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NEW TRENDS IN PORT MANAGING: TOWARDS THE E-PORT

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ABSTRACT

Nowadays it is becoming more and more difficult to gain land in sea water, due to greater environmental concern and port-city relationship.

Besides, a port should not fall into the trap of simply benchmarking against league tables, or falling for the common misconception that "by getting bigger we get better". Terminal performance and productivity are essential. Therefore we cannot forget technology´s helping hand in order to synchronise container handling from the quay to the yard.

Taking into account which was above mentioned, ports are continuously keeping its drive to operate a paperless port. However, all administrative procedures and ISPS Code requirements for compliance are met.

In order to achieve that every transaction between a company belonging to the port community and the port is done electronically, not with hard copy documents, thus coordination among all ports is critical.

In the paper, the case study of the Port of Vigo is also presented.

Key words: Ship and Port Operations, Shipping Information Systems, ISPS Code

INTRODUCTION

The arrival of maritime container in the middle of the 1960s led to a great improvement of freight transport in many aspects. The transfer of goods became much easier and safer and the use of containers paved the way for intermodal trans-

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port development. At present, the maritime container dominates the shipping industry and the extent of its influence in land transport is also substantial.

Through history, ports have developed as a node in the transport chain surrounded in many cases by the city. In fact, since the origin of navigation, natural harbours have been prime locations for urban development. However, nowadays, ports offer to their users a great amount of services, apart from loading/unloading goods. Due to the development of multimodality, door-to-door transport and the inviolability of the load unit, the loaders do not care about the intermediate ports their goods go through, before the arrival to the final destination. From this point of view, their only concern is to minimize the final cost of distribution, safeguarding at the same time the security of the service and that the merchandise arrives complete at the scheduled time. Consequently, ports should analyze its competitiveness and formulate its commercial politics from the client's perspective.

Everyday more, customers require e-solutions for the data exchange. Thus, the information society, based on network services which are of an increasingly commodity nature, presents many opportunities, but they are accompanied by almost as many threats. Sophisticated technology enables sophisticated services. The European Union is endowed with a rich heritage of nationalities, cultures and traditions. This is a great strength, but in the development of e-services, there is the danger of islands arising where language groups or national administrative borders interrupt the flow of services. It is with such challenges in mind that the Trans-European Telecommunications Networks policy has been set out.

On the other hand, freight transportation is a socio-economic activity of great importance for social, industrial and commercial processes. Recent years have seen meaningful changes in cargo handling techniques, amongst which the most important has been the introduction of containers. Their success mainly depends on the reduction of an almost infinite number of shapes and dimensions of goods to a small set of standardised units. In addition, the introduction of containers offers great advantages of security and ease of handling, and has transformed transportation activity from a port-to-port to a door-to door service. It is based on multimodality, in which the carrier guarantees freight transportation from initial shipper to final recipient.

Simulation modelling techniques are being applied to a wide range of port and terminal planning processes and operational analysis of container handling systems. These models have become extremely valuable as decision support tools during the planning and modelling of ship-berth link in a port.

A container port, which provides the interface between container ships, railroads and road trucks, represents a critical link in the intermodal transport to be fulfilled in the best possible way by management of container terminals. It is especially important in today´s competitive world of port and shipping business. Because the container port facilities are very expensive to run and terminal capacities are large and

efficient enough to handle the changeable container flows during the considered periods of time. Determining the effect of changes in throughput, as well as the influence of various operational, technological and economic aspects on efficiency of container port operations, has been widely analysed by using port simulation models.

The crucial terminal management problem is optimising the balance between shipowners who request efficiency service to their ships and the economic use of allocated resources. Since both container ships and container port facilities are very expensive, it is desirable to utilise them as intensively as possible.

THE WAY PORTS TACKLE WITH SECURITY vs. OPERATION EFFICIENCY

As regards port security, it is well known that ports had to comply with IMO´s ISPS code as of 1 July, 2004. It seems that progress in implementing the Code in European Community Ports has been impressive, and all players concerned are doing their best to make this a success. However, in addition to the ISPS code, the European Community has also adopted a Regulation of ship and port security, which transposes the ISPS code into EU law. Parts of this Regulation are more stringent than the ISPS Code, by making mandatory some parts of the Code that are not mandatory. In addition to this Regulation, there is also a specific Directive on port security, which expands into all relevant port areas, and a plan for a future Directive on intermodal security! The draft Directive on intermodal security is dedicate to freight transport and aims to cover intra-community trade and also third countries trade in transit on EU territory.

On top of all this, one also needs to add the various bilateral and global US-EU agreements under the Container Security Initiative umbrella.

Thus the scenario seems to be not very promising for operational efficiency and productivity in ports.

In view of these developments, one cannot avoid asking some questions.

Perhaps the most naïve of these is, how much all of these measures would really enhance EU port security. In my opinion, nobody really knows, although the general perception is that security would increase. However, the question is at what cost. Everybody ask about the total cost of these measures, because there is a huge number of people living on security worldwide. There are some consultancy work on this issue, but not including external costs.

Yet another question is whether there is an estimate of the impact that these measures might have on trade and on the goal to shift cargoes from road to sea (what about motorways of the sea, i.e. the so called MOS?). On the one hand, EU keeps promoting the development of MOS through Marco Polo and other funds, appart from the legislative point of view. However, on the other hand, administrative and security procedures, for ship and cargo, are much more burdensome in maritime transport rather than in road transport, where are almost inexistent.

Finally, everyone wonders if ports will be able to operate efficienly, at a reasonable cost, under these measures.

TECHNOLOGY´S HELPING HAND. CASE STUDY: THE PORT OF VIGO

As regards port operation, there are two main ways of influencing terminal performance. On the one hand, gate systems and CCTV (related with port security). On the other hand, increasing port productivity, by predicting, for example, truck arrivals to terminal through the internet tracking (no longer hard copies are required). To achieve this goals, bridging the gap and getting ahead, ITs are essential.

Nowadays the Port of Vigo is developing the I-Port project for the exchange of information between the agents of the Port Community and the Port Authority of Vigo, through the internet. It is a Port Community System. Basically designed to improve the operating processes of ship and cargo agents and operators (forwarding agents, shipping agents, carriers, etc), this platform will make it possible, amongst other things, to conduct all the transactions required to get the goods out of the port. It will be the a one-stop shop for the electronic exchange of information between the Port Authority of Vigo and companies in the Port Community.

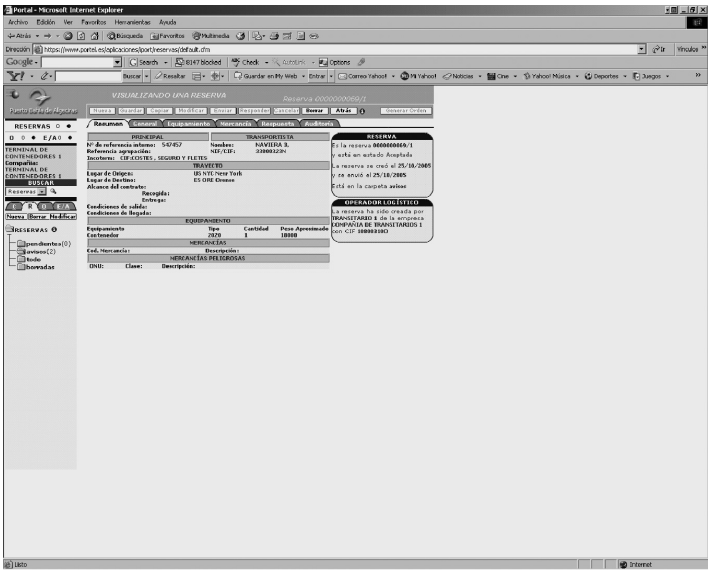
From the point of view of securtity, this IT platform will allow Port Authority to know in advance which truck&cargo is going to enter the port. Thus, the information available increases considerably, in comparison with nowadays.

The I-Port web platform try to consolidate itself as the main tool supporting the operations between said agents by:

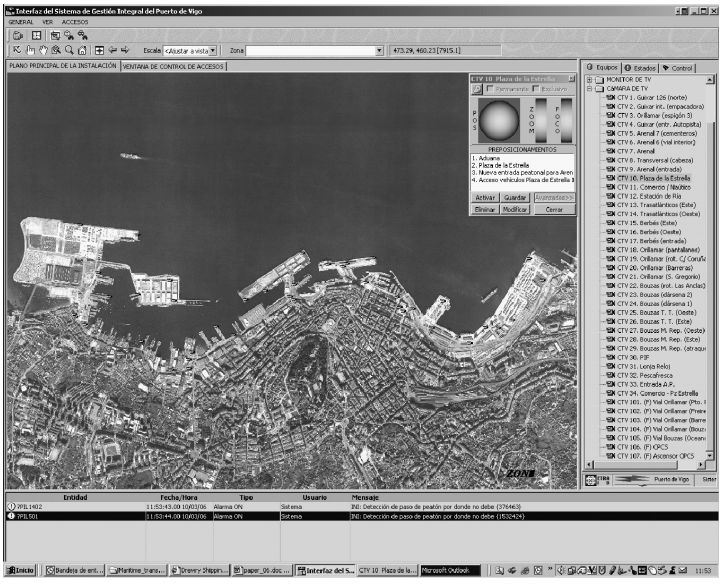
— Modernising logistic management: employing standardised information exchanges to facilitate business and administrative procedures and operations concerning cargo movements at Vigo port.

— Sea-Port-Land integration: by extending the integration between the Port Community on both the "land" side with haulage operators and on the "sea" side thanks to its integration with the world's leading shipowners via INTTRA. This means that users will be able to view the entire transport chain in the portal.

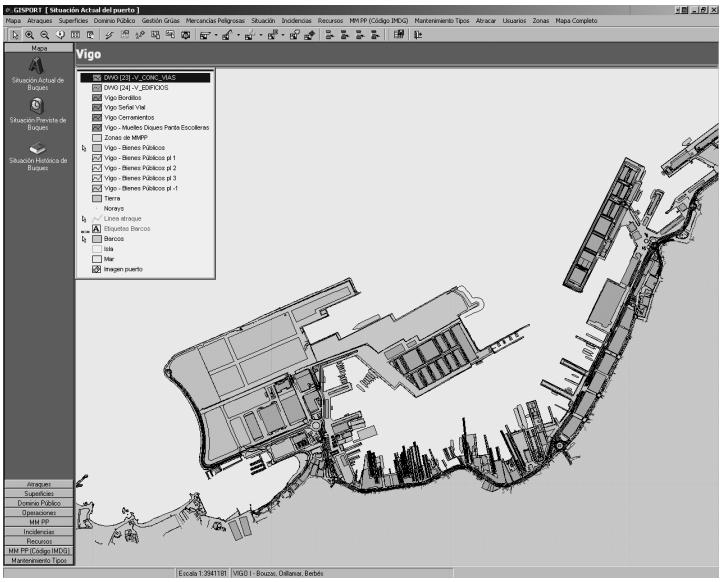
A general view of the I-PORT web is:



Appart from this software we have developed a completely integrated managing system which comprises CCTV and access control, based on a automated gate system. Thus, its a multipurpose software accessible simultaneously from different users.



Finally, we have developed a GIS to optimise berth allocation and port operations, taking into account ISPS compliance and hazardous cargo legislation.



All these iniciatives try to apply technology´s helping hand in everyday managing, in order to minimise the time the cargo remains in the port and to optimise human resources, taking into account that it is becoming more and more strict the legislation related to safety, security and environmental issues.

CONCLUSIONS

As a summary, it is asserted that contemporary container ports face much fiercer competition than before and that to survive in this competitive environment, modern container ports need to look at all the factors influencing port performance, both externally and internally. Externally, a port needs to understand the changing demands of its customers and to recognise, and attach greater importance to the position of ports within the context of a grid of global supply chains in which they participate. Internally, container ports need to reduce any slack in production in order to ensure sustainable development and competitiveness, complying at the same time with security requirements.

Because port costs are increasingly passed onto customers, in the long run, reducing slacks in port production to a minimum will ultimately benefit the whole supply chain and most port users.

Therefore, in order to archive this target, it is required to use IT nowadays.

Thus the e-port is here!

NUEVAS TENDENCIAS EN LA GESTIÓN PORTUARIA: HACIA EL E-PORT

RESUMEN

Hoy en día, cada vez es más difícil ganar terrenos al mar, habida cuenta la creciente conciencia medioambiental y la presión del crecimiento urbano de la ciudad en la mayoría de los puertos del mundo.

Asimismo, un puerto no debería caer en la trampa de considerar que únicamente "incrementando su tamaño, mejora". Los estándares de servicio y productividad de la terminal son aspectos esenciales a tomar en consideración. Por otra parte, no se puede olvidar la mano que tiende la tecnología, al objeto de sincronizar la manipulación de contenedores desde el buque al patio de la terminal y viceversa.

Tomando en consideración lo arriba mencionado, los puertos están esforzándose en gestionar un puerto sin papeles, optimizando procesos y garantizando en todo momento el cumplimiento de la legislación administrativa y los requerimientos del Código ISPS.

De este modo, este sistema implementado es mucho más seguro, desde la perspectiva de la protección, habida cuenta que los camiones no son autorizados a acceder a la zona de servicio del puerto, salvo que la orden de carga haya sido recibida electrónicamente con antelación por la terminal.

A mayores de este proceso "sin papeles", es preciso tener en cuenta que la gran mayoría de los puertos han implementado un sistema de reconocimiento automático de matrículas en los diversos puntos del control de acceso. Y es que el mundo tras el 9/11 ya no es el mismo.

Todas estas iniciativas pretenden minimizar los posibles retrasos en el tránsito de las mercancías por el puerto, derivados de dar cumplimiento a lo legislado en el Código ISPS y demás legislación de protección de aplicación.

En este trabajo, el ejemplo del Puerto de Vigo es también presentado.

Palabras clave: Buque y operaciones portuarias, TICs en el transporte marítimo, Código ISPS