. We identify several uses of the term and place it in the supply chain environment. Different contextual and business case examples are presented to differentiate between distinctive meanings of the word. A common logistics platform definition is proposed and applied by means of SWOT analysis to the development state of the platform in Slovenia.

**Paper type:** Research paper

**Published online:** 10 January 2012

Vol. 2, No. 1, pp. 69-80

ISSN 2083-4942 (Print)

ISSN 2083-4950 (Online)

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**Keywords:** *logistics, regional platform, supply chain*

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## 1. INTRODUCTION

A regional logistics platform model is one of the contemporary concepts in business strategies which has attracted broader attention in the last decade. The regional logistics platform is a resource base for supply chains network out-bound logistics activities in a region. Its origins go back to old trade routes and in addition, certain features can also be found within enterprise and supply chain boundaries.

A trade route is a logistics network identified as a series of pathways and stop-pages used for commercial freight transport. Allowing goods to reach distant markets, a single trade route contains long distance arteries which may further be connected to several smaller commercial and non-commercial transportation networks (Cioleg, 2009).

We witness the modernization of ancient approaches for placement of goods onto distant markets. This process is facilitated by modern techniques and technologies, contemporary information and communications support and last but not least, advances in fields of organization and management. To understand the need for a more widespread logistics platform concept adoption outside the boundaries of individual enterprises and supply chains, it is necessary to look at actual requirements in the business environment associated with the need to strengthen economic growth in particular regions and find out how regional logistics platforms could be the answer to those requirements.

## 2. LOGISTICS PLATFORM AS AN EXTERNAL DRIVER IN SUPPLY CHAIN ENVIRONMENT

Global supply chains, international corporations, multi-national integrated production consortia have in spirit of competition and growth become highly sophisticated and complex systems. They are continuously seeking for new, creative solutions to improve their effectiveness. From the logistics perspective, a strong internal driver is present, which forces them to integrate their business functions within the entire supply chain to facilitate integrated flows of goods and services. However, not all are successful. Firstly, the previously mentioned internal driver is weak or poorly understood. Secondly, external driver(s) may be overlooked because today the focus is largely on tuning companies in the supply chain as a whole.

The discussion on often neglected external drivers should start with the definition of logistics within the supply chain setting. The following definition was proposed by the Council of Supply Chain Management Professionals (CSCMP, 1998): Logistics management is that part of supply chain management that plans, implements, and controls the efficient, effective flow and storage of goods, services, and related information from the point-of-origin to the point-of-consumption in order to

meet customers' requirements. Its activities typically include inbound and outbound transportation management, fleet management, warehousing, materials handling, order fulfilment, logistics network design, inventory management, supply/demand planning, and management of third party logistics services providers... As it will be demonstrated the level of regional logistics platform development is important for supply chain efficiency. A modern regional logistics platform is, according to the definition of outbound logistics, the most important external driver which should not be ignored.

It is a well-known fact that today's complex and dynamic market environment forces enterprises to concentrate on their core competences. Another often repeated fact by various authors is that no one can be totally self-sufficient. Companies daily face the challenge to survive. Interactions between individual enterprises can be observed and are an indisputable fact. To remain competitive, it is important on the one hand that these individual enterprises maintain their autonomy and financial independence, which consequently leads into having a strict boundary between the company and the business environment, and on the other hand to be able to connect at any point of any process chain stretching from raw materials extraction/acquisition and all the way to the consumption of finished products. Autonomy and independence are fundamental to the continuous improvement of core competences, while outward openness and connection to external systems are important for a range of interests among existing and potential partners regarding the maintenance of existing and establishment of new business relationships.

In order to save time and resources it is reasonable to think in the direction of firstly, maintaining the autonomy of individual enterprises, and secondly, the establishment of a common resource base whose assets could be deployed if necessary to execute the exchange of information, goods, financial assets and intangible resources with business partners. And finally, exchanges are more or less about overcoming distances within or between regions through external logistics activities. External logistics deals with the total material and information flow from the supplier all the way to the end customer, including related activities, facilities, information systems and organisations involved (Aldin & Stahre, 2003); (Lambert & Cooper, 2000); (Cooper & Ellram, 1993). Lambert, Cooper and Pagh (1998) define supply chain as "the integration of key business processes from end-user through original suppliers, who provide products, service, and information that add value for customers and other stakeholders." We can assume that the logistics system represent the basis for supply chain operations. Economic prosperity on regional and enterprise level demands a strong focus on all available resources engaged in the development of an excellent logistics base for a seamless integration of enterprises within supply chains – without the time consuming internal reorganizational or any other transformation of the enterprise – to fall into place.

Sahin and Robinson (2002) state that "supply chain consists of suppliers/vendors, manufacturers, distributors, and retailers interconnected by transportation, information and financial infrastructure." Despite the fact that supply chains

deliver a variety of products and services to end customers, they consist of the same basic set of elements: suppliers/vendors, manufacturers, distributors, and retailers. The main difference between supply chains' structure is the number and type of activated elements, for example one or more suppliers. They also differ as to the type of management, target markets, lead times, and similar characteristics. In regions isolated supply chains should not be observed because regional supply chain elements can appear as crossroads for a range of materials and semi-finished goods of totally different supply chains. As stated by Bretzke (2009): "Supply chains are created by carving a limited number of companies on different stages of production out of an unmanageable network of networks." In regions – consequently the supply chain network has to be detected and supported in order to strengthen their economic growth.

### 3. CONTEXTUAL AND BUSINESS CASE EXAPLES

In the research literature there is no consensus on what represents a logistics platform – authors use the term in a wide variety of contexts. There is an apparent gap in research and professional literature. In practice the need for efficient logistics operations inside and outside the boundaries of enterprises is strongly felt, but the academics and practitioners are still not completely unanimous about how a regional logistics platform should be constructed and what should consist of to maximize the outputs of the afore-mentioned activities and strengthen the regional economic growth. Worldwide there are many logistics trials and pilot projects dedicated to the establishment of logistics platforms at the regional level. Recent efforts of governments and business representatives have been oriented towards strengthening the regional economic growth. In parallel, we perceive the emergence of new, so-called *logistics platforms*, of regional and/or global character being developed. In Table 1 some examples of logistics platforms found on the internet and in scientific literature are presented.

In terms of etymology, the word *platform* has been in use since 1550, stemming from Middle French *plate-forme*, literally "flat form", from Middle French *plate flat* (from Old French *plat*, of uncertain origin) + *forme form* (from Latin *forma*). As a noun it stands for (Verbinc, 1997):

- a platform, flat surface, notably a dais or stage,
- a political platform, (electoral) program,
- a plateau,
- a flat roof,
- a ground-plan.

**Table 1** Examples of logistics platforms found on the internet and in scientific literature

<b>Name of platforme</b>	<b>Location / Geographical focus</b>	<b>Users</b>
<b>PLAZA - Zaragoza Logistics Platform</b> <a href="http://zlc.edu.es">http://zlc.edu.es</a>	Zaragoza in Spain, Europe	Inditex, Imaginarium, Porcelanosa, TDN, DHL Express, Barclays Bank, Memory Set, and Mann Filter among others - a total of 139 companies.
<b>Logisticsplatform</b> <a href="http://www.logisticsplatform.com/home.asp">http://www.logisticsplatform.com/home.asp</a>	the Amsterdam Port / Airport region	Participants in the Trans Action Modal Shift (TMS) project; Industries at or nearby water that actually don't use the water for cargo transport.
<b>eCommerce Enabled, Demand Responsive Urban Logistics (eDRUL)</b> <a href="http://srvweb01.softco.it/edrul/">http://srvweb01.softco.it/edrul/</a>	The eDRUL project is investigating, developing and demonstrating innovative e-logistics solutions taking as a reference four different European sites: Siena, Lisbon, Aalborg and Eindhoven	Research partners.
<b>Swiss Logistics Platform</b> <a href="http://www.logistikplattform.ch/">http://www.logistikplattform.ch/</a>	Switzerland	Companies and organizations in the Swiss logistics sector present themselves jointly.
<b>Logistics Platform (Teleroute)</b> <a href="http://www.teleroute.com/logistics/logistics-platform.htm">http://www.teleroute.com/logistics/logistics-platform.htm</a>	Global	Logistics providers, transport providers
<b>Logistics Platform Ltd.</b> <a href="http://en.logisticsplatform.com.ua/">http://en.logisticsplatform.com.ua/</a>	Ukraine and Western Europe	Founded under assistance of Ministry of Economy of the Netherlands (EVD) and NEA Transport Research and Training (transport and logistics organizations of Ukraine, the Netherlands, Belgium, Germany and Hungary)
<b>Aderly France – Lyon</b> <a href="http://www.aderly.com">http://www.aderly.com</a>	Logistics network boasts 2.6 million m <sup>2</sup> of facilities in 3 main geographic areas: Isle d'Abeau, Plaine de l'Ain and the Rocade Est beltway - linking Northern and Southern Europe.	50 logistics companies 200 transport firms 40,000 jobs 3 million square meters of logistics facilities

The term is rarely used alone. For example *platform* may refer to a railway platform, computing platform, oil platform, jumping platform and so on all the way to logistics platform. The adjacent adjective exactly specifies the meaning of

the noun Platform. For example, intermodal platforms may help decision makers select the best transportation option and are related to more than just the physical movement of goods and the associated direct and indirect costs. These systems also aim for a technical, legal, commercial, and management framework, emphasising an integrated service that will be provided to all agents involved in the supply chain. Intermodality also considers material flows, shipping operations, transportation infrastructures, informatics operations, telecommunication infrastructures, and auxiliary activities linked to logistics (Cambra & Ruiz, 2009).

In practice, the term logistics platform is used for:

- an electronic bulletin board used for publishing the data of partners, platform, services on offer, best practice examples, events, conferences, training programmes, legalisation, and so on. Web site is completely passive and does not allow any communication between providers and visitors,
- a portal for research and development purposes,
- an electronic bulletin board in combination with an active web site which allows communication between registered participants, reservations, booking, pro-active notifications, updates on shipment status, delivery notifications, ... ,
- a synonym describing a logistics hub/logistics centre/electronic marketplace....,
- a physically existent place where different agents of the supply chain can be integrated in the same physical place and where alliances, joint ownerships, networks, or the sharing of transportation modes or terminals takes place,
- describing the close interrelation of logistics, transport and information-communication systems, whereby each system is associated with a specific type of flow,
- a software package or a set of software modules most frequently intended for information-communication support of different logistics activities within the supply chain.

It is clear that the use of the term is not always appropriate.

One of the main prerequisite features of the logistics platform concept are its objectives. They are formulated by the economic, political, governmental, educational and environmental representatives of the focal region. In contrast to similar concepts, such as the supplier park, the freight traffic centre, the distribution centre, as described by Pfohl and Gareis (2005) for example, objectives of a logistics platform are much more ambitious and simultaneously planned and strived for at the same time by the regional community itself as a whole.

To sum up, a logistics platform is any kind of resource base for the implementation of logistics processes in a pre-defined environment. It offers customized infrastructure, suprastructure, a well-developed information-communication system, logistics technology, specialized logistics service work force, friendly rules and

favourable support on the highest level. More precisely, a regional logistics platform is a kind of logistics platform, which forms a resource base for the implementation of inter-organizational logistics processes both within and between supply chains, which consist of elements that make up a wider regional or global supply chain network.

#### 4. THE CASE OF SLOVENIAN LOGISTICS PLATFORM

In 2008 Slovenian logistics and distribution sector accounted for 2.047 companies with 27.464 employees. Its key services were freight forwarding and freight shipping, handling of goods, goods warehousing and storage, maritime and inland logistics, terminal operations and additional services. The workforce is well educated and highly skilled. Language skills are well developed and most people can speak at least one foreign language. Some 3.000 students are enrolled in undergraduate courses for transport and logistics engineers and in secondary school programmes for transport and logistics. Slovenia has a rare strategic advantage due to its geo-strategic position, which allows it to develop as a logistics platform for Central and Southeastern Europe (“At Bled about foreign direct investments in Slovenia”, 2010). Two Pan-European transport corridors (Vth linking Barcelona and Kiev and Xth from Salzburg to Thessalonica) intersect at Ljubljana. As a member state of the EU, Slovenia is a gateway for Asian and EU manufacturers and traders. Slovenia can be easily reached from anywhere in Europe by car or lorry within a day or two. Strengths, weaknesses, opportunities and threats for Slovenia as a logistics platform are presented in Table 2.

Transport infrastructure is appropriately location-based but only partially in good shape. On the one hand the road infrastructure is upgraded and on the other hand rail infrastructure is neglected and in a quite poor condition. Three public international and twelve smaller, public airports provide easy access by air. A definitive role for their effective use in the frame of logistics platform is not fixed yet. The central Slovenian airport for passengers and cargo is Ljubljana Airport with a direct connection to the motorway. In the immediate vicinity the Aircargo Centre with direct access to the apron is located. Maribor Airport mostly handles cargo transportation whereas Portorož Airport has facilities for smaller planes only. Besides the international Sea Port of Koper it is also possible to include the inland Port of Brežice into the platform for the establishment of river transport between Sava and Danube rivers.

Logistics centres (freight traffic centres, distribution centres, ...) are present but they were not carefully positioned in the region to allow exploitation of modal transfer and creation of optimal distribution networks. With rising awareness of the importance of logistics the afore-mentioned situation is changing and in a few years we can expect modern logistics centres for the purpose of the logistics plat-

form. The construction and start-up of logistics centres is always associated with the establishment of adequate road, utility, information and energy infrastructure, entries, buildings, and in the end with the necessary equipment.

**Table 2** External and internal factors that influence on development of Slovenian logistics platform (Gajšek, Lipičnik & Šimenc, 2011, p. 103)

	<b>Positive</b>	<b>Negative</b>
	<b>Strengths</b>	<b>Weaknesses</b>
<b>Internal factors</b>	<ul style="list-style-type: none"> <li>- Advantageous geographic position, the intersection of V. and X. corridor, access to the sea, gateway to Central and Western Europe;</li> <li>- The Port of Koper as recognised logistics service provider, efficient port system and distribution centre;</li> <li>- Tradition;</li> <li>- Own human resources in logistics field, know-how and competences;</li> <li>- Technology is comparable with the rest of EU;</li> <li>- High awareness of issues related to logistics, transportation, environmental problems;</li> <li>- Well developed road infrastructure;</li> <li>- World-class logistics service providers head-quarters;</li> <li>- International airports;</li> <li>- Logistics centre in Sežana;</li> </ul>	<ul style="list-style-type: none"> <li>- Slow development of rail infrastructure;</li> <li>- Lack of financial resources;</li> <li>- Fragmented and unrelated different forms of logistics centers;</li> <li>- Transport policy is partially linked to the mandate of each Minister/political parties (short-term considerations);</li> <li>- Focus on development of physical part of platform (mainly traffic infrastructure);</li> <li>- Blurred vision of airports with their hinterland;</li> <li>- Neglected cableway transport;</li> <li>- Congestions and pollution on roads;</li> <li>- Neglected Slovenian carriers;</li> <li>- Untapped potential of combined shipping (semi-trailers, swap bodies);</li> <li>- Spatial constraints of the Port of Koper;</li> <li>- Lack of cooperation between regional logistics service providers;</li> <li>- Culture and stereotypes.</li> </ul>
	<b>Opportunities</b>	<b>Threats</b>
<b>External factors</b>	<ul style="list-style-type: none"> <li>- EU membership;</li> <li>- Inventiveness and flexibility of Slovenian economy;</li> <li>- Internationally recognized university and school system;</li> <li>- Involvement in international projects (Adria-Danubio Corridor V project, SEEM, The Silk Road, INTERREG III, The AMBER Route, ...);</li> <li>- Untapped potential of the intersection between V and X corridors;</li> <li>- Inland Port of Brežice;</li> <li>- Interest in countries outside the EU to participate in a joint logistics platform (Malaysia, Singapore);</li> <li>- Attempts to unify the foundations for logistics and transportation services in the EU;</li> <li>- Motorways of the Sea;</li> <li>- Untapped potential of rail connections with south.</li> </ul>	<ul style="list-style-type: none"> <li>- Adjacent competing corridors;</li> <li>- adjacent, partially competitive ports, airports and logistics centres (short distances);</li> <li>- divert flows to the adjacent corridors during the war for independence;</li> <li>- Improved determination in neighboring countries at taking strategic decisions;</li> <li>- Small size of Slovenian companies;</li> <li>- Aggressive road development strategy (road lobby).</li> </ul>



From the technological point of view, Slovenia is capable of ensuring the implementation of any modern logistics technology. There is an untapped potential, for example, in combined shipping (semi-trailers, swap bodies), partly because of strong road lobby, poor condition of rail infrastructure and problems of Slovenian railway industry. Perhaps situation could be improved by separating railway infrastructure from its operations.

Slovenian freight forwarders, carriers and warehouse operators have up-to-date fleets of vehicles and mechanised and computerised warehouses with state-of-the-art technology. A growing number of firms offer modern logistic hubs, along with the possibility of outsourcing total logistics services. The number of companies specialised in transport services has been reducing since the start of the crisis. At the same time focus on transport is broadening to include a full range of logistics activities. It is true that the providers are small but acting together under the platform they could increase their competitiveness. Transit traffic is still playing an important role. As traditional trade routes are being reopened, there is a clear upswing in road and rail transport services. The mission of the platform should be to increase the flow of vehicles at a reduced negative impact of transit on the environment. There is no common information-communication system for the purposes of the regional logistics platform. Information relating to the platform establishment development is available through articles in daily newspapers and publications of the Ministry of Transport.

From the example of Slovenian logistics platform we can conclude that the region offers support to the supply chain network and its elements in the following areas:

- Geographical position,
- Infrastructure,
- Information-communication system,
- Logistics technology,
- Human resources,
- Regulations,
- Government support,
- Logistics organization.

Although the Slovenian logistics platform has the basic building elements in place, we still cannot talk about their coordinated development for the purpose of an effective horizontal and vertical logistics activities implementation. Currently the development is in its early stages and it is based predominantly on the exploitation of purely historical and geographic advantages.

## 5. CONCLUSION

A regional logistics platform model is one of the contemporary concepts although its origins go back to old trade routes. It is a kind of logistics platform,

which forms a resource base for the implementation of inter-organizational logistics processes both within and between supply chains, which consist of elements that make up a wider regional or global supply chain network. As such it represents a strong driver for increasing supply chains efficiency.

We have discussed the concept of logistics platform and its usage in different settings and proposed a common definition that is compatible with its fundamental goal as being a driver of regional growth and a supply chain enabler. Further research will be focused on building a comprehensive descriptive logistics platform model and determining the critical success factors for evaluating the performance of a given platform approach. Worldwide business cases should be examined to achieve the desired level of generality.

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## BIOGRAPHICAL NOTES

**Brigita Gajšek** graduated at the Faculty of Mechanical Engineering in 1998 and received a master's degree in Organization and Management of Information Systems from the Faculty of Organizational Science at the University of Maribor in 2003. For several years she worked in metal processing industry as project manager before she was elected teaching assistant at the Faculty of logistics at University of Maribor in 2007. Her research interests comprise technique, technology and process organization in logistics. She is currently working towards her PhD thesis.

**Martin Lipičnik** is the Dean of Faculty of Logistics which is a leading academic and professional institution for logistics in Slovenia and as an institution, comparable to many other Slovenian and European ones. He graduated in the Faculty for Architecture, Civil Engineering and Geodesy at the University of Ljubljana. After graduation, he started to work as a projector, then as Head of a construction sight and Head of the construction sector, and finally as the Technical director. He obtained the D.Sc. title in 1984 at the department of traffic in the Faculty for Architecture, Civil engineering and Geodesy at the University of Ljubljana. Later he took the place at the Faculty of Technical Sciences in Maribor. He founded the research unit named Roads and road traffic. Simultaneously with the beginning of study programs at the Faculty of Civil Engineering he also founded the Institute for Traffic Sciences, which soon became a well-established and recognized development-research institution in the Republic of Slovenia. Right after the foundation of the Centre for interdisciplinary and multidisciplinary research and studies of the University of Maribor in 2001, he was invited to collaboration and so he established project team Traffic management, which is now growing into the new institute – Institute for logistics CIMRS UM. He was an empowered manager for the foundation of the Faculty of Logistics, which has been successfully completed. He is also a national co-ordinator of the international COST project, national co-ordinator of the scientific co-operation with the Republic of Hungary and the Republic of Croatia, member of the Croatian Academy of Technical Sciences, head of Commission for the Slovenian Logistician of the Year Award, author of 6 books, 2 patents and several scientific articles, member of the Senate of University of Maribor, member of the Habilitation Commission of the University of Maribor, member of the Council for Higher Education of the Republic of Slovenia, member of Bundesverein der Logistik (BVL), member of European Logistic Association.

**Mitja Šimenc** is a Research Assistant at the Faculty of Logistics, University of Maribor. He is currently finishing his master thesis on equitable delivery route evaluation, while his bachelor thesis focused on sports mega-event logistics. During his studies he has worked on several projects in the retail, dairy, glassworks and educational environment. Special fields of interest include the role of logistics in organizational and transorganizational strategic positioning, sustainable development with emphasis on waste management and project management in logistics.