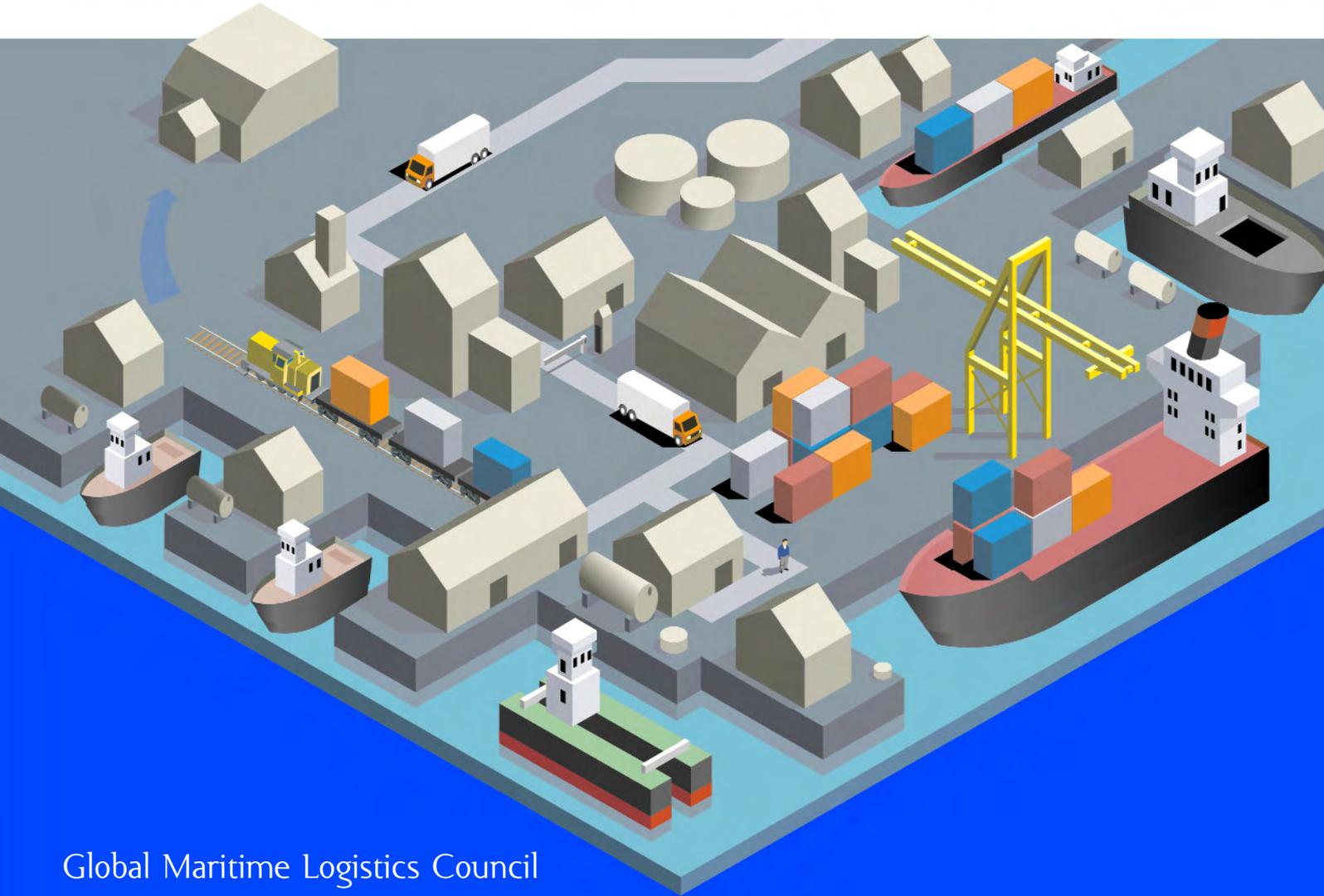




Global Institute  
of Logistics



Global Maritime Logistics Council

# Seaport Cluster Research Programme 2007-2011

Preliminary findings June 2009

- ◆ Port Clustering comes of age
- ◆ Announcement of Valencia, Spain as Benchmark Port Cluster
- ◆ Development Phase of a Transferable, Port Cluster Maturity Model
- ◆ Port Cluster Governance Committee (PCGC)

[www.globeinst.org/portcluster](http://www.globeinst.org/portcluster)

## PREFACE

*This paper gives the position of a four-year research program on best practice Port Cluster Governance at its mid-way point*

Early research undertaken by the Global Institute of Logistics (GIL) on best practice and quality indicators for the entire supply chain nodes revealed that once outside of the port gates, there is little communication between supply chain stakeholders. This is despite the fact that performance of the port is inextricably linked with hinterland development and overall service levels. A preliminary study of distribution centers (DCs) prepared by the Institute found that simply aligning opening times of DCs and container terminals would vastly improve the supply chain system.

In the majority of port clusters, there was found to be little or no formal communication between the stakeholders and in most cases, there was no commercial port stakeholder council. The research revealed a need to better understand service levels and to foster relationships between the players in the supply chain, connecting the hinterland and terminal by benchmarking and building up key performance indicators.

The Institute proposes that the alignment of port stakeholders' missions and visions will bring service level alignment. Further, a shared vision will break down silo-based systems and thinking, to be replaced by collaboration and cohesion so that the end result is a joined up system that maximizes the use of time and minimizes cost. This vision needs to be spearheaded by a 'champion' of the supply chain collaboration model, and complemented by a committee with representatives from all port stakeholders.

The second phase of research will combine theoretical and practical knowledge on best practice port cluster governance to ascertain best-in-class cluster maturity. Further, it will examine how to find the champion to lead a culture of collaboration, and how to develop an efficient port cluster under that champion's leadership. The resultant maturity model and best practice findings will be globalised, allowing ports to apply the knowledge learned at the end of the program to improve cluster cohesion and governance and ultimately quality service levels at ports.

Research by Kieran Ring, CEO, Global Institute of Logistics  
Edited by Carly Fields, Research Editor, Global Institute of Logistics

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## INTRODUCTION

### *The Global Institute of Logistics*

The Global Institute of Logistics (GIL) acts as a bridge between the academic world and the world of business, educating the global supply chain community on the latest in academic thinking while at the same time balancing and correcting the various hypotheses emanating from the academic community with the real experience of early adopters. Balancing theory and practice, the Institute follows the conjecture emanating from the leading academics and institutions with a view to understanding the future of the global logistics industry.

The foundations for the Institute's modus operandi were set by founding Chairman and industry visionary Bob Delaney (1938-2004), who ascertained that relationships will carry the industry into the future, a statement aligned with economic theory. Research into strong relationships between partners in a supply chain reveals a number of beneficial operational outcomes such as reduction of inventory, transportation, ordering and warehousing/handling costs<sup>1</sup>.

The importance of managing those relationships is crucial to the success of the integrated supply chain. Port management is characterized by multipart decisions with many stakeholders; therefore achieving a balance between the interests of all stakeholders is an important job for port managers<sup>2</sup>.

Those same relationships must also be correctly aligned, with the outcome that the proactive creation, development and maintenance of relationships between global supply chain partners will ultimately lead to a mutual exchange and fulfillment of promises at a profit. Relationship orientation as a philosophy of doing business successfully, promotes an organizational culture that puts the buyer-seller relationship at the centre of a firm's strategic and operational thinking.

The Institute believes that the higher the level of relationship orientation achieved between the stakeholders in the global supply chain, the greater the level of operational logistics service quality improvements and as a consequence, the better the economic performance for all.

The Institute asserts that working together to deploy relationship orientation as a strategic organizational tool will benefit all parties in the industry, and as such the Institute actively fosters and promotes high levels of relationship orientation as its key change agent and catalyst in pursuit of its objectives.

Furthermore, maritime supply chain stakeholders should nurture relationships to leverage best industry practices and add real value to the supply chain management process.

### *The Need for Quality Indicators*

"If you cannot measure it, you cannot control it. If you cannot control it, you cannot manage it. If you cannot manage it, you cannot improve it."<sup>3</sup>

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<sup>1</sup> Brewer and Speh, 2000; Mentzer et al, 2001

<sup>2</sup> Notteboom, Winkelmanns, 2002

<sup>3</sup> Harrington, *Business process improvement*, 1991, p. 164

In 2004, at the beginning of the Institute's research on best practice relationship orientation, GIL identified the need for greater transparency in the global terminal operating industry and began an evaluation of terminal operating standards among the world's leading container terminals. Preliminary findings published in 2005 led to an accreditation for Yantian International Container Terminal in Shenzhen Southern China, member of the Hutchison Port Holdings group of terminals, as "Best in Class" Container Terminal.

In the research process, the Institute found that ports and terminals were the weakest and least transparent link in the supply chain, and that the introduction of a reliable benchmark to measure container terminal efficiency and port performance was essential to improve port/terminal-led best practice and relationship management.

To meet these goals, in 2006 GIL in partnership with Germanischer Lloyd took on the challenge of developing a standard, leading to the establishment of the Hamburg Committee. The Committee was immediately tasked with the development of the Container Terminal Quality Indicator (CTQI). After three years of industry dialogue to establish appropriate key performance indicators (KPIs), CTQI was launched in 2008. Hamburg was the first port to receive the accreditation.

To further understand the varying levels of relationship management at global ports and terminals uncovered by a review of the primary research for CTQI, the Institute launched the Global Maritime Logistics Council as a platform to standardize quality and service levels.

### *Optimizing Relationship Management*

Current academic thought is that the competitive battle among ports will increasingly be fought ashore and thus hinterland connections are a key area for competition and coordination among players<sup>4</sup>. There needs to be a focus on supply chain excellence, superior customer service and lowest cost to serve, which will allow ports to increasingly compete not as individual places that handle ships but as crucial links within global supply chains<sup>5</sup>.

Further, with port choice now considered a by-product of a choice of logistics pathway<sup>6</sup>, concentration on relationship optimization and best practice cluster models will take precedent. Today, it is the landed cost of products that is the key end factor; not the cost of production.

It is the Institute's view that currently the maritime logistics industry is extremely poorly served by its stakeholders. This is in stark contrast with the air cargo industry, which is comparatively streamlined. The Institute also sees that the maritime logistics industry has been the slowest to adapt to change in relationship orientation, constrained as it is by legacy models in the developed world.

GIL convened the Global Maritime Logistics Council (GMLC) in response to this need for "joined-up thinking" amongst the global supply chain stakeholders to further optimize relationship management through best practice. Seeking to innovate for the future and balance service levels, the impetus is

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<sup>4</sup> Notteboom, 2008

<sup>5</sup> Robinson 2002, Carbone and Gouvernal 2007 and Notteboom and Winkelmanns 2001

<sup>6</sup> Magal and Sammons, 2008 and Sammons and Magala, 2007

on encouraging the maritime logistics node to attain at least the same levels of integration as are evident in the air cargo sector.

As a working council within the institute, the GMLC is tasked to meet the following mission:

“The Global Maritime Logistics Council’s objective is to provide the global maritime logistics industry with a forum through which global shippers, 3PLs, carriers, port authorities and terminal operators can collaborate closely to share their knowledge so as to improve supply chain efficiency and security. Stakeholders will be encouraged to co-operate closely and consistently in leveraging best industry practices to add real value to the supply chain management process.”

As an industry think-tank, the GMLC encourages global shippers, 3PLs, carriers, port authorities and terminal operators to collaborate closely to exploit the considerable wealth of knowledge of each other to improve supply chain efficiency and security. Through this process, the GMLC aims to identify international best practices concerning velocity, reliability and security in the global supply chain management processes. Further, it works to extend the deployment of relationship orientation and collaboration, as a strategic organizational tool to benefit all parties in the industry.

Through debates, informatives and education with the global port and logistics community, the GMLC presses the need for cooperation, integration and transparency around the port piece of the global logistics equation, acting to establish port-centric logistics as the very hub of the supply chain.

Since its inception in 2006, the GMLC has established local Chapters in the United States, China and in Europe. The China Chapter is the longest established and is currently chaired by Dr Fu Yuning, Chairman and Chief Executive Officer of China Merchant Holdings.

The GMLC is committed to publication of a series of reports and standards over the duration of the program which will detail the research, outline guides to best practice, provide a glossary of terms, and identify KPIs for each node which individual stakeholders can apply in their respective disciplines.

### *20/20 Vision*

In pursuit of this best practice commitment, the GMLC has been tasked with the promotion of a 20/20 Vision Program, concentrating on a benchmarking program which has been designed to identify the thought leaders and best practices in the maritime logistics sector around the world, link by link. Through this program, the Institute has positioned itself as a conduit for the transfer of best practice internationally.

The 20/20 Vision Program is being developed by leading stakeholders in the global maritime logistics supply chain and is endorsed by the GMLC.

The latest phase in the 20/20 Vision Program has seen the world’s leading port clusters benchmarked with each other to identify the thought leader.

## THE IMPORTANCE OF PORT CLUSTERING

### *The origin of the concept*

Clusters are defined as a population of interdependent organizations that operate in the same value chain and are geographically concentrated.

This concept has been recently applied to seaports. The seaport cluster is made up of firms engaged in the transfer of goods in the port and their onward distribution. It also includes logistics activities as well as processing firms and administrative bodies.

Economists have identified clusters as a critical element in shaping competition between countries, regions and industries. There are many advantages to belonging to a cluster, identified as:

1. better access to competent people and innovative ideas
2. better access to specialized suppliers and demanding customers
3. better access to frontier research and development
4. better access to venture capital and competent investors
5. lower transaction costs of doing business<sup>7</sup>

Likewise, dynamic industrial clusters are said to be engines of value creation because they have higher value creation, higher growth and higher productivity<sup>8</sup>.

Clusters also have a stronger potential for regeneration<sup>9</sup>, since the formation of new business is easier than for those companies working in “isolation”. Therefore, clusters can better respond to a crisis and recover more rapidly, offering regeneration and new ideas to old business models.

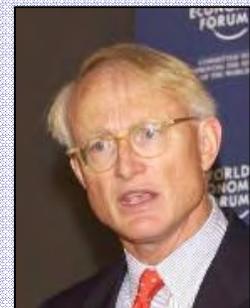
In terms of performance, the seaport cluster is defined as the value added generated by the cluster, and is shaped by the interrelationships between the structure of the cluster and its governance.

Here, cluster structure refers to the agglomeration effects and the degree of internal cohesion and competition. Cluster governance relates to the mix of, and relations between, organizations and institutions that foster coordination and pursue

### THE PORTER MODEL

This term industry cluster, also known as a business cluster, competitive cluster, or Porterian cluster, was introduced by Michael Porter in *The Competitive Advantage of Nations* in 1990.

In this, Porter introduced his diamond model which considered clusters of industries, where the competitiveness of one is related to the performance of another and other actors are tied together in the value-added chain, in customer-client relation, or in a local or regional context. Porter's thesis is that six factors – incorporating resources, demand, supporting industries, strategy and rivalry, government, and chance – interact with each other to create conditions where innovation and improved competitiveness occurs.



Michael Porter

<sup>7</sup> Reve & Jakobsen, 2001

<sup>8</sup> Reve & Jakobsen, 2001

<sup>9</sup> Pezzi, 2003

projects that improve the cluster as a whole.

The concept of the cluster groups provides the impetus for maritime leaders to create a more comprehensive and focused strategy for integrated port and logistics activities.

### *Post cluster status quo*

Institute primary research stemming from the CTQI process found that clusters exist at many global ports but at varying levels of maturity. Furthermore, some clusters that were deemed 'mature' were not transferable as they were found to be autocratic in nature. And while the level of maturity has in the past been concordant with competitive inter-port pressure, Institute research also found that inter-supply chain pressures dominated some models.

## THE VALUE OF GOVERNANCE

### *Corporate governance*

The OECD defines corporate governance as<sup>10</sup>:

*“Procedures and processes according to which an organization is directed and controlled. The corporate governance structure specifies the distribution of rights and responsibilities among the different participants in the organization – such as the board, managers, shareholders and other stakeholders – and lays down the rules and procedures for decision-making”*

In the port context, this definition means that the port must define its strategic vision and practice good governance through the imposition of a system of rules and responsibilities in line with the strategic targets of the port and its vision for the future<sup>11</sup>.

The World Bank Port Reform Toolkit describes port governance in terms of four types of ports: the public service port, the tool port, the landlord port and the fully privatized or private service port. These models are distinguished by how they differ with provision of service, global orientation, ownership of infrastructure, ownership of superstructure and equipment, and the status of dock labor and management<sup>12</sup>.

#### **Basic Port Management Models**

Type	Infrastructure	Superstructure	Port Labor	Other functions
Public service port	Public	Public	Public	Majority public
Tool port	Public	Public	Private	Public/private
Landlord port	Public	Private	Private	Public/private
Private service port	Private	Private	Private	Majority public

*Source: World Bank Port Reform Toolkit*

The number of service ports internationally has steadily declined over the past two decades as governments seek to improve the efficiency of port assets. While privatization is generally through service privatizations - rather than asset privatization - some countries, notably the United Kingdom, have chosen to privatize entire port assets. However, this is the exception rather than the norm.

While the World Bank approach to governance has been criticized as “too simple” by economists<sup>13</sup>, and there is a school of thought that argues that governance models should be tested against performance outcomes<sup>14</sup>, the Institute maintains that governance of the port cluster is critical to its application and success.

<sup>10</sup> European Central Bank, Annual Report, 2004, Frankfurt, Glossary

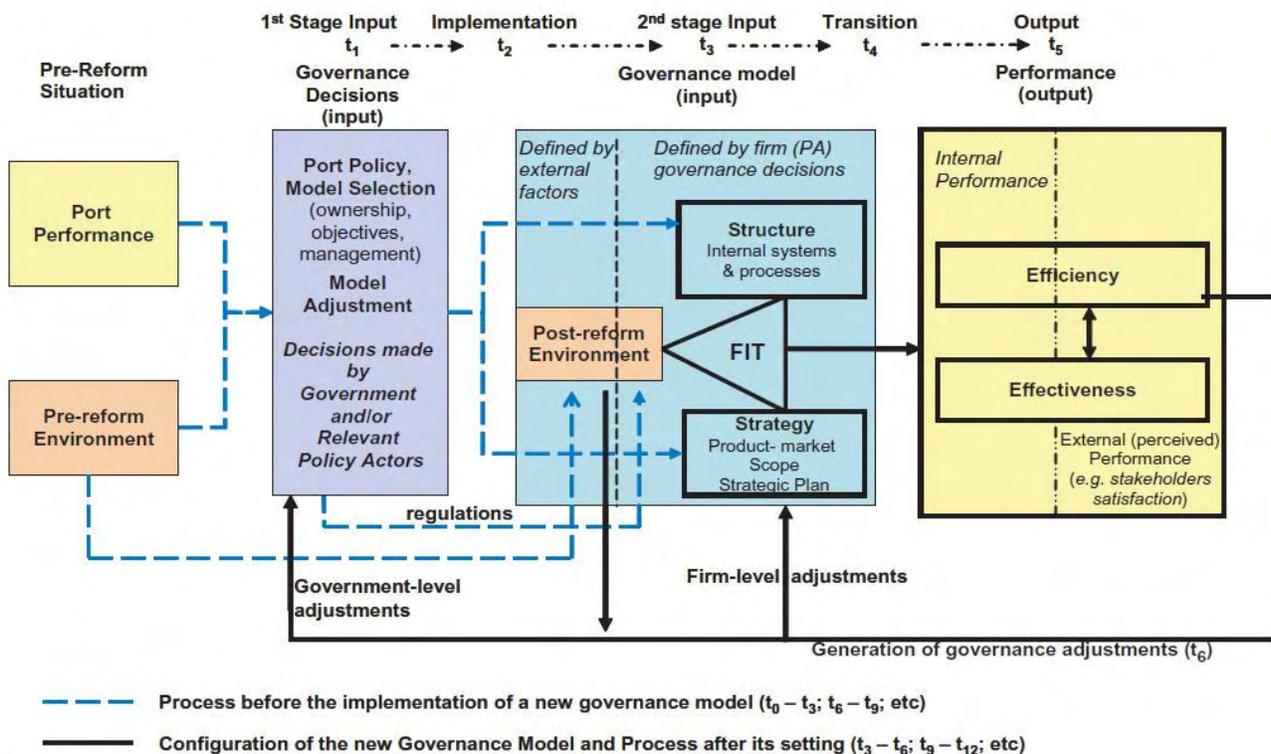
<sup>11</sup> Brooks, The Governance Structure of Ports, 2004

<sup>12</sup> World Bank, 2001/07

<sup>13</sup> Brooks, 2004

<sup>14</sup> Cullinane et al, 2002, Song and Cullinane, 2001, and Valentine and Gray, 2001

## Linking governance and performance



Source: Brooks, M, Pallis, T, 2008, *Assessing port governance models: process and performance components*

## European perspective

In 2007, the European Sea Ports Organization (ESPO) set port governance as one of its priorities for 2008, announcing the establishment of a specific port governance committee within its structure. The committee was first tasked with a study on the use of concessions as governance instruments. ESPO is also determining a code of practice on concessions, which is intended to aid port authorities on the use of concessions as intelligent governance tools. In 2009, ESPO ran a workshop on Port Governance Evolution to direct a new edition of the Association's Fact Finding report which is designed to be a port governance barometer for European Seaports. The report is expected in 2010.

The Institute believes that ESPO's work on port governance evolution will compliment the concomitant GIL best practice Port Cluster Governance research and looks forward to future cooperation to share research findings. The Institute also recognizes that while legislation and governmental partnerships are important elements of cluster best practice, best practice itself cannot be legislated. Rather, best practice must be encouraged from the legislative level down, in cooperation with all the port stakeholders.

### Americas perspective

US ports lack a national strategy and as a result, governance is fragmented, with participation by both the public and private sectors, and with several levels of government imposing their own priorities and requirements on the ports (Tharamangalam, 2007)<sup>15</sup>.

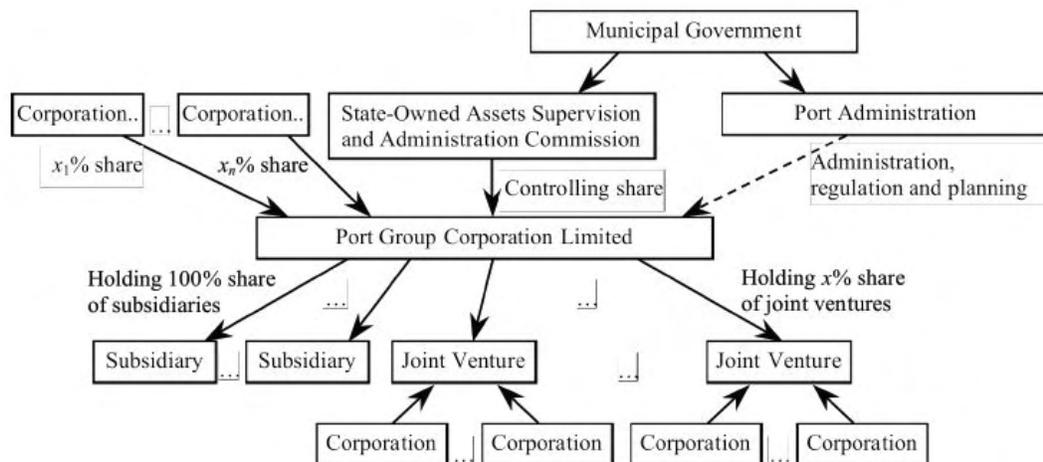
This has led to a complex governance framework made up of public and private organizations in management at national, regional, and local levels, each with different strategic goals and procedures, encouraging intense competition among ports in the US.

As a result of this disjointed governance, the Institute believes that best practice cluster governance research will be particularly useful in US applications.

### Asian perspective

China decentralized its port assets in 2002, transferring all 38 ports to local governments by March 2002. Port authorities were split into two entities: administrations and corporations, which were incorporated under the Corporation Act of the People's Republic of China 1999.

#### Shanghai model of port governance



Source: Min Qiu, University of Western Australia

Post-decentralization China established five port clusters, based on eight freight categories, those being: Bohai, Yangtze River Delta, Southeast, Pearl Delta, and the Southwest port cluster.

China's holistic approach to decentralization of port assets has given rise to unique cluster governance approaches, and the Institute looks forward to learning from best practice port cluster governance models in Asia.

<sup>15</sup> Tharamangalam, Michael, 2007. "Governance and Leadership: A tale of two ports":

## BEST PRACTICE

### *Vision and leadership*

The Institute's two-year preliminary study in port cluster best practice found that cluster excellence is supported by visionary and inspirational leadership, coupled with constancy of purpose.

Model cluster leaders establish and communicate a clear direction for all port stakeholders, instilling a code of ethics, a culture of collaboration, and a governance structure for the port stakeholders. Those attributes combined give the cluster a unique identity that appeals to stakeholders. Furthermore, model leaders throughout the cluster chain inspire others to excel through performance excellence and a passion for collaborative cooperation. Leading by example, model cluster visionaries recognize the stakeholders in the supply chain and collaborate with them to collectively bring improvement.

The Institute also found that those same leaders thrive in the face of adversity, displaying an adaptability fitting to the situation, while retaining a constancy of purpose. That flexibility protects stakeholder confidence and commitment and encourages the cluster to blossom under the wings of visionary leadership.

Further, the Institute's research has also shown that public-private sector leadership in clustering offers the best springboard for successful cluster development and relationship management. The public-private symbiosis offers a neutral platform, collaborative vision and an agglomeration affect. The financial and economic crisis around the world will undoubtedly lead to governments taking responsibility for roles beyond the scope of traditional policy and public services. Specifically, this new era of broader state personas will lead to Asian governments assuming a more prominent role as investors, alliance builders, and economic strategists. This development is to be applauded in the context of best practice, as greater public-private cohesion will encourage relationship alignment throughout the supply chain

### *Establishing "Best in Class" Cluster*

After two years of research, the Valenciaport port cluster, represented by the Port Authority of Valencia, was identified as a port cluster at an exceptional level of maturity with stakeholders truly engaged in the collaborative process. The Institute's criteria for "best-in-class" designates, among other points, that the cluster demonstrates the spirit of collaboration, strikes the right note between public and private partnership, and has developed a model that is transferable. Valenciaport has proven the transferability of its model as its quality guarantee, the Marca de Garantía, has been adopted by five countries in South America, while there is a further agreement in place with the port of Callao positioning Valenciaport in a mentoring role with the Peruvian port.

The Institute and Fundación Valenciaport have now entered into a two-year cooperation to formalize the findings of the Port Cluster study with a view to producing a guide to best practice Port Cluster Governance in 2011. With the benchmark of Valencia found as a transferable cluster model emulating the spirit of stakeholder collaboration, the challenge is to build a best practice port governance maturity model that can be molded to fit any culture.

## VALENCIAPORT AS “BEST IN CLASS”

### *Introduction*

#### *Location and population*

Located on the eastern Mediterranean Sea coast of Spain, the Valencia region encompasses 23,500 km<sup>2</sup> and includes more than 400 km of coastline and beaches on its eastern shoreline.

Valencia is the capital of the autonomous community of Valencia and its province. It is the third largest city in Spain by population, the 22nd largest in the European Union, and forms part of an industrial area on Spain's Costa del Azahar.

The population of the city of Valencia was 810,064<sup>16</sup> as of January 1, 2008, marking the centre of an extended 1,161 km<sup>2</sup> metropolitan area with a population of 1,705,742<sup>17</sup>. This represents 18% of the population of the Comunidad Valenciana. Only Madrid and Barcelona rank higher, in terms of population, in Spain at 3,212,271<sup>18</sup> and 1,615,908<sup>19</sup> respectively.

#### *Economic drivers*

The city of Valencia has an extensive industrial hinterland beyond the limits of its municipal area. The city also maintains an important industrial base, with 14% of the population working in this sector, which is made up of small and mid-size companies. A total of 51% of Spain's gross domestic product and half of Spain's working population lie within Valenciaport's hinterland, which has a radius of 350 km.

Before the global economic downturn disrupted trade in 2007, the city of Valencia had enjoyed a period of positive dynamic growth, reflected in comparatively low unemployment figures, higher registration of vehicles, and through construction licenses.

#### *Politics*

The Generalitat Valenciana represents the group of autonomous political institutions made up of the Parliament (Cortes Valencianas), the President (Francisco Camps since 2003) and the Government or Council (Consell).

The Valencian Region is one of Spain's seventeen autonomous communities, defined by the 1982 Statute of Autonomy, revised in April 2006, and the political institutions of the Generalitat Valenciana.

The Valencian Government is divided into 12 departments which carry out the policies that correspond to their powers in education, health-care, industry, public works, culture, agriculture, the environment, tourism, local administration and employment, amongst others.

### *Background to Valenciaport*

The Port Authority of Valencia (PAV), commercially known as Valenciaport, runs and administrates three state-owned ports along 80 kms of Spain's eastern Mediterranean coastline. Those three ports are Valencia, Sagunto and Gandia. Valencia is the largest on the Mediterranean Western coast, and is ranked first in Spain in terms of container traffic. In 2008, it handled 3,602,112 teu, followed by

<sup>16</sup> Ayuntamiento de Valencia

<sup>17</sup> <http://alarcos.inf-cr.uclm.es/per/fruiz/pobesp/dat/arc/areas-pob.xls>

<sup>18</sup> Instituto Nacional de Estadística

<sup>19</sup> Instituto Nacional de Estadística

Algeciras with 3,324,310 teu<sup>20</sup>, and Barcelona, with 2,569,549 teu<sup>21</sup>. It ranks second in Spain in terms of total traffic at 59,743,639 tonnes, with Algeciras handling 74,514,000 tonnes<sup>22</sup> and Barcelona 51,809,244 tonnes.

As a hub port on the Western Mediterranean, Valenciaport distributes goods within a radius of 2,000 km, to countries in the south of the European Union and countries in northern Africa. This represents a market reach of 243m consumers. Valencian exports represent 11.8% of all Spanish exports, totaling €18,166.74m in 2006, compared with imports valued at €19,770.73m. Valenciaport's main exports are vehicles, agricultural and ceramic products, footwear and machines, while exports are concentrated on vehicles, fuel, machines, iron and steel.

### *Why Valenciaport?*

#### *“Best in Class” designation*

The choice of Valenciaport to receive the Institute's "Global Best in Class Port Cluster" accreditation was the culmination of a rigorous program of study undertaken by the Institute's research department over the last two years on behalf of its Global Maritime Logistics Council. That research considered ports at different levels of cluster maturity and with varied business streams – transshipment, import only, export only, and mixed.

The pre-eminent criteria for the accreditation of leading global port cluster was that the region identified, short-listed and subsequently honored with the accolade, would demonstrate an exceptional level of maturity and demonstrate a culture which indicated that stakeholders in the process truly engaged in a collaborative process.

#### *Valenciaport achievements*

Research undertaken by the Institute found that Valenciaport's cohesive and inclusive nature ensured integration of the whole supply chain in its cluster. This is supported by a Quality Committee, a Quality Guarantee on service levels, and a comprehensive IT portal linking all port stakeholders.

Valenciaport demonstrated clear leadership, with a top to bottom emphasis on installing a culture of integration and co-operation throughout the Port Authority and the Fundación Valenciaport, and with port stakeholders.

The strong links between the port and its city further cement Valencia cluster success, illustrated by Valenciaport's key role in encouraging sporting activities with global importance to stage events in its environs.

### *Valenciaport Cluster Governance*

#### *Strategic plan and vision*

Valenciaport established the 2002-2015 Strategic Plan in consultation with the port community, as well as institutions and economic and social agents from the Valencia region. The plan was designed to

<sup>20</sup> La Autoridad Portuaria de la Bahía de Algeciras

<sup>21</sup> Autoritat Portuaria de Barcelona

<sup>22</sup> American Association of Port Authorities

boost the development of the three ports, acting as an instrument to improve the level and quality of life for the whole community. The plan focuses on three objectives:

1. to consolidate Valenciaport as the main deep sea entrance and exit port on the Iberian peninsular
2. to turn Valenciaport into the leading regional distributor and intermodal logistics platform in the Mediterranean
3. to have sufficient capacity to handle 68m tonnes of traffic and 4m teu by the year 2015.

The Institute asserts that the second objective detailed above confirms Valenciaport's recognition that it is a *facilitator* of trade *in partnership* with the logistics supply chain. This cemented the foundations for cluster development and governance at Valenciaport.

#### *Fundación Valenciaport*

Conceived as a support to Valenciaport to expand the reach of the logistics-ports community as a research, training and cooperation centre of excellence, Fundación Valenciaport is active in numerous projects in well over twenty countries. It also works extensively with the Spanish logistics chain providing both research and training services.

Its objectives are:

1. spread the best practices of the Port of Valencia and, by extension, of the Spanish port system to different domains
2. reinforce the competitiveness of the Spanish economy, and particularly that of its transport chain, in light of its increasing internationalization and globalization
3. promote knowledge management and ensure suitable training for human resources in port communities, thus providing them with the most appropriate tools
4. to bring closer together and foster dialogue between the logistics-ports community and the society that supports it.

With a staff of almost 50 employees, 15 of which are directors, the Fundación is a not-for-profit organization that develops different activities related to investigation, training, international cooperation, economic, social and cultural encouragement. Further, it seeks to be a reference in those same areas, delivering innovative quality services linked to transportation, logistics and ports.

The Fundación has published a number of reports, including one on Calculation and Strategic Management of Port Costs (2009) and China: Logistic and Port Report (2008). Each year the Fundación also awards prizes to support and disseminate best practices and initiatives among members. The prize categories cover training, environmental management, technological innovation, research, quality, professional development and business initiative.

Cementing its inclusion in the Valencian community, the Fundación Valenciaport Board comprises of nineteen trustees from sixteen different organizations, including Valenciaport, Marítima Valenciana, TCV Stevedoring, and Ayuntamiento de Valencia.

This unique entity lends Valenciaport a skilled research arm that complements the practical nature of port operations. The Institute recognizes that the value-add of the Fundación has been critical to the success of Valenciaports' understanding of the significance of clustering to successful supply chain relationship management.

*Evolving concession structure*

Since 1992, Valenciaport has proved itself to frequently be ahead of the terminal concession curve in Spain, pre-empting changes in national law in many cases. Operations have been private since the 1970s; superstructure costs passed to private control in 1992; civil works changed from public to private control from 1995; and labor moved to a private model in 2003, after a decade of shared ownership. This vision and ability to stay one step ahead of the trend has undoubtedly forged a greater understanding of the cluster concept.

**Valenciaport concession trends**

Port control	1970s	1992	1995	2003
Ownership	VPA	VPA	VPA	VPA – footprint only
Civil works – pier filling	VPA	VPA	VPA	VPA/Private
Civil works – pavement	VPA	VPA	Private	Private
Superstructure – cranes	VPA	Private	Private	Private
Labour	VPA	Sharing	Sharing	Private
Operation	Private	Private	Private	Private

*Funding*

Valenciaport relies on private funds for its works, supplemented by a comparatively small amount of public spending against other autonomous Spanish ports that rely on public funds.

Valencia harnessed this perceived inequality in port spending to forge its own growth path. The public funding deficit coupled with naturally occurring inter-port competitiveness pushed Valenciaport's governance development to a level that might not have otherwise been achieved.

*Community and Culture*

Over a fifteen year period between 1982 and 1997, Valenciaport strove to develop a culture of stakeholder inclusion. During this time, the port authority made a proactive effort to consider the other side of the logistics chain, outside of the natural port environs, actively considering its clients' needs over its own.

While changes in national legislation at key points in Valenciaport's history opened doors for the port, the culture of inclusion instilled from the top down at Valenciaport gave these legal framework changes impetus. Testament to this is the fact that all autonomous Spanish ports were presented with the same opportunities from changes in law, but Valencia's consistent increase in traffic at levels over and above growth levels at other Spanish ports illustrates the importance of a combination of community and opportunity.

#### *Political links*

As a state-owned entity, Valenciaport benefits from a strong relationship with local and regional government. As such, the port is viewed as a partner in supply chain decisions, rather than simply a conduit for government to channel transport and logistics decisions through.

One such example of joined-up thinking is the Valencian regional government's decision to define a Territorial Strategy for the Valencian region, determining a set of strategic targets for the Valencian region to become the primary logistics hub in the Mediterranean arch. This will in essence develop a sustainable logistics and transport system respecting the environment. It is likely that this will include assigning more land for logistics use and the creation of logistics areas.

#### *Valenciaport Cluster Innovations*

##### *Marca de Garantía*

In 1995, early visionaries of Valenciaport saw a need for a quality guarantee to act as insurance for port users who had come to expect a certain high level of quality from operations at the Port of Valencia. The vision was to create a guarantee to attract more stakeholders inside the port environs to develop best practice, instigate an auditing procedure, and enforce compensation if a system failed. To develop this guarantee, Valenciaport in cooperation with the regional government, pulled together representatives from all port stakeholders to form a quality committee, known as the Fundacion Valenciana de la Calidad.

After three years of dialogue between those stakeholders and Valenciaport, the Marca de Garantía was launched in 1998 to provide compensation for anything less than the promised quality. Its basic aims are the improvement of the promotion of quality and competitiveness, as well as the safety and development of the environmental management of the services offered by the community ports. This is considered in the framework of development of the economy and the improvement of its commercial structures. The seal's services include:

1. authorization for the use of the port infrastructure by vessels calling at the port
2. port towage, mooring, and pilotage
3. customs facilities, healthy and phytosanitary inspections of cargo and quality
4. loading, unloading and stowage
5. vessel allocation
6. land transport from and to the port
7. container storage, maintenance and repairs
8. any other activity in the future approved by the quality committee.

The Fundacion Valenciana de la Calidad, Port of Valencia is the holder of the Seal of Quality Guarantee, however the scheme is regulated through the regional government, Generalitat Valenciana, so that there is partisan ownership of the seal.

Port stakeholders can apply for the Marca de Garantía, which can only be granted through official authorization following approval of an application, verification, a full audit, payment of fees, and the lodging of a deposit. To claim compensation under the guarantee, the beneficiary (cargo shipper, consignee or shipping line) may lodge a complaint with the Consumer Board as long as a contract has been signed with a company bearing the seal of guarantee. If the complaint is upheld, the Generalitat awards compensation taken from the deposit lodged by the Marca de Garantía member to the complainant.

The Institute recognizes that Valenciaport was ahead of the curve when it first starting discussing the importance of a quality guarantee as early as 1995. The resultant Marca de Garantía represents a collaborative approach to setting and pursuing quality throughout the supply chain with the port at its nucleus. It is clear, however, that the introduction of a quality guarantee alone is not sufficient to drive port cluster governance. Valenciaport has sold its Marca de Garantía concept to international ports outside of Spain, but has found it challenging to attain the same level of success outside of Valenciaport due to an apparent lack of commitment to implement an innovative quality system on a long term basis, and to local cultural barriers.

#### *Integrated IT solutions*

Recognizing a need for joined-up communications throughout the port stakeholder network, Valenciaport invested in a bespoke Port Community System (PCS) in 1994 to integrate the port authority, customs, cargo owners and carriers. That investment has continued through to the present day with a commitment to future funding.

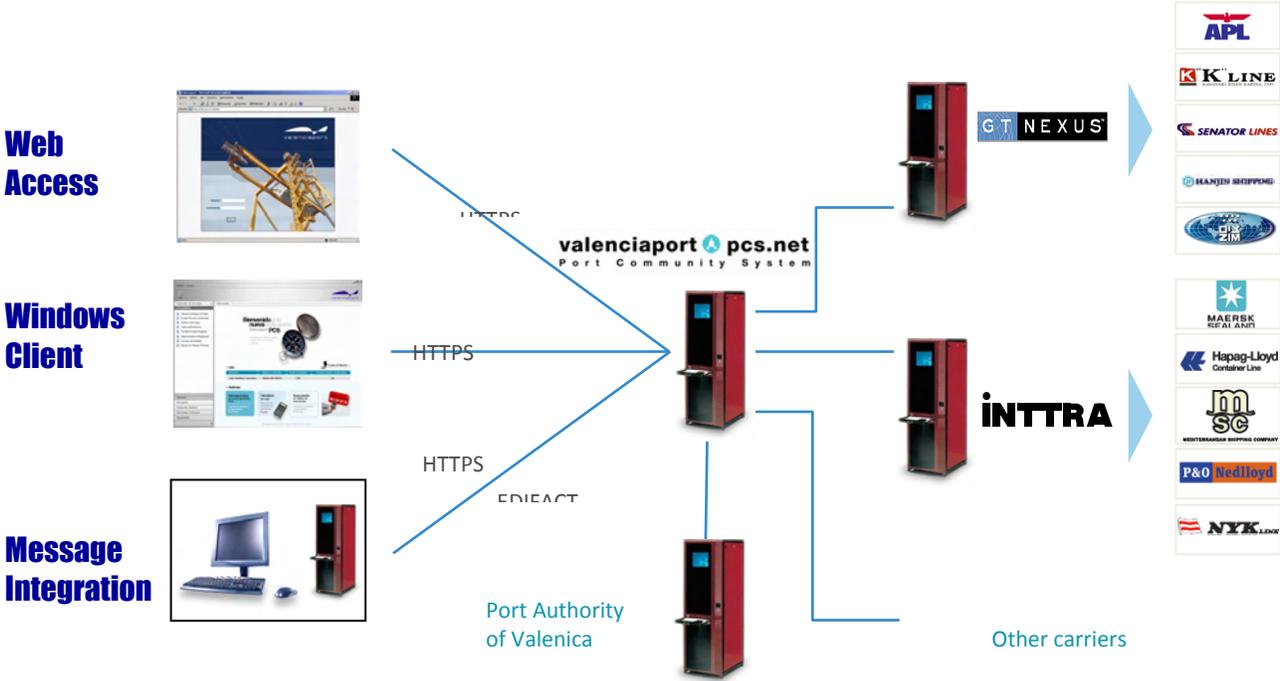
Described as an open 'infostructure' that enables a secure and efficient flow of information among all port stakeholders and public bodies, valenciaportpcs.net improved the quality of port activity and maximized resources through a tighter coordination of activities, sharing of information, control, security and safety of operations and, consequently, optimized planning and execution of operations.

The early success of the system in facilitating trade led agents and forwarders to request inclusion in the IT community, which Valenciaport achieved through add-ons to the original software. To better manage the involvement of the stakeholders in the IT process, Valenciaport set up a subsidiary company, Infoport and the quality council, Fundacion Valenciana de la Calidad, in 1998.

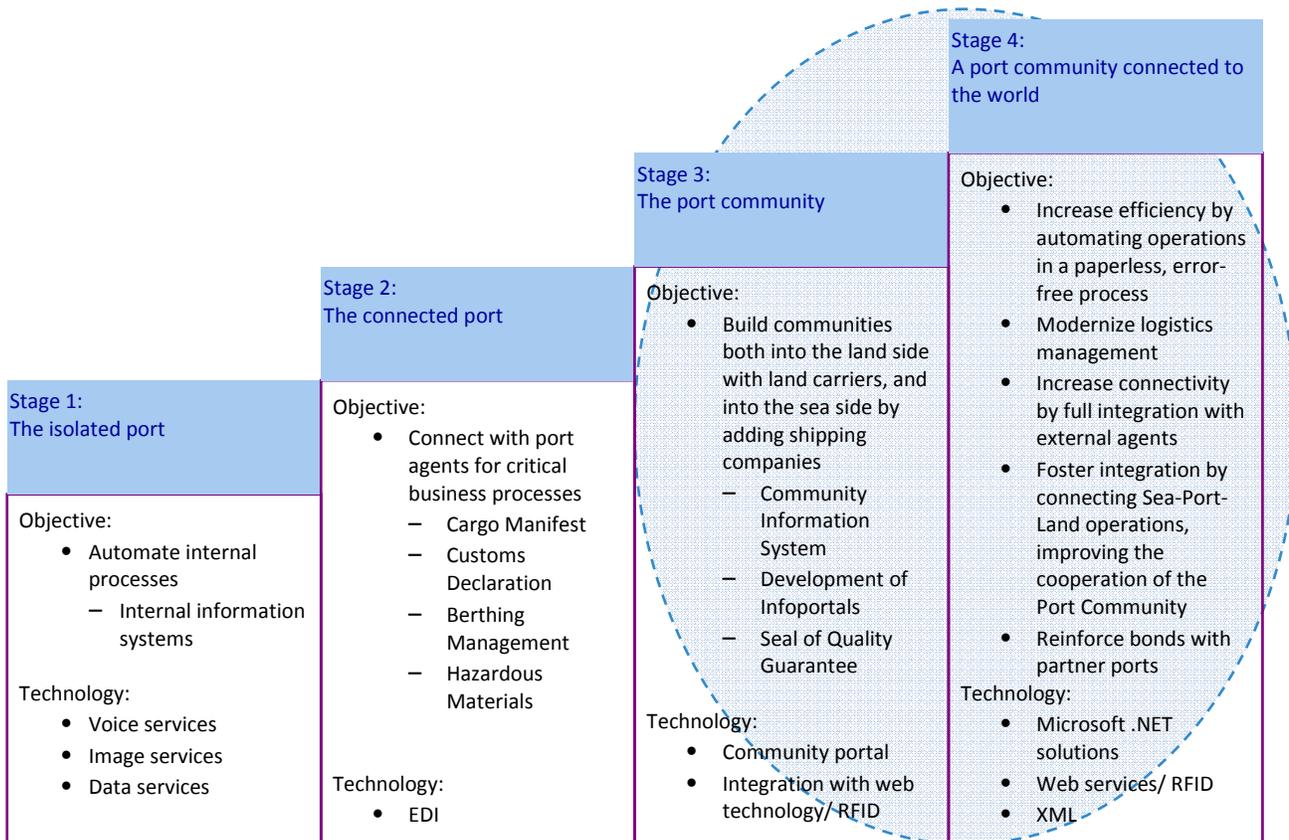
This simple concept evolved into an integrated supply chain resource in 2000, which became accessible worldwide through GT Nexus and e-commerce specialist Intra. As a proven PCS, Valenciaport's IT system is available for sale and installation worldwide, and has been taken up by a number of ports, including Australia's Port of Melbourne.

Using its IT system as a connector, Valenciaport has encouraged the involvement of the entire port community, which has in turn increased competitiveness, removed commercial barriers and improved transparency.

International access to Valenciaportpcs.net



## Stage excellence in PCS as defined by Valenciaport clients



### Connections

With its extensive European and North African hinterland, Valenciaport has been at the forefront of forging far-reaching intermodal connections. One such example saw Valenciaport and Madrid become connected by a freight train with the greatest capacity in Spain in March 2009. At 600 meters long and able to load 80 teu, the load capacity can reach 1,300 tonnes. This new service allowed an 80% increase in the amount of goods sent from the port of Valencia to Madrid and a 30% reduction in the unit price. Valenciaport also has rail facilities on its north side, links to the Mediterranean rail corridor via Madrid, and road infrastructure that connects the port via a toll-free dual carriageway to Madrid. The combined road/rail interfaces enable goods from Valenciaport to be efficiently distributed over a radius of 2,000 km, throughout Southern European Union and North African countries, while a feeder network connects it to Eastern Mediterranean countries and the Black Sea.

## Valencia land connections



### *Port/city relations*

Valencia signed its first port/city agreement in 1986 which was designed to minimize the impact of the port extension on the city. The framework, known as El Convenio de 1986, was signed at both port and municipality levels. That protocol remains in place today and is complemented by a second agreement signed in 1997 known as the Convenio de 1997 “Balcon al Mar”. Unique to Valenciaport, this agreement was developed to promote the improvement of city integration with the port. These agreements formed the framework for further consortias with international sporting organizers, which were integral to the city and port’s ability to host sporting activities.

### *Sporting activities*

Described as “one of Spain's most avant-garde destinations” by The Times, 2008, Valencia has since the turn of the century sought to actively promote itself as an important centre for tourism. As a city-port, Valenciaport has played in central role in that drive and has worked tirelessly with the regional government to bring popular international sporting events to its city.

The first notable success was the announcement that the 32nd America's Cup would be held in Valencia in 2007. This was the culmination of two years of negotiations and led to radical changes in which the port, which was divided into two parts - one part was unchanged while the other section was dedicated to America's Cup festivities. To illustrate the level of commitment from both Valenciaport and the Regional Government, the two sections were divided by a wall that goes deep into the water to maintain clean water for the America's Cup side.

The landing of the Formula 1 Grand Prix hosting contract in 2006 was the second notable sporting coup for Valencia and its port. Bernie Ecclestone, who said he was “fascinated by the port and the surrounding area”, described Valencia as “the world’s best kept secret”, on signing of the agreement. Much of the track runs through the port itself, and aptly illustrates the degree of cohesion between the port, its city, its government, and the port stakeholders.

## Cluster Statistics

Valenciaport, through Fundación Valenciaport (FV), has undertaken extensive research on the economic impact of the port on its surrounding community. Data from 2007 put the value of the direct, indirect and induced production associated with Valenciaport at €894m, covering the employment of 19,800 people. This equates to 1.65% of the total value add of the Comunitat Valenciana, comparable with the total value add of the shoes and the furniture sectors.

Looking ahead, FV research has estimated that the economic impact of the expansion of the port will have a beneficial impact on these figures by 2015. Valenciaport's value add percentage of the total Comunitat Valenciana value add will then reach 2.84%, in excess of the impact of the automobile sector, with employment almost doubling to 37,822 by 2015.

## Valencia timeline

1968	National law on port bodies and autonomy constitution passed
1976	Valenciaport requested autonomy
1978	Autonomy granted for Valenciaport. A new perimeter, industrial area and diversion of the river first discussed
1982	Socialist government takes power
1986	First city/port agreement signed and expansion of Valencia conceived
1991	Construction of extension starts. Rita Barbará appointed as city mayor
1992	Puertos del Estados established for administration of Spanish ports
	Evolving concession structure – concessionaire starts paying for superstructure and sharing labor costs
1994	Invested in bespoke Port Community System (PCS)
1995	Brainstorming on Marca de Garantía starts
	Evolving concession structure – concessionaire starts paying for pavement
1996	
1997	Tax system overhauled and tax becomes a private charge
1998	Marca de Garantía started, quality committee established, set up Infoport to manage PCS
1999	
2000	PCS available worldwide through GT Nexus and Intra
2002	2002-2015 Strategic Plan launched with a focus on quality and integration
2003	Evolving concession structure – civil works could be public or private, labor becomes private, only ownership remains public. Confirmation from Alinghi that Americas Cup will be hosted in Valenciaport
2005	Rafael Aznar becomes President of the port. Madrid government, representing VPA, gives authorization for Americas Cup consortia
2006	Bernie Ecclestone confirms Valencia F1 hosting
2007	Changes in labor come into affect. Inaugural Americas Cup
2008	Inaugural Formula 1 Grand Prix

Period of  
developing  
culture

Period of  
close  
cooperation  
with mayor

## PORT CLUSTER AND GOVERNANCE COMMITTEE

The Institute has partnered with Fundaci3n Valenciaport (FV) for the second phase of its post cluster governance research to meet the afore-mentioned common goals. Through a two-year cooperation, the Institute and FV will formalize the findings of the port cluster study with a view to producing the best practice Port Cluster Governance guide in 2011. This partnership combined with primary and secondary research will ensure the veracity of the guide and in particular its global application and potential adoption.

The Institute, through FV, has invited Rafael Aznar, Chairman of Valencia Port Authority, to Chair the European Chapter of the Institute's Global Maritime Logistics Committee and to participate and shape the next phase in the program.

A new formal GIL working group has been established to determine maturity models for port clustering and governance criteria in preparation for the publication of the Port Cluster Governance guide in 2011. The Port Cluster and Governance Committee (PCGC) will also be chaired by Valenciaport's Rafael Aznar. Mr Aznar will be joined by experts from within Valenciaport's own ranks and by experts drawn from other disciplines and port clusters worldwide.

The PCGC has as its final objective the research and development of the guide, through the following goals:

1. Share-learn-benchmark (SLB) best practice globally
2. Examine trends and future of port cluster
3. Enhance the diffusion of the excellence philosophy in port cluster
4. Connect people who know with those who need to know
5. Generate and synthesize knowledge
6. Develop networking opportunities
7. Obtain new ideas from various port cluster types and various countries.

The PCGC will convene 10 times over the course of Mr Aznar's Chairmanship each time in a different port cluster, each drawn from a different global location and each at a different level of port cluster maturity.

## MISSION AND VISION

### *Mission*

The Global Institute of Logistics' Port Clustering and Governance Council aims to build a transferable model based on "Best in Class" benchmarking that when implemented will allow global port controllers to successfully bring together all port cluster stakeholders to raise quality levels, maximize profit and movement of container cargo.

### *Vision*

By 2011, the Global Institute of Logistics will have published a comprehensive guide to best practice Port Cluster Governance based on teach/learn/benchmark research at ten international ports with varying levels of cluster maturity. This guide will be a practical guide to optimizing efficiency at global public/private ports through benchmarking and effective use of clustering, with the container as the common denominator.

## RESEARCH PROGRAM

### *Share-learn-benchmark workshops*

The Institute, through PCGC, will deploy a standard benchmarking and communications methodology; each hypothesis will be tested in the context of a local market. This will be done through a series of 10 teach-learn-benchmark (SLB) workshops to be held over the next two years of the program in both developed and emerging port clusters.

Each SLB cluster, which will be selected from a shortlist of applicants determined by the PCGC, will vary geographically and by business model - import only, export only, mixed, and transshipment - to cover the comprehensive spectrum of clusters. With this, GIL can build a comprehensive guide to Port Cluster Governance best practice, to include a port cluster maturity model (PCMM).

### *Port Clustering Maturity Model*

Working on the assertions that encapsulation of best practice avoids repetition of past mistakes, and standards are a framework for quality assurance processes and provide continuity, the PCGC will apply the knowledge garnered through the SLB workshops to build a port cluster maturity model of current best practice clustering. The port cluster maturity model must be transferable and have the ability to be globalised so that best practice can be applied to any port with the vision and drive to improve clustering.

### *Council Meetings*

Each SLB workshop will be timed to coincide with a PCGC committee meeting which will have a specific theme and will address a particular area of port cluster governance, for instance port community systems. This will ensure that those invited to that particular meeting are experts in this specific area either as developers or end users.

### *Best practice Port Cluster Governance Guide*

At the end of the second phase of the port clustering and governance program in 2011, the Institute will publish its guide for best practice Port Cluster Governance drawing on the information learned from each SLB, incorporating case studies and the port cluster maturity model.

The vision is that these best practices once identified and agreed are incorporated into independently auditable and certifiable international standards where it is practical to do so.

The Institute deploys its own proprietary research system in its approach to monitoring adoption, and programs take up to four years to complete progressing through a series of stages before culminating in the publication of its final report. This report will detail the background and the methodology deployed in the conduct of the Institute's research into global port cluster development.

## EXPECTED OUTCOMES

### *The importance of good governance*

The Institute anticipates that the level of governance will dictate the degree of success of the port cluster.

Port governance is seen to include creating a port authority or commission to market the port; creating a long term plan for development and working with potential port users; involving representatives of key stakeholder groups on the Board of the Port Authority or Commission; developing the capability to raise financing; partnering with the private sector for planning and funding of port development; working with other parties to gain access to government programs/funds for infrastructure development; and actively and proactively managing the Port's lands.

Both the regional associations for specific industries as well as the existing port cluster umbrella associations play an important role in the governance of the port cluster and can have a huge impact on the competitiveness of the cluster<sup>23</sup>.

### *Port Cluster support*

It is also expected that the research will establish that cluster models that incorporate public, private and municipal support have a greatly increased chance of success. Indeed, there is expected to be a correlation between the number of relevant stakeholders and the success of the cluster model.

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<sup>23</sup> De Langen, 2002

## HOW TO PARTICIPATE

### *PCGC Member*

The PCGC will comprise of at least 15 individuals, each in his or her own right a recognized thought leader within the global maritime logistics sphere. The Institute will select Council Members from a list of pre-qualified individuals that the Institute has collated over the first phase of port cluster research. The Institute recognizes the importance of striking the right balance of expertise and geographical coverage in the makeup of the PCGC. Council membership will be by invitation only.

Participation in the PCGC will give individuals and their organization these benefits:

1. Gain access to the experience of other individuals
2. Obtain new ideas from various stakeholders and various countries
3. Opportunity to influence best practice in port cluster strategy through representation
4. Global benchmarking, best practice, knowledge sharing
5. A network for identifying common issues and problems, and developing solutions
6. Provides practitioners with an international forum for peer group networking, discussion and learning on latest developments in port cluster strategy.
7. The PCGC will discuss and initiate activities, which stimulate and sustain the successful business development of port clusters.

### *Advisory Board*

The Council will be further assisted by an honorary advisory board made up of representatives of the premier government, non-government organizations, leading academics, and experts drawn from the global maritime logistics industry. These individuals and organizations will endorse the work of the Committee, a vital component in having the work of the PCGC accepted and adopted. Advisory Board membership will be by invitation only.

### *Share-Learn-Benchmark Port Clusters*

The series of 10 teach-learn-benchmark workshops scheduled to take place over the term of the program in both developed and emerging port clusters will form the framework of the Institute's research. The meetings will be run as workshops and the SLB approach will allow ports to teach their port cluster best practice model, learn from other port clusters, and benchmark this with what is already known which in turn will be incorporated in the final guide. An application form for ports interested in participating in the SLB workshops is available from the Institute website at [www.globeinst.org/portcluster](http://www.globeinst.org/portcluster) and the Institute encourages all ports, at any stage of port cluster maturity, to apply.

## **ABOUT THE GLOBAL INSTITUTE OF LOGISTICS**

The New York based Global Institute of Logistics is a multi-stakeholder, cross-industry, not for profit organization, concerned with the development and proliferation of best practice in the global supply chain.

The Institute actively works with all stakeholders towards optimizing visibility through the promotion of a collaborative culture between all parties.

This culture of collaboration is further enhanced by ongoing benchmarking within the various nodes, with the ultimate aim of developing internationally recognized standards for use by logisticians in the engineering of their supply chain and logistics solutions.

The Global Institute of Logistics was founded in 2003 by the members of the Global Logistics Forum under the Chairmanship of the late Robert V. Delaney 1936-2004, the renowned US logistics commentator and author.

## ABBREVIATIONS

3PLs	3 <sup>rd</sup> Party Logistics Providers
DCs	Distribution Centers
CTQI	Container Terminal Quality Indicator
ESPO	European Sea Ports Organization
GIL	Global Institute of Logistics, also referred to as The Institute
GLMC	Global Maritime Logistics Council
KPI	Key Performance Indicators
PCGC	Port Cluster and Governance Committee
PCMM	Port Cluster Maturity Model
PCS	Port Community System
SLB	Share-Learn-Benchmark

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