

Position paper (long)

Platform for multimodality and logistics in inland ports

Recommendations by stakeholders of inland ports in order to reduce barriers and to benefit from opportunities to facilitate multimodal logistics using inland waterways

Final version

Chapter 1: Introduction

1.1 Scope of the platform and its process

The platform for multimodality and logistics brings together inland ports, logistics and port operators, as well as shippers¹. At first, the platform defined which role inland ports can play in an integrated multimodal logistics chain and what the drivers of economic growth are.

Then, in subsequent meetings, participants discussed the main objective of the initiative; how to lower entry barriers, how to remove bottlenecks and how to facilitate the wider use of good practices and promising new concepts to stimulate multimodal transport. The platform therefore identified barriers that hinder the functioning of inland ports and limit wider application of new concepts and good practices. Subsequently, the platform made recommendations towards different types of stakeholder groups to address the barriers and to benefit from opportunities.

The platform therefore contributes to the overall transport policy objective to increase the share of multimodal transport and to increase efficiency and sustainability. Notably the platform identifies opportunities to increase utilisation of inland waterways transport. Increased efficiency and higher level of reliability of multimodal transport using inland waterways is of key importance, in order to boost the European economy.

The following platform meetings took place in Brussels:

- 1st meeting: “The role of inland ports as facilitators for multimodal logistics” on 12 November 2014
- 2nd meeting: “Bundling of cargo and competitiveness factors” on 23 March 2015
- 3rd meeting: ”Final discussion of the draft position paper by the Platform” on 12 June 2015

¹ Please see Annex I for the list of participants

Generally, prior to the platform meetings a background document was prepared to foster the discussion; after the meeting a meeting report was prepared and distributed.

We captured the outcome of the platform meetings in a short and a long position paper.

The short paper summarizes the main obstacles and barriers; it also identifies challenges and recommends a number of policy interventions to the European Commission. The long position paper presents a consolidated view of the background based on the discussions, background documents and desk research. These papers serve as input for the revision of the European White Paper on Transport.

1.2 Policy background

With the adoption of the 2011 White Paper, the European Commission adopted a roadmap of 40 concrete initiatives for the next decade to build a competitive transport system that will increase mobility, remove barriers in key areas and fuel growth and employment. At the same time, the proposals will dramatically reduce Europe's dependence on imported oil and cut carbon emissions of the transportation sector by 60% by 2050. Main objectives by 2050 - included in this 2011 White Paper - are:

- no more conventionally-fuelled cars in cities;
- 40% use of sustainable low carbon fuels in aviation; at least 40% cut in shipping emissions;
- a 50% shift of medium distance intercity passenger and freight journeys from road to rail and waterborne transport;
- all of which will contribute to a 60% cut in transport emissions by 2050.

Besides setting the goals, the 2011 White Paper offered a vision of how the transport system should evolve: an improved integration between modes, fewer barriers to market entry, coherent infrastructure design and wide deployment of new technologies for traffic management, travel planning and vehicle propulsion.

'A new start for Europe' agenda by the Juncker's Commission concerns all policy areas, in addition, five of the ten Commission priorities link directly to transport:

- jobs, growth, investment;
- a connected digital single market;
- energy union;
- internal market;
- EU as global actor.

In this context, the 2011 transport policy should be revised in order to improve alignment with the new priorities and the 2030 climate and energy package. Therefore, the White Paper is due to be reviewed. The outcome of the platform for multimodality and logistics in inland ports – the short and the long position papers - will be used as input during the review.

Within this framework attention shall also be paid to further development and increased usage of River Information Services (RIS) and the development of the Digital Inland Navigation Area (DINA). A next step for RIS is to move beyond the current focus, which is navigability information, traffic management and safety on waterways, and to explore ways to look into possible information services for logistics operators and cargo owners. The RIS Directive is due for review by 2017 and will fit into the framework Digital Single Market (DSM) and DINA.

With the completion of the position papers the work of the Platform ends. However, the DG Move has underlined towards the participants that it might continue to call upon the valuable expertise of the participants on specific topics.

In this respect, a relevant development is the setting up of the Digital Transport and Logistics Forum (DTLF), where some platform participants participate. The DTLF aims at further supporting digitalisation of freight transport and logistics. It brings together Member States and stakeholders from all transport and logistics communities. The DTLF aims to identify challenges and areas where common action in the EU is needed, to provide recommendations, and to work on the implementation of recommendations where appropriate.

Chapter 2: Factors and barriers for multimodal transport and the position of inland ports

2.1 Competition factors

Compared to transport by road, multimodal services face specific challenges. A major barrier is the required additional transshipment and pre-/end haulage operations, often resulting in higher door-to-door costs and longer lead times compared to direct trucking, in particular in cases where origin/destination is not located close to waterways or railway terminals.

However, multimodal transport can be set-up in a way to be competitive with unimodal transport (e.g. costs, emissions), especially if the customer does not recognize that the transport is multimodal. For instance, the (final) customer/shipper sees a truck at his loading / unloading site/dock; this truck has to be on time and flexible. Additionally, the total cost of multimodal transport has to be competitive with the cost of the unimodal transport, so that the customer is able to deliver a product at a competitive price.

As long as those three requirements are met, the customer does not mind whether the cargo is transported directly by truck or whether the truck is part of a multimodal transport solution.

Further aspects that add to the complexity of multimodal transport are:

- multiple parties involved (truckers, terminal operators, port operators, barge and rail operators);
- the need to consolidate cargo and to match freight flows (return load / import and export) in order to reach a volume suitable for train or barge;
- longer transit times requiring the shipper to apply a different purchasing or stock scheme, or even changing the production scheme. This is the particular case for continental flows, while the transit time is not a big issue for shippers when it concerns intercontinental trade and transport. However, strict detention/demurrage conditions for maritime containers may also hamper the options to apply multimodal transport solutions.

Shippers are the key decision makers in transport. They strive for a balance between the supply chain cost and the customer satisfaction in terms of reliability, punctuality and flexibility on how the clients receive the ordered goods. Shippers are more and more aware of the increasingly congested and fuel-intensive road transport while inland waterways and railways still have a large capacity and potential to accommodate the projected growth of freight flows in a more sustainable way.

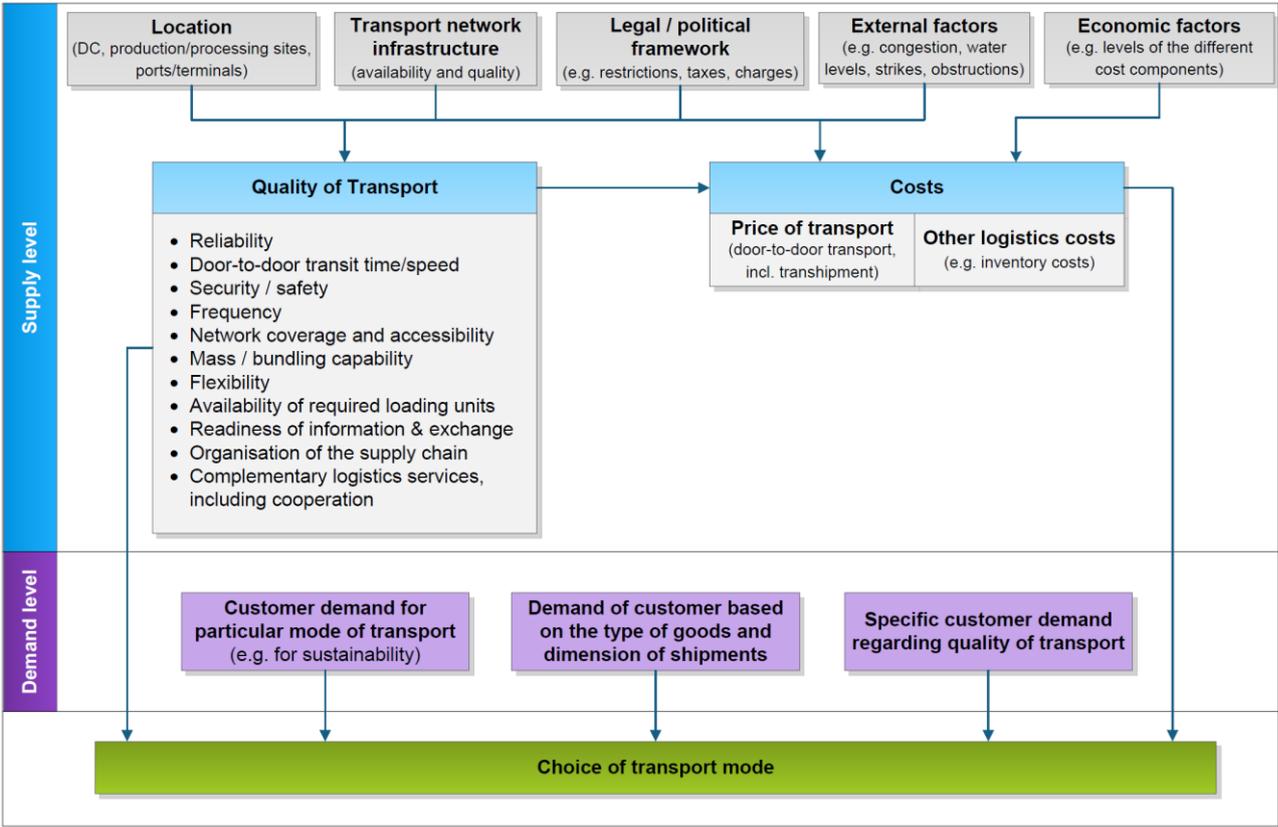
Therefore, modes need to be combined to optimise logistic chains so that friction costs associated with interchanging between different modes of transport are as low as possible. The emphasis on measuring and reducing transport emissions is increasing, as shippers are called upon to report on the environmental impact of their supply chains. Recourse to railways

and inland navigation together with adequate supply chain planning could improve environmental performance and reduce the overall transport costs, as well.

The PLATINA2 project developed a conceptual framework for modal choice (see figure below). The framework shows that aspects such as the location, network quality, legal framework, economic factors and external factors influence both the quality as well as the costs of transport.

The PLATINA2 project reviewed a number of practical cases, from which it became apparent that the most important criterion to select the transport solution is the **total door-to-door cost**. However, shippers are prepared to accept, for a certain period, a higher transport cost as long as the economic advantage on mid or long term is demonstrated.

Furthermore, although environmental reasons are often mentioned as strategic driver, a shift to multimodal transport is usually only implemented if there is an economic advantage on business level.



Source: PLATINA2 Deliverable 1.3, Comparison of Modal Shift Studies, 2014

Rail service frequency of merely once a week with the same transit time as trucking is no valid alternative for the customer. Once the departure by rail is missed, the next departure is six days later with consequences like e.g. detention/demurrage costs driving up the total costs. The more frequent the services are, the less are delays problematic. A daily rail service is considered to be the perfect alternative for direct trucking. The more cargo volumes are available, the more frequent the service will be. The minimum setup for a train or barge service (depending of course on the distance of the maritime ports) is two departures per week

in every direction. Filling the fixed capacity with adequate volumes is often only possible when volumes of different players are bundled. Bundling of cargo has therefore been a key subject that was discussed in the platform meetings.

In setting up intermodal transport, two - apparently contradicting - requirements should be fulfilled: on the one hand giving **more time and some slack and flexibility** to the supply chain operations to be able to maximize the opportunities of bundling of cargo. This implicates longer dwell times and possibly lower utilisation rate of assets. This contradicts to the requirement on the other hand to **minimise the operational costs**. Often this is referred to as being lean and agile at the same time.

It is a challenge for the inland ports together with logistics service providers to bundle cargo as much as possible, while keeping services competitive to road haulage.

2.2 The various roles inland ports can play within the network

European inland ports play a crucial role in the multimodal transport chains as they provide transfer points to other modes and are connected with logistics centres, industrial areas, agricultural areas or large consumer markets such as metropolitan areas. We identified the following roles that inland ports can play - some of these can be combined:

- multimodal hub on a European Transport Corridor;
- platform for the region's trade and industry;
- interface towards urban freight transport.

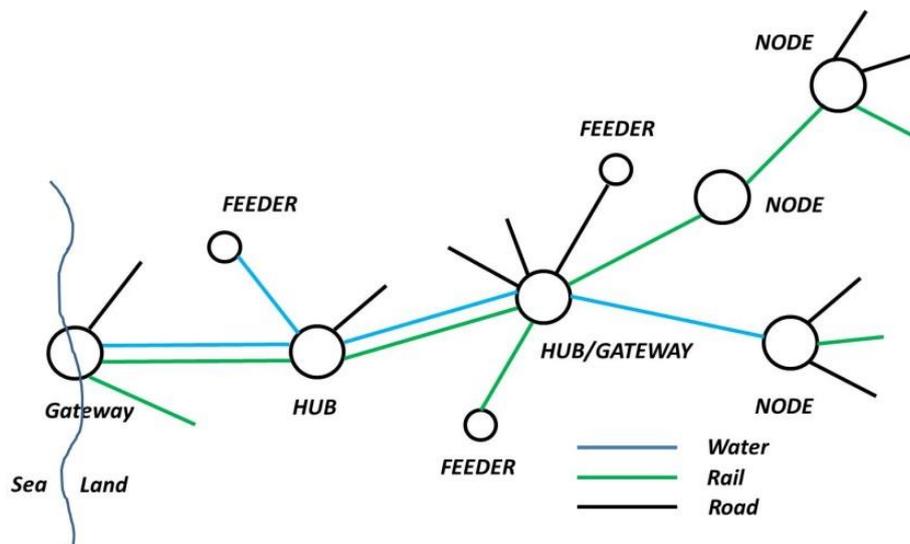
Moreover, as the inland waterway transport (IWT) network has limited coverage in Europe, the collaboration between IWT and railways can offer sustainable transport solution in Europe through their interconnections in inland ports.

- **Multimodal hub on the European Transport Corridors:** inland ports serve as efficient transshipment nodes on the European inland waterway corridors. They are the interface between the intercontinental/maritime transport leg and the land modes of transport (rail, road and IWT); they serve as extended gates for seaports. Also in the hinterland hub and gateway functions are possible, e.g. where the waterway network connects to the railway network, knowing that the network coverage in Europe of the railways is much larger compared to the inland waterways. There are several examples where inland ports are part of bundling networks using both barge transport and rail as main transport mode in the door-to-door supply chain. Shippers especially appreciate the possibilities of custom clearance at the inland terminal in the hinterland, the organization of the entire hinterland transport (one-stop-shop), value added services (e.g. storage, repair facilities) and the frequency and reliability of transport services.
- **Platform for the region:** inland ports function as nodal points for regional economies. As well as their transport and logistic function, the ports have a favourable location in the region for businesses and industries close to large-scale production/distribution or consumption areas. This type of bundling platforms are in fact commercial zones where transport-oriented companies, logistics service providers and logistics-intensive

trade and production enterprises can settle. The companies have open access to at least two modes of transport and can benefit from cooperative activities initiated by the platform developer/operator.

- Long distance transport and **city logistics interface**: inland ports located in an EU capital or major urban agglomerations are instrumental in developing sustainable city logistics. Cargo bundling, innovation and smart solutions can bring forward the objective of low or zero-emission city logistics. Although road transport remains the most popular mode used in urban freight logistics, there are several examples of intermodal urban freight logistics using rail or waterways for the “last mile” transport such as applied in Paris, Amsterdam and Utrecht.

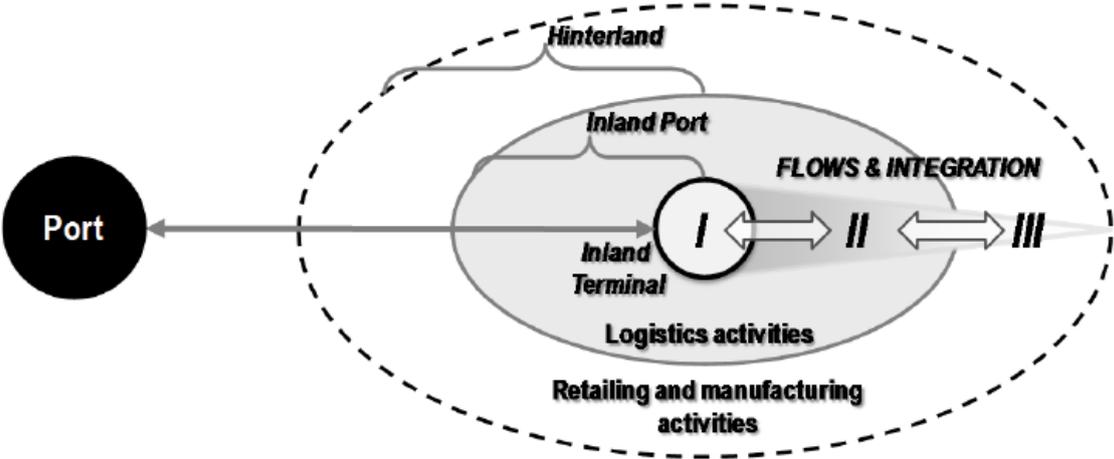
Considering the various roles of inland ports, the possibilities for increased multimodal transport and bundling of cargo will be different. These different roles can be performed at several positions in the network, and in combination:



The graph illustrates that in principle all combinations of modes are possible, but of course in practice this is influenced by the trade-off between transport cost and transshipment cost. The larger the volume, the easier it becomes to create multimodal corridors with intermediate transshipments. In order to develop more multimodal transport **the challenge is to bundle cargo in such a way that massive flows are created on the links of the corridors**. This is realised by creating cargo generating and attracting activities in the surroundings of the nodes (inland ports), and by piggybacking continental flows on the massive maritime oriented flows.

Rail is needed as an alternative, in case of problems on the waterways and vice versa. In fact, the role of the railways in inland ports is quite important, and in several of the inland ports, the transshipment volumes to rail are larger than the transshipment to inland waterways. The railways play an important complementary role for the inland ports, as they enlarge the geographical reach and scope for the inland ports. This includes also the access by railways to local plants and distributions centres in order to facilitate sustainable transport.

Inland ports are fitting within a regional economic geography by linking a region to global supply chains. Over this issue, a study² uses a three tier system to represent the functional relations between an intermodal terminal and its hinterland (region), particularly within a port authority. This model can be readily applied to inland ports with the first tier representing the terminal itself, notably in terms of volume, capacity and performance. The second tier relates to the logistics activities around the inland terminal, often by means of a geographic clustering of logistic companies. The third tier represents an array of retailing and manufacturing activities in the hinterland where inputs or outputs are handled or managed by the logistics activities of the second tier³.

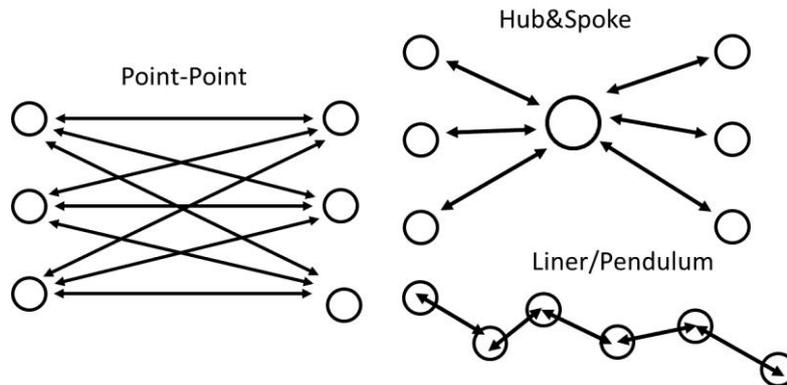


² Wakeman, T. (2008) “Marine Transportation of International Freight for the Northeast Corridor”, in *Anticipating 2025 in Northeast Corridor Transportation: Aerial, Highway, Marine, and Rail Technologies & Linkages*, Institute of Public Administration, Public Policy Forum, University of Delaware, Newark, DE. Pages 38-59.

³ *Functions and Actors of Inland Ports: European and North American Dynamics*, Jean-Paul Rodrigue, Jean Debrie, Antoine Fremont, Elisabeth Gouvernal (Journal of Transport Geography, Volume 18, Issue 4, July 2010, Pages 519–529)

2.3 Network concepts and bundling

In intermodal transport in general and particularly in inland shipping, three different models can be distinguished: point to point, hub&spoke and pendulum services.



In the **point to point system** volumes have to be large enough to allow direct transport, and volumes are enlarged by establishing cargo generating and attracting activities in the vicinity of the points. The **liner/pendulum** system is a classical way of bundling of cargo to reach economically viable level of flows. An interesting option is to consider the combination of maritime and continental flows. High volume flows can provide the backbone for operators to develop a multimodal service network that is also able to accommodate incidental or low volume flows. The **hub&spoke** model offers interesting combinations of cargo bundling and of combining modes such as water and rail in one system for both maritime and continental flows.

Obviously, goods transported in standardized or common load units, like containers, are easier to bundle than bulk and break-bulk cargo. However, in case of intermodal transport by rail other type of cargo is also suitable for bundling by exchanging of wagons at the shunting yard. In the process of bundling of cargo, two types of transport configuration can be distinguished and compared:

- direct bundling;
- complex bundling.

In **direct bundling** load units are consolidated and transhipped on a barge or train at the begin terminal and - without an intermediate stop at another terminal or exchange node - transported to the end terminal⁴. In practice, this often results in partially loaded trains and barges, or even on some cases, into empty return trips. In order to reduce costs, combining two opposite imbalanced flows can be considered as a potential flow for bundling. Reduced costs and higher frequencies result in positive spin-off effects as the intermodal service becomes more competitive and therefore attracts even more cargo.

⁴ this type of bundling refers to the point-to-point model, a shuttle service

In **complex bundling**, load units are consolidated and transported between exchange nodes by common trains and barges that serve multiple terminals in a roundtrip or a hub&spoke system. In case there is sufficient volume available, this results in higher utilisation rates and/or higher transport frequencies leading to lower transport costs, lower pre- and end haulage costs and/or higher transport quality. This transport concept is also known as complex bundling, due to the required presence of intermediate exchange nodes⁵. Complex bundling makes it feasible to transport smaller flows via intermodal transport on a regular basis, which would not be competitive to direct road transport via direct bundling. However, given also the complexity of multimodal transport discussed previously, when the volume is relatively small, bundling may result in longer routes (detours), and could result in a longer transit times. In most cases, complex bundling is more challenging to manage as it requires additional transshipment and more parties are involved in the process compared to direct bundling. In this respect there is a trade-off between a less frequent shuttle (direct bundling) and a more complex model, e.g. roundtrips along terminals or hub/spoke models (complex bundling). The choice of the type of bundling (direct or complex) depends largely on the available transport demand and the economies of scale that can be reached in combination with the frequency of service that the shipper requests for his cargo.

2.4 Main barriers and bottlenecks

Based on the review of practical cases as well as the input from the participants of the platform, the following potential bottlenecks have been identified that could be a barrier to wider application by market parties of cargo bundling initiatives to increase the share of multimodal transport:

- Fierce competition between logistics service providers, confidentiality of client data resulting in lack of willingness to cooperate and share information, resulting in fragmented services and a lack of critical mass to setup efficient and high quality intermodal solutions. This is also because of concerns and uncertainty as regards anti-trust regulations, which results in reluctance to discuss opportunities for cooperation.
- Lack of availability and lack of transparency of freight flow information in combination with limited ICT facilities, as well as lacking standards for communication and information exchange. It is difficult and expensive to make the communication systems and planning tools interoperable between multiple actors in the multimodal transport system. Lacking information exchange and collaborative planning results for example in long waiting times for barges in the seaport which hampers the success of multimodal hinterland transport.
- The legal framework and complex supply chain organisation: existing business model contracts are usually stipulated to be on a one-to-one basis instead of multilateral agreements, which requires subcontracting and service level agreements, as well as more effort to manage the increased number of actors in the supply chain.

⁵ this refers to the models of hub & spoke and liner/pendulum

- Lack of infrastructure and services, e.g. terminal equipment, storage facilities and value added services (e.g. empty container depot, reefer plugs, container repair facilities, stuffing and stripping services for containers) to enable a smooth transfer within and between modes to allow for innovative multimodal concepts. This also includes spatial planning limitations (e.g. limited opening hours, limited expansion area): notably where municipal/regional permits limit the operational capacity.
- High pre- and end-haulage costs by road due to geographically fragmented origins/destination of cargo flows around the terminal, lack of clustering of industrial and logistics sites along waterways with terminals in the direct vicinity.
- Transshipment and storage costs, including port charges can be too high, for example when port dues are levied based upon the gross load capacity of the barge instead of the actual load volume being transhipped
- There is a lack of real-time traffic information and forecasts about the traffic on the multimodal transport network, which has a negative impact on the efficiency and reliability of multimodal transport.

Furthermore, there is a lack of statistics information on inland ports and inland waterway transport. All operators collect data, but this data is not available for wider use, neither are these data standardised. This makes benchmarking exercises more difficult, and it hinders the visibility of the role and importance of ports in the European and regional economy.

Chapter 3: Role of actors, best practices and recommendations

3.1 Introduction

This chapter describes the various types of actors – who are involved in the logistics chain or have influence on the logistics chain - and provides recommendations on how these actors can contribute to increase multimodal transport and addresses the barriers and bottlenecks. In general the following type of barriers need to be addressed by various stakeholder groups:

- barriers related to the market: high barriers for cooperation and consolidation
- barriers related to the infrastructure: lack of quality infrastructure and lack of consideration for the interests of ports in land use planning
- barriers related to governance: lack of attention to the interests of inland ports in governance and legislation

The chapter pays specific attention to opportunities for bundling of cargo, as this requires enhanced collaboration between actors. A distinction can be made between bundling initiatives from the viewpoint of the logistics service provider (supply side) and initiatives of shippers themselves (demand side).

Please note that many actors are involved in an inland port, pursue their own strategy depending on their core business, even when the level of vertical integration could lead to some overlapping amongst the various actors. Furthermore, the role and involvement of public bodies may be different. Some port authorities may be public, while others are privately owned or a combination of both.

The following structure distinguishes amongst various actors involved in inland ports including the items in which these actors can influence and support multimodality:

- Supply chain decision makers: shippers, forwarders/logistics service providers:
 - Collaboration with other decision makers to increase cargo volumes, joint procurement and long term planning of transport operations and investments
 - Location choice for warehousing, production, distribution
 - Choice of the consignment size, time of production and shipment, (common) load unit, requested/scheduled lead times
 - Modal choice and contracting the logistics service provider/transport operator
- Infrastructure users: transport operators in the various modes:
 - Decide on time of departure and volume of traffic
 - Choice of vehicle/vessel type
 - Sharing data on location, ETA and cargo
 - Collaboration with other transport operators to bundle flows and share assets, joint production systems
- Infrastructure managers for the various modes and nodes:
 - Providing infrastructure (capacity, reliability)

- Providing information related to infrastructure conditions and traffic (e.g. delays, interruptions)
- Price setting for the usage of infrastructure, access rights and slot planning
- Policy making on various levels: EU, Member State, regional/local level, regarding:
 - Land use planning (e.g. location of production, distribution activities)
 - Infrastructure quality (e.g. TEN-T policies)
 - Rules and regulations (permits, quality standards)
 - Incentives and funding (e.g. subsidies, financial support programmes)

3.2 Supply chain decision makers

It is the shipper or the logistics service provider who controls the cargo volumes. Some shippers strongly control their transport operations while other shippers outsource large parts of the freight flow management to logistics service providers.

Sufficient volume is needed to develop intermodal transport solutions via trains and barges. Therefore, consolidation of freight is a prerequisite, as well as limited pre- and end-haulage distances by road to/from the transfer terminal. Therefore, the choice on the location of the production, storage or processing facility is key. Preferably there is a clustering of similar activities in a geographic area in order to enable bundling of cargo for different shippers (e.g. chemical cluster, food cluster, warehousing cluster) while the cluster is located in the direct vicinity of the inland port.

Another item is the size of the consignments, the batches. As the frequency of transport by barges or trains is generally lower compared to transport by truck, there is a need to store the cargo temporarily, or to produce the cargo in large batches. Storage can be located at the terminal, to collect and distribute cargo from various clients. However, the temporary storage and buffering can also be done by the shipper or logistics service provider and the shipper may change production/procurement processes to increase the size of the consignment and to anticipate the timing or production and procurement of the time-tables of the intermodal service in order to reduce storage costs. This is also referred to as “floating stock” in common load units, based on the benefits intermodal transport has to offer by deploying inventories in the supply chain, tuning demand with regular supply in transport services, shorten lead times and possibly lower transport costs.

In many cases the shipper will have direct influence on the modal choice. Only a few shippers have outsourced the logistics without selecting the mode of transport. However, the contractors that work for the shippers can be pro-active and offer intermodal solutions to the shipper, possibly combining flows from various shippers in order to develop economies of scale resulting in lower costs and higher transport frequencies.

Joint procurement can be an interesting option to increase the freight volumes in order to enable more multimodal transport and lower costs. Shippers can cooperate at a regional level, e.g. by finding a good balance between inbound and outbound traffic (import-export balance) to prevent empty trips. Logistics service providers can also play an active role. By means of long term agreements with shippers, they can invest in intermodal transport systems, such as

load units and terminals, possible in cooperation with transport operators (e.g. by means of joint ventures).

Some identified good practice examples⁶:

Nike European Distribution Centre in Laakdal:

The European Distribution Centre is located near the BCTN Terminal alongside the Albert Canal and has a high quality waterway link with the port of Antwerp. Almost ninety percent of Nike's goods arrive by barge from international gateways like ports and inland terminals. The high volume goods flow of Nike is reliable and frequent, and offers the opportunity to bundle smaller goods flows. By bundling different good flows, the BCTN terminal near Nike can provide fast and frequent goods flows.

Procter&Gamble, combining two cargo flows:

- Heavy cargo which is using almost full payload of transport unit but only 1/3 of volume capacity.
- Light cargo which is using full volume but only 1/10 of payload.

Combining those two types of cargo is giving Procter&Gamble the possibility to use every transport unit more efficiently and to increase frequency of their transport connections. This is successful because it is inside only one entity.

Best practice example (automotive sector): The premium car manufacturers Audi and Volkswagen have set up their CKD⁷-centres in Duisburg for the worldwide export of car components. Duisport organizes the integrated logistics and transport services for both companies.

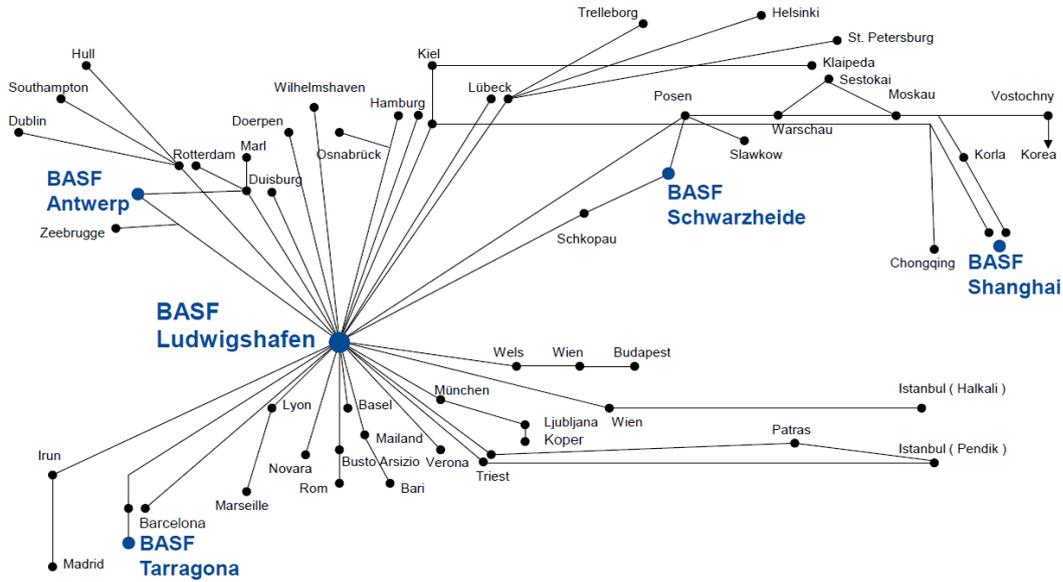
Best practice example (chemical industry): Development of the customized terminal logport III for the needs of the chemical industry including a direct connection between the terminal and Chempark Krefeld-Uerdingen via an internal road.

⁶ Soucre: examples have been presented in the 2nd background discussion paper, based on desk research and contributions by platform participants

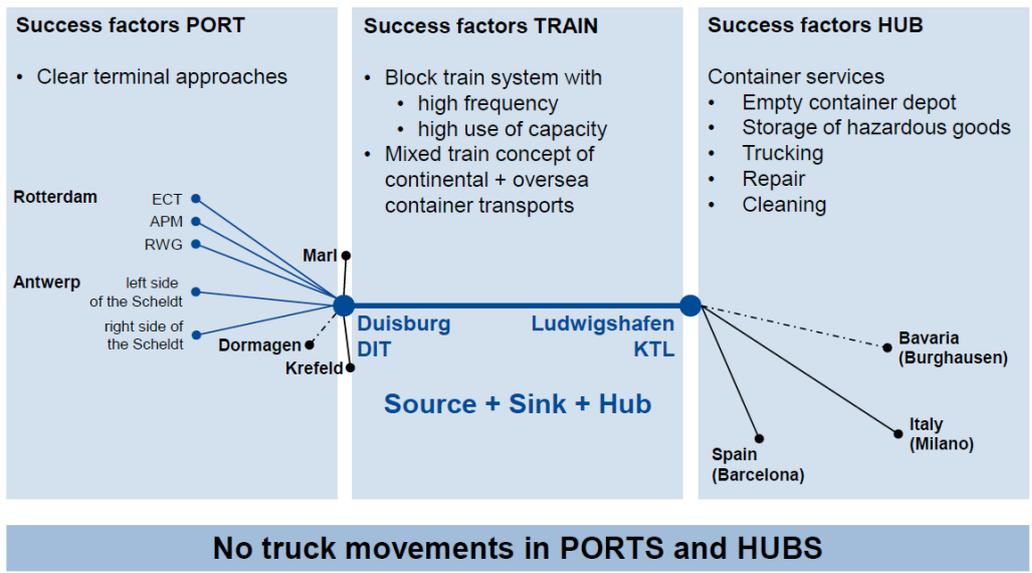
⁷ CKD: complete knockdown

Contribution from BASF:

Intermodal Network Ludwigshafen of BASF:



Solution: Hinterland Hub Concept:



Other best practices:

There are several inspiring examples where inland ports are part of bundling networks using both barge transport and rail as main transport mode in the door-to-door supply chain. For example, through bundling of cargo, deep sea terminal operator ECT offers sustainable high frequent rail and barge connections between their deep sea terminals in Rotterdam and the European hinterland by its **European Gateway Services (EGS)**⁸. Shippers mainly appreciate the possibilities of customs clearance at the terminal in the hinterland, the organization of the entire hinterland transport (one-stop-shop) and the frequency of transport services. A relative new bundling initiative is the implementation of **hub&spoke** in inland shipping, introduced by inland terminal operator BCTN and Danser Containerline⁹. By positioning the terminal in Nijmegen as hub and bundling cargo and services, the supply in services to i.e. Antwerp increased from a single full barge load once per week to a frequency of five times per week. Despite the extra transshipment costs in Nijmegen, through bundling of cargo between Antwerp and Rotterdam and various terminals along the Meuse and Rhine, vessels can be operated more efficiently. This leads to shorter lead times, higher utilisation of resources and lower transport costs and enables big opportunities for modal shift of maritime and continental flows currently still transported by road transport.

Another example for optimising container hinterland transport is provided by the cooperative planning of terminal slots: Nextlogic/BREIN project in the Port of Rotterdam¹⁰. Nextlogic is bringing together barge operators, inland terminals, deep sea terminals and depots, shipping companies and ultimately also for forwarders and shippers. Representatives of the logistics chain parties in inland container shipping endorsed the implementation of Nextlogic. Nextlogic focuses on reducing inefficiencies in inland container shipping. The project includes performance measurement, call size optimisation and neutral integrated planning.

A good example of bundling platforms for regional businesses and industries are the **German Freight Villages**, the **French Platforms de Frets** and similar concepts in other countries. These are commercial zones where transport-oriented companies, logistics service providers and logistics-intensive trade and production enterprise can settle. The companies have open access to at least two modes of transport and can benefit from cooperative activities initiated by the platform developer/operator.

An interesting initiative is established in Belgium where a neutral party **TRI-VISOR** pools cargo flows of multiple Belgian shippers.¹¹

As part of the **Lean and Green programme** and **Topsector Logistics** in The Netherlands, inland ports facilitate pioneers and initiators such as Heinz, Bavaria, Mars, Aviko and FrieslandCampina, to bundle cargo so that it can be economically transported by barge instead of road transport. In addition, other shippers, big and small, can present their containers to existing lanes by barge, enabling them to switch from the road haulage to inland waterway transport without having to set up a new transport chain. Another example is the initiative by Flora Holland cooperation to setup multimodal transport services.¹²

⁸ www.europeangatewayservices.com/content/extended-gate-services

⁹ www.youtube.com/watch?v=zFIZmvrPDgb

¹⁰ www.nextlogic.nl/uk

¹¹ www.youtube.com/watch?v=vyzHgkJGIQY

¹² www.bestfact.net/wp-content/uploads/2013/10/BESTFACT_Amsterdam_Cluster2_12_06_22_FLORAHOLLAND.pdf

Although road transport remains the most popular mode used in urban freight logistics, there have been several examples of intermodal urban freight logistics, like projects for **urban rail freight**. In Dresden, Germany, a freight light rail is in operation since 2000 for parts supplied to a **Volkswagen** plant.

Monoprix, a chain of supermarkets with 90 stores in Paris, uses a **freight train** in Paris and is operational since 2007. A train enters the city of Paris every evening and subsequently the cargo (on pallets) is transferred to CNG operated trucks for final deliveries in the city early in the morning.

One of Monoprix's competitors, **Franprix**, has been operating **barges** to supply its Paris stores since the end of 2012. **Norbert Dentressangle** uses the river to make deliveries to 80 Franprix stores in France, saving almost half a million road miles each year. Daily services of barge transport 26 containers (each containing 450 pallets) from the river port in Bonneuil-sur-Marne to the heart of Paris, where the palletised cargo is transferred to truck for final delivery to the stores.

Like in Paris, the city canals of Utrecht offer a possible solution in avoiding the traffic congestion within and around cities and the regulations concerning delivery time windows of the city centre. In the Netherlands, there are several projects in which the city canals are used to distribute goods, namely the '**Bierboot**' (**Beerboat**) in Utrecht and '**Vracht door de Gracht**' (**Cargo on the City Canal**) of the joint venture **Mokum Mariteam**. The Beerboat delivers cargo - in the first stage, beverage - to restaurants and bars in the inner city of Utrecht. Mokum Mariteam has been committed to run an electric ship to deliver cargo to businesses in the inner city of Amsterdam. This ship is equipped with a crane to load and unload the cargo. The ship transports waste as return cargo.

Previous examples illustrate that in practice many logistics operations are result of bundling. The classic liner or pendulum service is perhaps the best example of a bundling of freight flows to consolidate sufficient volume for a viable intermodal service.

The big question is, which cargo is in the market that could shift to intermodal transport when efficiently bundled. Literature and recent initiatives demonstrate clearly that much more freight can be bundled and moved by intermodal transport solutions than it is the case today. Key is the availability of information about these flows and the willingness to share this information. This calls for solutions that make this information visible at the right level. This could be done through closed cooperation mechanisms or through the creation of neutral platforms. Groups of shippers or groups of logistics service providers can set up these closed cooperation mechanisms . Neutral/independent platforms that exist today are often initiated by regional authorities. The question is whether inland ports can also initiate and operate such a platform, for instance to map and exchange information on return flows in order to more successfully setup or expand barge or rail services.

An example of such a platform is in Antwerp. Approximately 40% of the containers on inland waterways are transported empty, and the **Antwerp Freight Forwarders Associated** created an intermodal booking platform to efficiently get containers to the right depots along the inland waterways. This **booking platform** integrates both inland waterways and rail, to reach all areas in Europe. It is a tool to generate economies of scale by bundling cargo and creating common buying powers. The platform is a neutral and confidential form of horizontal cooperation. The system continuously simulates alternative modes of transport displaying

their cost, availability and schedule. The IT-platform also allows tracking & tracing cargo and connects to other platforms.

Multimodal Smart Match is another example of a neutral platform. Several neutral regional non-profit organisations established this platform with the aim to bundle flows of shippers in the South of Netherlands. Shippers are invited to participate in the platform and to provide information on their flows, in order to ‘match’ these flows concerning multimodal connections and the potential to bundle cargo. The neutral characteristic of the system and the ensured confidentiality lowers the barriers for the participants to share information on their cargo flows.

3.3 Transport operators / infrastructure users

For the transport operators, the transport planning flexibility (e.g. arrival/departure time, the size of shipments, the transport modes used) depends to a large extent on the agreement that they make with the freight forwarder or shipper. Furthermore, the operators do not always benefit from increased efficiency, since they are paid on a time charter basis or per journey, regardless of the actual load of the transport unit. Increased average payload resulting in less vehicle movements would possibly even decrease their turnover.

Most shippers are used to the flexibility and simplicity of road haulage; to convince them to switch to multimodal services is challenging. To make multimodal services attractive and competitive, collaboration amongst the modal operators is key.

Transport operators can be proactive to discuss with freight forwarders and shippers possibilities to increase efficiency in bundling of cargo and increased usage of alternative modes of transport: this is **vertical collaboration**. Such a pro-active attitude is a good basis to establish a sustainable partnership with long-term agreements providing more opportunities to optimise combined operations. For example, the time of arrival and shipment may be optimised, as well as the size of the shipments in order to increase efficiency (e.g. use larger transport vehicles, reduce empty trips, increase utilisation levels and payload). The optimisation can be done within the mode of transport, but can also be done to include the combined time table of intermodal services.

Another option to be proactive is to apply **horizontal collaboration**: cooperation with other transport operators. For instance, transport operators can setup alliances and joint production systems to increase the volumes and to increase the scale of the organisation. This may lead to increased efficiency and more opportunities to consolidate cargo, to enable intermodal transport systems. There are also examples of transport operators who take the initiative to start their own intermodal transport services, in cooperation with stakeholders such as terminal operators and barge or rail operators. For example, this may lead to joint ventures and shared equipment between operators, investments in hardware (e.g. neutral labelled load units) and usage of a common IT platform to create transparency between operators. In fact they become a kind of intermodal transport operator. This might also lead to a situation that they provide the freight forwarding role as well, and become direct partners for shippers.

The road hauliers can therefore expand their operations to other modes of transport and benefit from possible cost reductions of intermodal transport. By means of collaboration with

road hauliers, the intermodal transport operators can increase their volumes resulting in lower costs and higher service levels. Rail and barge operators can be complementary resulting in a broader network coverage of intermodal transport in Europe.

Moreover, the terminal, rail and barge operators have more payload for their fleet and more cargo to tranship and store on the terminals, resulting in more revenues at same or lower costs. This is in particular relevant because of the high share of fixed (capital) costs for the equipment. Collaboration can therefore increase the return on investment. Given this win-win situation, it makes sense to further explore opportunities to collaborate between transport modes and terminal operators. Examples are the hub & spoke service by Danser and BCTN, as well as the integrated network approach by Contargo that combines rail, barge and terminals in their enterprise.

In theory, all operators are allowed to bundle cargo at inland ports. However, in practice, severe competition amongst several inland carriers serving the same inland terminals limits opportunities to consolidate cargo. Competition is one of the main obstacles for bundling of cargo to enable further expansion of multimodal transports. Nevertheless, an inland terminal is the natural platform and basis to bundle various cargo flows in order to transport at regular intervals by intermodal transport services including barge, rail and additional pre-and end haulage by road.

From the perspective of operators, positive effects can be achieved by bundling import and export cargo flows and repositioning of empty containers. This requires adequate transshipment and storage capacities at inland ports. Especially in the repositioning of empty containers, inland ports provide a high efficiency in combination with IWT to transport containers against low costs between seaports and the hinterland. Therefore, container shipping lines favour IWT to balance flows of full and empty containers. Additionally 'empty depots'¹³ in the hinterland increase the service level towards shippers, as they can obtain an empty container at short notice. Therefore it is necessary to make sure that sufficient 'empty depots' are available in the network.

Seaports face challenges to improve the links to the hinterland. there can be long dwell times in seaports for barges. Long waiting times for barges at terminals in seaports hamper an efficient intermodal transport of containers between seaports and the hinterland. Collaborative planning and increased information exchange is recommended, such as Nextlogic in Rotterdam. More collaboration also enables to develop multimodal services for the continental cargo flows. A higher level of cooperation between public and private stakeholders in seaports and inland ports is recommended. More collaboration increases logistics efficiency in the hinterland of the seaport, reduces costs (e.g. by shifting storage functions to – cheaper - inland ports), improves the level of utilisation of the inland port, increases modal share of railways and IWT, and creates a larger base volume for transport services by railways and inland waterways. Subsequently the increase in scale of operations enables the introduction of higher transportation frequencies, creating more capacity. Consequently, the increased service quality enables shippers to use the intermodal network even for smaller (continental) flows. An example is HAROPA¹⁴, a cooperation among the ports of Paris, Le Havre and Rouen. The shippers/logistics operators using HAROPA benefit from a true multimodal offer (IWT, rail, road, cross-channel, short- and deep see transport) connecting the largest French consumer market (second largest European consumer market)

¹³ 'Empty depots' is a depot for empty containers.

¹⁴ <http://www.haropa-solutions.com/en>

with markets in Europe, Asia, Americas and other continents. In addition to the efficiencies described higher above, the HAROPA ports also obtain a marketing advantage: they can benefit from the 'brandname' of 'Paris'. For instance a shipper is informed that its cargo will be shipped from China to Paris, while the intermediate transshipments are within the HAROPA cooperation. Therefore the shipper perceives the entire multimodal flow (maritime and inland, and perhaps rail or truck for the last mile) as a single cargo flow.

Collaboration amongst stakeholders can create possibilities for small(er) inland ports to participate in a hub&spoke and liner/pendulum system. This requires the establishment of agreements amongst the operators as well as advanced ICT systems to exchange/share information.

Since the competition is fierce in the transport industry, many operators are reluctant to share data about their clients/volumes. Sufficient trust between partners is a prerequisite in order to develop economies of scale in collaboration. Another requirement to achieve collaboration in operations (joint production) is to share operational data, such as type of cargo, ETA etc. This requires standards and interoperable information systems amongst the parties. Certain investments (into ICT tools, for instance) might be needed to achieve interoperability; this may be a barrier, as well. Therefore it is necessary to develop standards and tools to foster such collaboration; one way of doing this is the development of information platforms.

Terminals can function as information service provider for different players in the multimodal transport chain, by providing real-time information including information on delays (eg. for members of staff and trucking companies) and information on the availability of loading units/goods at certain points. Terminals are occasionally able to adapt their planning to make up for delays.

3.4 Infrastructure managers

Obviously, the prerequisite to enable multimodal transport is the availability of infrastructure connecting economic regions. Availability means not only existence and sufficient capacity of the infrastructure (e.g. waterways, railways, etc.), but also quality. In spite of ample spare capacity, the efficiency and competitiveness of inland waterways is hampered by insufficient quality infrastructure at critical parts of the network. In particular, on the Danube and East-West corridor there is uncertainty about the planning and available budget for the removal of bottlenecks. This discourages modal shift aspirations of customers in search of energy-efficient and reliable logistics operations comparable prices, transit times and comparable other conditions.

The quality of infrastructure directly influences the choice of transportation mode. In order to deploy multimodal services, the quality of rail and waterway links must be good as well as the quality of the transfer options between the modes and the links to the clients (e.g. local railway networks in the port area). This obviously requires that land use planners take into account the logistics needs. Furthermore, the infrastructure needs to be well maintained and needs to be available according to the demand at competitive prices.

In the current network there are still significant bottlenecks and missing links. Investment into the construction of these missing links would bring about not only socio-economic benefits,

but multimodal transport would increase its modal share, too, by means of a geographic expansion of the market. These issues and the potential to increase in multimodal transport are addressed in the framework of TEN-T core network corridors. CEF Transport component and national/regional budgets need to provide sufficient financial resources to ensure sufficient capacity and quality of the network. Bottlenecks and requirements of the inland ports need to be taken into account in the development of the core network corridors and discussed at the Corridor Fora.

In particular since the cost of transshipment are relatively high, there is a strong role to play for the actors in the inland port to minimise the transshipment costs and to ensure sufficient capacity and good connections to the different modes of transport. Inland ports can play an active role in slot planning of terminals in the ports, in order to minimise the dwell times of trains and barges in the ports. An example is the collaborative planning by Upper Rhine Ports¹⁵. Another good example is SOGARIS¹⁶, active in platform planning for urban freight and multimodal logistics.

Moreover, the infrastructure managers for road, rail and inland waterways, too, can use ICT to increase the efficiency and sustainability of transport. This concerns statistics information on available capacities and reliability of the strategic planning of transport operations. In addition, also dynamically generated/updated information is needed on the actual and forecasted traffic and infrastructure conditions, such as information on delays and disruptions in the network (e.g. due to peaks in demand, maintenance works, accidents). In case of bottleneck situations (as the examples mentioned before), cargo flows may be diverted to other modes of transport or transhipped at certain terminals in order to reduce negative impact for clients. However, this requires a strong collaboration between transport operators and an improved transparency of the transportation/supply chain system.

Infrastructure managers can directly influence/promote multimodal transport by pricing or access to infrastructure. For example, port dues for vessels calling at inland ports might include a scheme to promote intermodal transport and clean transport vessels/vehicles. Since local or regional authorities usually own or control such port authorities, there should be an interest in reducing external costs for society such as air pollution, congestion and noise by means of providing incentives. Operators using clean vessels, trains or trucks shall get a discount. Intermodal transport shall be made attractive as intermodal transport generally reduces the external costs compared to direct trucking. Seen from this perspective, it is recommended that infrastructure managers introduce positive incentives for intermodal transport.

3.5 Policy makers

Policy makers are involved from various levels, although the main actor is the local government that decides on the land use planning and local infrastructure (e.g. connections by road to provide access to the inland ports). Different types of instruments are available in order to address barriers and to create/exploit opportunities: legislation, funding, development of standards and building up knowledge and expertise.

¹⁵ www.upper-rhine-ports.eu/de/

¹⁶ www.bestfact.net/wp-content/uploads/2013/10/BESTFACT_Amsterdam_Cluster1_12_06_22_SOGARIS.pdf

The availability of cargo volumes in the direct vicinity of the inland port or transfer terminal is a decisive factor for intermodal transport. Therefore, local governments can foster sustainable transport by establishing a cluster approach to bundle major transport origins and destinations in the same geographical areas to allow for economies of scale and balancing of import and export flows. Furthermore, a high transport demand in the region, requires investments in the infrastructure to provide high quality connections and terminal facilities for these clusters. Integrating different transport modes implies, in the first place, the creation and further development of efficient interfaces. Freight transport users and shippers need a “market place” where they can make choices regarding the combining in function of the product, the destination, the client, the cost (both internal and external).

The clusters of economies provide a contribution to the regional economy and jobs. Policy makers might not always be aware of the significant importance of inland ports for the region with respect to the added value to the economy and welfare in general. The importance of inland ports and the connectivity of inland ports justify **more attention to the logistic function of inland ports in land-use planning and to their integration into the transport network**: the availability of high quality rail, road, waterway interconnections (including shunting yards) and the efficiency of transshipment terminals. A best practice is the new terminal development in new Basel trimodal terminal¹⁷.

There is insufficient visibility of the specific interests of inland ports and insufficient local political awareness of the importance of inland ports in the logistics operations. The contribution of a well functioning/high quality inland port to the economy is underestimated. Acquiring the required permits to build and operate inland terminals is often a long winding process. Possibly, the European Commission can develop regulations to reduce the processing times for permitting procedures.

Moreover, information on key quality parameters is often lacking, there are not even official statistics on inland ports at EU level. It is therefore a clear recommendation to create more adequate statistics on various levels. From the EU level this can be supported by Eurostat legislation and also brought into the scope of the European market observation for inland waterway transport and the development of the Digital Inland Navigation Area (DINA). Furthermore, the ongoing work of the Portopia project shall be highlighted, as regards the development of key performance indicators for ports.¹⁸

An issue to take into account is the distinction amongst the various functions that an inland port has, such as the industrial function, the residential area, the recreational area and the nature and wildlife. These various interests need to be balanced in a proper manner. The available space for additional logistics/industrial activities in inland ports is often limited, in particular in densely populated areas along waterways. In several corridors (e.g. Rhine) it is often difficult to expand business at existing inland ports or to develop new locations. Moreover, the land along waterways is valuable and local authorities often give priorities to other functions such as housing projects.

However, in order to deliver a better service to a customer with a multimodal transport alternative there is a need for well-situated and well-performing inland terminals. This requires terminals with flexible working hours and with value-added services like e.g. stuffing & stripping facilities / gas treatment of wood / reefer storage / container repair services. This

¹⁷ [www.ultra-brag.ch/sites/default/files/Container_Terminal_Weil\(E\).pdf](http://www.ultra-brag.ch/sites/default/files/Container_Terminal_Weil(E).pdf)

¹⁸ www.portopia.eu

needs to be taken into account in land use planning, for example by means of geographic clustering of logistics and industrial activities.

In order to safeguard sufficient available space to facilitate multimodal transport, the regional or national government can provide more strict guidelines and regulations as well, in particular at strategic points in the network such as the core and comprehensive nodes that have been highlighted in the TEN-T guidelines. Furthermore, the topic shall be part of discussions in the Corridor Fora and Core Network Corridor Development Work Plans, in order to raise awareness on national and regional level, as well.

Moreover, sufficient funding needs to be available from various levels for projects that address the barriers and that create/exploit opportunities to increase the modal share of rail and waterborne transport via inland ports. An example in this respect is the Quick-Win programme in The Netherlands and the “Quay wall” (Kaaimuur) Programme in Belgium to ensure a multimodal system with a good geographic coverage by means of a sufficient number of intermodal transshipment terminals and waterside quays for transshipment activities to foster multimodal transport. Furthermore, inland ports should continue to participate in future calls for project proposals in CEF Transport.

3.6 Port Authorities

As inland ports bring together many players in the logistic chain, they can play a key role in improving logistics efficiency. Policies and strategies applied to inland ports, either in a stand-alone or in a joined-up fashion can bring long-term benefits. Port authorities shall ensure an efficient and demand-oriented infrastructure. Continuously improving the infrastructure within inland ports according to demand will lead to a more efficient transport infrastructure along the main corridors.

Particular attention should be paid to the strengthening of the container cargo sector to target the market of continental cargo which is currently dominated by road haulage. In addition, a growing market for continental cargo can compensate for declining volumes in bulk cargo transported over water and rail. Inland ports need to establish themselves as efficient hubs for consolidating and distributing cargo flows. Port authorities, too, should play a role to develop customized and innovative multimodal logistics concepts for the shipping industry in order to foster intermodal transport.

There are three broader types of actions that enhance cargo bundling:

1) Intelligent settlement strategies

Last mile transport is an important cost factor in combined transport operations, driving up the critical mass that has to be reached to make operations economically viable. Settling companies/shippers in the port area reduces/eliminates last mile transport and facilitates bundling of cargo. In this context, port authorities can have an active role in the development of water-related industrial and logistics sites. This requires well-considered spatial planning and the development of a network of economic activities within communities alongside

waterways. Landlord¹⁹ ports can offer settlement opportunities for logistics service providers and for transport operators; this can create synergies.

In the role as landlord specific requirements may be included in concession agreement in order to stimulate sustainable transport. An interesting example is the Maasvlakte II concession agreement with terminal operators as regards minimum modal split requirements for usage of barge and rail transport, that fosters cooperation between transport modes and parties active in the supply chain²⁰. It is recommended to explore whether such agreement can be made in other seaports and inland ports in Europe.

2) Cooperation

On the basis of their own market analysis and marketing activities, inland ports should actively pursue cooperation between different players. One example of such an activity are the various cooperation programmes among ports (both sea and inland ports) to facilitate the bundling of cargo. Such cooperation should include sharing of information on goods flows, resulting in an efficient and optimal planning of operations. Some of the large seaports (e.g. Antwerp, Rotterdam) are actively developing strategies regarding the optimisation of the hinterland connections, for example by stimulating cooperation between maritime terminals, barge operators and inland terminals (e.g. Nextlogic project). Another example is developed by the Upper Rhine ports and supported by the European TEN-T programme²¹: in this case the usage of ICT systems increases efficiency and sustainability of infrastructure use, by supplying both static and dynamic information about the actual infrastructure conditions and traffic forecast.

Since the Port Authorities are not directly involved in the supply chain, they can play a neutral role to increase the visibility of cargo flows for shippers and operators, to bring the parties together and to act as a catalyst to discuss with stakeholders about the strategy to develop and use multimodal transport. Port Authorities should therefore play a role in the development of a transparent and independent IT platform in order to enable shippers and forwarders to bundle their freight flows. Another clear role for Port Authorities is the investment in the development of logistics hubs where companies are geographically clustered, which stimulates cooperation.

3) Setting incentives

Ports can be active in moderating and marketing projects for containerisation and modal shift. Both sea and inland ports can make bundling of cargo economically more attractive e.g. by giving a cost advantage for good flows with bigger volumes. In the landlord model, it is possible for the Public Port Authority to design a land lease policy that stimulates the use of multimodal transport: the land lease price for a site is made dependent on the modal split for the transshipment of cargo. Hereby Port Authorities give a competitive advantage for multimodal transport. A similar incentive is a port fee policy in favour of multimodal transport (i.e. to encourage rail transport).

¹⁹ Landlord ports are the port authority owns only the basic infrastructure, leasing it out to operators, mostly on a long-term concession basis, while retaining all regulatory functions. Port operations are carried out by private companies, which provide and maintain their own superstructure, including buildings and cargo-handling equipment at the terminals.

²⁰ www.maasvlakte2.com/en/index/show/id/594/master-plan-for-hinterland-transport

²¹ www.upper-rhine-ports.eu/de/aktuelles/upper-rhine-ports/162-die-upper-rhine-ports-wollen-das-verkehrsmanagement-modernisieren.html

Port authorities should create incentives linked to greening and more sustainable solutions specifically for inland ports such as (voluntary) emission standards and further development and deployment of schemes such as the Green Award²² as regard the port dues, e.g. to boost uptake of LNG usage which reduces air pollutant emissions. Moreover, ports should take an active role in the further development of infrastructure for alternative fuels, such as the development of LNG hubs in the hinterland.

²² www.greenaward.org/greenaward/

Annex I: List of participants to platform meetings

- Sandrine Devos, European Aggregates Association
 - Hans-Peter Hadorn, European Federation of Inland Ports
 - Kathrin Obst, European Federation Inland Ports
 - Willem Buitenkamp, European Shippers Council (ESC)
 - Gerd Deimel, German Shippers Council (BDI), Lanxess
 - Frans Elbert, The Association of European Vehicle Logistics (ECG)
 - Stefanie Ziegler, BASF
 - Joachim Zimmerman, Bayernhafen
 - Mattijs Nollen, BCA Intermodal
 - Carmen-Mariana Costache, Docuri sa
 - Jérôme Baudy, Danser France
 - Erich Staake, Duisport
 - Johannes Franke, Duisport
 - Julian Böcker, Duisport
 - Hélène Hasle, Haropa/Port de Paris
 - Maik Bastian, Haeger & Schmitt Containerline
 - Papiniu Ovidiu, Ihorks Shipping & Trading
 - Jean-Louis Jerome, Port Autonome de Strasbourg
 - George Boga, Port Bazinul Nou sa
 - Vanda Ivanus, Romanian Inland Ports
 - Christopher Ripert, Sogaris
 - Detlev Wollert, Volkswagen Logistics
-
- Olivier Onidi, European Commission DG MOVE
 - Dimitrios Theologitis, European Commission DG MOVE
 - Remi Mayet, European Commission DG MOVE
 - Marc Vanderhaegen, European Commission DG MOVE
 - Astrid Schlewing, European Commission DG MOVE
 - Luca Farkas, European Commission DG MOVE
 - Martin Quispel, PLATINA2 / STC-NESTRA BV

Annex II: Input on recommendations to the European Commission by Platform participants

In the third meeting on 12 June 2015 the draft position papers were discussed. The following questions had been asked to the platform participants concerning the policy recommendations:

- To what extent would EC intervention be necessary regarding spatial planning (link to TEN-T regulations)?
- To what extent would EC intervention be necessary regarding ICT systems (link to the RIS review)?
- Is there need for collection of additional statistics for inland ports, e.g. to monitor the trends, development and progress on key indicators for policy? Which information/data should be collected in addition to the currently available data? Which (level of) administration should capture the data (taking into account the administrative burden)?
- Is there a need for benchmarking analysis on inland ports? If yes, what should be the core questions addressed in such an analysis?

Received contributions by platform participants are presented below.

A. Spatial Planning and role of EC

Question: To what extent would EC intervention be necessary regarding spatial planning (link to TEN-T regulations)?

Contributions:

EFIP: A new approach by the EU Level needs to give ports a special preferred role in the consideration done by local authorities. This could be done by linking it to the TEN-T Regulation and the corridor projects. Other example: there is a preferred status of ports in the German Federal Water Act (§78 WHG).

ECG: Inland port regions seem to be very popular. There are many existing examples that town councils restructure these areas with extremely strong political force and make them available for not water-bound activities, office, houses or leisure. After this process has started once the established companies become limited licences for their operations. (noise, smell, heavy traffic etc.) Finally these companies will give up their activities in the port. Proposal: Every city that allows not water-bound activities in an existing inland port should offer a new alternative location for a port area. (especially in Germany we see this more and more often, Düsseldorf, Cologne, Mainz etc.).

German Shippers Council/Lanxess: This was already mentioned and requested by Lanxess during the II Platform --> strategically protected spaces. It is a new approach and will not be appreciated by all involved, but we need to know what is possible and we start a new kind of discussion in regard to the target of the defined TEN's.

Danser: In combined transport, it is useful that the nodal point is as close as possible to the final delivery place. It is useful because combined transport is a compilation of costs and truck transportation takes a large part of them. In order to be a success, inland transportation linked to containers needs shipping lines to play an important role. Indeed, creation of depot for empty containers is a key factor. Suggestions are

- make it mandatory for shipping lines to create depots, even if these depots are not used on a regular basis
- depots should be created in the country where the final location takes place. It would avoid cross borders traffics for instance.

duisport: Within the joint venture logport ruhr duisport revitalizes industrial and logistics areas throughout the Rhine-Ruhr region. The focus lies on the development of former industrial areas (e.g. for mining activities) – so called brownfield areas. Due to their former industrial use, these areas are normally characterized by multimodal connections, e.g. rail and/or inland waterway. duisport recommends to emphasize the following criteria for spatial planning:

- a. Prioritized revitalization of brownfield areas for logistical activities
- b. Preferred development of areas with multimodal access

B ICT and role of EC

Question: *To what extent would EC intervention be necessary regarding ICT systems (link to the RIS review)?*

Contributions:

EFIP: For a better use of the existing inland waterway infrastructure, using AIS is appropriate. There should be more standardisation along the whole transport chain in order to ease the intermodal communication of IT systems. The EC should analyse those European Inland Waterways where traffic management can enhance capacity and develop financial support for those actions.

ECG: Logistic service providers use their own specially equipped IT program. For inland shipping traffic control in general the existing AIS system is very successful and has developed the safety on the river tremendously. Proposal: A additional separate traffic control at Lorelei area would increase the security at this part of the river.

German Shippers Council/Lanxess: Important is, that the EU take care for an open data discussion, which will be driven by chances and not primarily risks to use data to trigger future processes, enable time efficiency which otherwise needs a lot of individual single effort, which we are not able to deliver do to less personal resources in the future.

Danser: EC intervention doesn't seem a credible alternative regarding ICT systems. For operators (shipping lines, barge operators, freight forwarders...), it is part of services with added value offered to try to get regular volumes from clients.

C Statistics and role of EC

Question: is there need for collection of additional statistics for inland ports, e.g. to monitor the trends, development and progress on key indicators for policy? Which information/data should be collected in addition to the currently available data? Which (level of) administration should capture the data (taking into account the administrative burden)?

Contributions:

EFIP: The Market observation of the CCNR should cover inland ports in its analysis. Moreover, there is a need of more up-to-date data in the IWW sector in general. Inland ports are actively participating to the PORTOPIA projects and do not further need key indicators for policy.

ECG: The existing administration of the activities in the ports seems to be sufficient to register the logistic development. Proposal: Every port should take own responsibility and make active progress to the development of new activities.

German Shippers Council/Lanxess: Yes, we need those collection of data which enable us to look at the entire net and identify gap/bottlenecks at certain points, which at the end weaken the entire network. These data should cover beside, also multi-modal aspects, moving time, congestion and should enable trend analysis. This is important in regard to the necessary move to other mode of transports - inland water shipping, rail to reach the target of the European Whitebook in 2030 --> 2050.

Danser: Every actor can collect information. For instance: numbers of handlings for inland ports, un/loading time in sea ports for shipping companies, delivery date/time compared to initial request from client for truckers/last miles or frequency of services and filling rates for barge operators. There is no point / possibility to get this information from / for all operators but 1 operators can collect this information for / from 1 specific client (his client).

duisport: It is necessary to develop a set of criteria as an objective basis for comparing the performance of inland ports. There is a need for benchmarking the different inland ports within the EU (cf. question 4.4) to identify the relevant players in the market. The following criteria should be monitored regularly (examples):

- Throughput
- Turnover
- Total area
- Number of terminals
- Commodities
- Range of services
- Value creation
- Economic importance

D Benchmarking analysis

Question: *is there a need for benchmarking analysis on inland ports? If yes, what should be the core questions addressed in such an analysis?*

Contributions:

EFIP: No, Inland Ports are not in such competition to need benchmarking. As said, a benchmark exercise against EU averages and peer groups will be developed throughout the PORTOPIA project.

German Shippers Council/Lanxess: Yes, as mentioned in the previous answer (statistics and role of EC) the core question could be an international EU index to identify the needed time, which is necessary for the move from one transport mode to the other and the needed effort for this. Those moving efforts, probably, prevent a lot of shippers to use multimodal transports.

Danser: Concerning benchmarking analysis, barge operators are used to deal with platforms and are able, in my opinion, to compare services offered by Inland ports.

duisport: Yes, a benchmarking analysis on inland ports can be useful for relevant investment decisions by private investors as well as authorities. A benchmark can also be used as a basis for public funding. duisport recommends to add the following core questions (examples):

- Which ports are among the Top 10 in Europe?
- Which ports had the strongest growth in previous years?
- What is the significance of the port for the region?
- Which ports are characterized by sustainable business?
- Which ports were able to grow despite the economic crisis? What are the reasons?
- What is the average capacity utilization of selected ports?
- What is the handling equipment of the port?
- Which commodities are handled within the port?
- Which companies are located in the port area?