



BMT Transport Solutions



SIR-C Swedish Intermodal Transport
Research Centre

Development of Swedish bases for
decision-making and ranking of
terminal solutions within the TEN and
Motorways of the Sea (MOS)
programmes

WP6 – Additional support measures
(Intermodal development centres)

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1 Introduction and Purpose

1.1 Purpose

The purpose of the report is to provide some insights into considerations about intermodal transport development initiatives. These so called IDC (intermodal development centres) do not stand in much correlation to the MOS. However, since this was an issue mentioned within the project application, some possible solutions are presented hereafter.

The findings of this report are based on desk research. The report is part of the MOS-Criteria study within the SIR-C framework. BMT Transport Solutions GmbH (BMT-TS) has carried out the study based on existing in-house experiences and knowledge, and by using third party sources.

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This part of the study was compiled by Ralf Fiedler.

1.2 What is an IDC?

An IDC could be defined as follows:

A catalyst non-profit organisation which neutrally works on developing intermodal freight solutions along European corridors with a high intermodal potential, overcoming barriers, improving communication and creating synergies among actors, and generally supporting the shift towards more environmentally friendly modes of transport.

Mission:

- Support and accelerate the development of intermodal transport
- Facilitate the interaction among transport users, operators, and policy makers in a neutral fashion
- Bridge the gap between supply and demand
- Support intermodal transport as seamless chain of services
- Highlight transport optimisation potential
- Help reduce negative environmental impacts of transport

1.3 A need for intermodal promotion?

It is recognised that the EU transport policy has so far achieved only a limited success regarding its aim of stimulating the growth of intermodal transport. The concept of "Motorways of the Sea" (MoS) was introduced to improve the competitiveness of Short Sea shipping and integrate it better with land-side transport modes, and selected transport services were initiated with the help of Marco Polo funding. While short sea shipping has roughly grown at the same rate as overall transport activities, the growth of rail and inland waterways transport, for example, has been at a lesser rate, which means a relative loss of market share.

There are many reasons for the difficulty of achieving, through political, regulatory and promotional measures, a substantial shift towards more environmentally friendly transport modes such as rail, short sea shipping (SSS) and inland navigation. The higher complexity of organising and monitoring intermodal transports involving several actors has been one of the main reasons. Another reason is the inertia of the current transport business and its understandable reluctance to abandon tried-and-tested solutions. New intermodal solutions must demonstrably be reliable and competitive to road-only transport before forwarders and shippers will consider to 'take the leap'. Obviously, there is an important role for the promotion and development support of intermodal opportunities. Quality information and advice regarding alternatives to road-only transport are needed in order to convince shippers and the transport business of the merits of 'going intermodal'.

Promotion needs to create a greater awareness of intermodal transport solutions and their advantages. It needs to bring customers, transport providers and policy

actors together, and support customers in their evaluation and implementation of integrated intermodal services.¹

1.4 A role for the Shortsea Shipping Promotion Centres?

In line with action 12 of DG TREN's 2003 Programme for the Promotion of Short Sea Shipping (PPSSS), a number of Short Sea Shipping Promotion Centres (SPCs) have been established on a national level across Europe. Since then, some of them have already closed down again because of under-financing.

SPCs are organised within the European Short Sea Shipping Network (ESN) and have been implemented in different ways across member states. Experiences range from success (measured, for example, in tonne kilometres / TKM shifted from road to other modes) to relatively modest effects, sometimes due to national under-funding and under-staffing, in other cases due to a lack of competitive intermodal services or a lack of market actors willing to 'take the leap' that would ensure an economic operation of new intermodal services in the first place.

SPCs as an existing form of organisations could be used as a launch pad for extending the scope of IDCs promotion activities. Concentrating freight flows through well developed MOS ports and intermodal hubs offering multimodal hinterland connections will improve the efficiency and quality of intermodal freight services and in turn, improve the image and the attractiveness of intermodal transport as a whole. Enabling SPCs to promote such intermodal solutions will contribute to a better integrated European transport system.

SPCs would have to extend their remit of promoting SSS solutions and increasingly promote inland logistics chains that are complementary (co-modal) to SSS services. The feasibility of this concept has been yet unproven. Conflicts exist, where SPCs are financed by shipping lines (like e.g. in Italy). Beyond widening the remit of SPCs, the case of land-locked member states such as the member states Hungary, the Czech and the Slovak Republic as well as Austria has also to be considered.

¹ These statements included in the "Communication from the Commission to the Council, The European Parliament, the European Economic and Social Committee and the Committee of Regions, COM (2006) 336 Freight logistics in Europe – key to sustainable mobility, Brussels 2006

1.5 Relevant sources for the study

Several studies have been conducted about the pros and cons of intermodal promotion activities. The role of these studies is outlined below.

The MTCP "Fact-finding and pre-feasibility study on extending the current scope of Shortsea Promotion centres to encompass inland intermodal solutions involving rail and inland waterway transport" has been carried out for DG TREN under co-ordination of SPC Finland. The MTCP pre-feasibility study includes a questionnaire-based survey of European SPCs which is aimed at establishing their technical and financial capability with regard to intermodal promotion. Other intermodal (as well as mono-or bi-modal) promotion centres are surveyed using another questionnaire.

The MTCP "Expert assistance in order to develop the necessary base of knowledge towards creating Intermodal and Shortsea Promotion Centres" involves a regular reporting of activities carried out by European SPCs.

The study "Integrated Services in the Intermodal Chain" (ISIC), commissioned by DG TREN in 2005, proposed a number of measures that, taken together, were expected to facilitate a higher level of integration of the intermodal transport sector, thereby strengthening its market position and competitiveness, and in turn, helping it to gain a higher share of the overall freight transport market. One of the core outputs of the ISIC project was the development of a concept for Intermodal Development Centres (IDCs). This study is to a large extent the basis for this paper.

A blue-print IDC business model accounting for different institutional variants applicable in different political and economic implementation contexts has been developed. This business model is presented in the following chapter. It is meant as a basis for concrete planning and implementation activities.

The IDC business model distinguished *core institutional services* to be offered equitably by all IDCs, and *revenue-generating services* to be offered wherever a commercial potential exists. It was envisaged that a start-up co-funding by the public would give IDCs the leeway to develop revenue-generating services down the line in order to re-cover their costs (at least partially).

Existing promotion centres such as the European Short Sea Shipping Promotion Centres (SPCs) were to some extent taken into account in the ISIC study, by considering co-operation and extension options ("hosted IDCs") alongside cases where an IDC would be set up as a new organisational entity.

1.6 The case for the introduction of Intermodal Development Centres

The weight of the transport market status quo as described above means that decisive changes in transport behaviour will not come from the market alone. Dedicated information, promotion and marketing activities are needed to make decision makers aware of the benefits of intermodal transport in general and of specific transport options. Beyond that, transport decision makers need to be supported by concrete consulting and training activities based on the knowledge of the relevant connections and services and the relevant constraints regarding shippers' transport requirements.

The concept of Intermodal Development Centres (IDCs) puts actors on the map who can play such a role for specific corridors – from platform activities, awareness-raising, promotion and information provision up to specific services assessing intermodal transport alternatives or identifying and removing barriers. Beyond these “institutional services”, IDCs should offer revenue-generating services such as intermodal consulting, training or where equivalent services are not offered by the market.

The definition and implementation of IDCs where there is a demand and an intermodal potential needs initial support by national and regional public authorities. The reason for this is that intermodal transport depends on a service infrastructure that is twice distributed:

- in terms of the diversity of actors involved (hauliers, rail transport operators, rail infrastructure providers, rail services, terminals, shipping lines, etc.)
- in terms of the geographic scope, since long distance transport chains usually span several countries with varying languages, infrastructure and technical systems, legislation and regulations, corporate culture, etc.)

This means that for many corridors and areas, there is no single agent in the market who can understand the range of actors and the geographic scope sufficiently well to meet shippers' and forwarders' information needs when evaluating intermodal transport as a strategic option. For the same reason, the effort and risk that commercial freight forwarders must take in defining and marketing intermodal door-to-door services beyond the well established corridors are high. Even where convincing solutions are feasible, they have to deal with customers' uncertainty, lack of knowledge, and the lack of success stories, and consequently find them reluctant to consider intermodal transport as alternative. IDCs can prepare the ground and create the awareness, the knowledge base, and the reference cases needed to entice shippers and forwarders to 'take the plunge'. Once the new intermodal transport services are established and have shown success, many initially cautious users are set to follow.

1.8 Synergies between IDCs and existing promotional organisations

IDCs are not meant to compete with already existing intermodal promotion and development organisations. In fact, they should actively seek to realise synergies through co-operation and networking. Synergies can range from joint organisation of events and the sharing of resources, results or contacts to the possibility that an existing promotional organisation applies for IDC status. A Short Sea Shipping promotion centre, for example, may extend its scope to cover also land transport in trans-national corridors.

The difference between these existing organisations and the IDC concept can be summarised under a few points:

- Many of the existing organisations restrict themselves to small regions and/or on particular transport modes (e.g. short sea shipping or inland waterways).
- IDCs will reflect an active market interest. In cases where IDCs are set up as Private Public Partnership, business partners act as shareholders, thereby testifying the market relevance of the respective IDC.
- IDCs extend the focus on promotion to offer also intermodal development support, complementing their institutional services with revenue-generating services such as intermodal consulting where these services are not (or not effectively) offered by the market

2 The market for intermodal transport development services

The size of the market of intermodal transport development services is large, but not easily measurable. Set in relation to the strong growth of the market for intermodal transport services, it is certainly large enough to permit the entry of IDCs, focusing on improved, value-added intermodal transport services.

Much of the market for intermodal transport development services is 'hidden'; in the sense that the current market actors provide services to themselves. In effect, the IDCs will be creating a market by specifying services that add value to existing services. In so far as there are some organisations currently providing services externally, e.g. consultants or professional development/training companies, then this a basis for providing complementary services by IDCs, but again delivering added value.

To assess the market demand for intermodal transport development services, it would be necessary to compare transport corridors regarding their actual volumes and their share of truck transports. If it is too high (that is a matter of definition) and minimum requirements of average transport distances and commodities shipped are fulfilled.

Such an analysis shows which corridors have significant demand and good intermodal potential, taking into account both the existing infrastructure as well as planned upgrades. This intermodal potential in turn indicates opportunities for the provision of intermodal transport development services through IDCs.

2.1 Three customer groups

The prospective customers of IDCs may be classified into 3 groups:

(1) Demand side: Users (shippers, freight forwarders, expeditors) Users may be divided into two sub-categories: the shippers themselves or those who operate on their behalf and 'independent' freight forwarders or expeditors. It is these two sub-groups, and particularly the latter group, that IDCs will need to influence if intermodal freight transport is to grow substantially over the next years. This latter group tends to operate with the medium-sized shippers who probably serve between 40% to 50% of the total market for transport services.

(2) Supply side: Transport operators and infrastructure suppliers (intermodal transport operators, infrastructure providers & terminals, again shipping lines, other transport operators, ancillary services such as traction, rolling stock containers etc.) These include a growing sub-group of major intermodal transport operators.

(3) Policy side: Policy makers and administrations. These may be European, national, and regional authorities, administrations and public-equivalent bodies who may be able to influence the market for intermodal transport.

Improving and promoting intermodal transport is a central part of European Transport policy, as set out in the White Paper 'European Transport Policy for 2010 – Time to Decide' published in 2001. Improving and promoting intermodal transport is also a priority item in the agenda of the transport industry. The first European Research Advisory Council for Intermodality (EIRAC) has been established, aiming to produce a Strategic Research Agenda for the Intermodal Sector. One intention is to show how policy-makers and business leaders can work together to achieve key targets in the area of intermodality. However, interesting enough, the whole subject "promotion" did not make it into the revision of the White Paper.

Such various potential customer groups will require differing services, though some of the services – indeed as many as possible to reduce overhead costs – may be able to be provided to all customers. The demand for these services will be difficult to estimate until the IDCs are in operation.

In attempting to meet the demand for cargo transport through the production of “integrated door-to-door, corridor-based transport logistics chain and associated services”, it will be necessary to recognise the alternative market structures present in the transport market. Large shippers on the one hand organise their transport requirements via either own account transport or via specific (normally 3-year) contracts with outside logistics specialists. On the other hand freight forwarder/expeditors (existing freight integrators) cover the organisation of around 50% of freight transport, usually dealing with smaller shippers, though not only the smaller ones.

The organisational options for these two broad sections of the market are likely to be different. Moreover, access and any subsequent recommendations for re-organisation are likely to be difficult to achieve for the large shippers operating on own account or on a contracted out basis.

The importance of organisation is obvious as in general intermodal analysis and operations tend to concentrate on the loading unit used and not on the cargo contained in the unit. However, from the viewpoint of the shipper (see here Procter and Gamble) the cargo matters and may also influence strongly the choice of mode and route, e.g. because of the importance of inventory costs.

Hence, some of the research and consultancy activities performed by the IDC will need to be focused on issues relating to the specificity of the geographical, socio-economic, and market conditions required for optimising the provision of logistics services. This will include, among others issues, the location of distribution and production centres in relation to transshipment points, including ports and rail head facilities.

2.2 Requirements of the three customer groups

In the following, the main requirements of the three customer groups are outlined.

Demand side: Users (shippers, freight forwarders, expeditors)

- Highlight intermodal options. IDCs can highlight alternative intermodal service options present in the transport market, and demonstrate these options to particular shippers and freight forwarders.
- Show efficiency improvements. Forwarders demand efficiency improvements in intermodal transport requiring a better integration of all transport modes participating in the intermodal chain. IDCs will support better efficiency by guiding infrastructure investments, advising on changes to management and information systems, and promote suitable technologies.
- Demonstrate systems integration. For many shippers, Supply Chain Management (SCM) and Enterprise Resource Planning systems (ERP) have become a key competitive factor. These systems often stop short of integrating the outward shipment requirements and procedures. IDCs can help analyse the transport part of SCM and contribute to the definition of requirements for fully integrated systems.
- Provide value-added information services and advanced heuristics. As data availability improves and interoperability is improved, the service opportunities of IDCs are set to improve over time. For example, in the

absence of constantly updated service timetables, heuristic tools for the discovery of intermodal transport opportunities can only generate general suggestions that need to be verified in terms of the existence and fit of actual services. Given the corridor orientation of the IDC, the data to supply is also less complex than on a whole European scale.

Supply side: Operators (transport operators, terminals, infrastructure suppliers)

- Demonstrate demand. By pointing out gaps between demand and supply and by promoting new technological and organisational practices, IDCs can contribute to changes in the transport services offered (for example, by convincing operators to change departure times, frequencies, or capacity to meet a specific demand)
- Contribute to performance benchmarking. IDC research can identify the factors affecting the performance of the transport modes in real and practical terms, investigating the various elements entering in the decision process such as prices and costs, distances, lead times, and quality parameters. This can help transport operators to position their services competitively
- Support infrastructure development. IDCs can identify infrastructure bottlenecks and suggest specific improvements that will improve the quality of intermodal services and in turn, contribute to the “modal shift” by making intermodal transport more attractive. It can help transport and infrastructure suppliers in securing public funding
- Advise the equipment supply industry. IDCs can identify priorities for improving intermodal equipment, leading to targeted use of funding to realise maximum benefit regarding the efficiency of the intermodal transport system supplying industries.

Policy side: Policy makers and administrations

- Support environmental goals. The shift of freight traffic from road to intermodal services would yield significant benefits for the environment and for the community at large. IDCs can identify policy changes that are needed to support the modal shift. IDCs knowledge base should include information on the relative environmental impact of various transport modes, as environmental aspects enter the business strategies of many shippers and will increasingly impact on mode choice decisions. IDCs can aggregate and implement existing surveys of transport environmental impact in their shared knowledge base, such as surveys carried out in the REALISE project or in the RECORDIT project.
- Contribute to infrastructure planning on an international level. IDCs may have an international perspective and can thereby contribute to a better coherence of infrastructure provision across countries. They can also identify infrastructure development priorities, and contribute to infrastructure cost-benefit assessments in a service-focused context.
- Contribute to a better information infrastructure. IDCs can research market requirements for the better integration of the public information infrastructure that impacts on transport, such as River information systems (RIS), Vessel traffic management and information services (VTMIS), or road traffic management systems (TMS). As the voice of the market, IDCs can specify what kind of information from these public systems would be valuable as input to the planning and operational functions of (not only intermodal) Freight Transport Management Systems. It is usually cheaper to move bits than to move bricks.

- Contribute to increased safety and security. There is a need to enhance the safety and security of the entire transport logistics supply chain from the supplier to the consumer. This applies to safety aspects as in the transport of hazardous goods as well as to security aspects such as the protection of cargo against unlawful interventions or theft. IDCs can contribute to a balanced application of safety and security measures. Feedback from the market can be used to identify safety and security weaknesses and suggest remedial actions at the appropriate levels.
- Provide statistics. One of the impediments to a substantial growth of intermodality is the absence of a satisfactory statistical basis, which represent an important market requirement. An information data base hosted by a network of IDCs can contribute to a body of statistics relevant for the assessment of intermodal quality aspects (lead time, delivery performance, damage rate, etc.).
- Create research synergies, such as specific R&D activities and connections to other relevant activities within EU and national programmes.

3 Business models

The general mission of IDCs is accomplished through the provision of its institutional services, which can be divided into five categories:

1. Provide a platform for the actors involved (users, operators, policy makers)
2. Assess the feasibility of intermodal transport services
3. Promote intermodal transport, raise awareness
4. Provide a knowledge base
5. Create information transparency

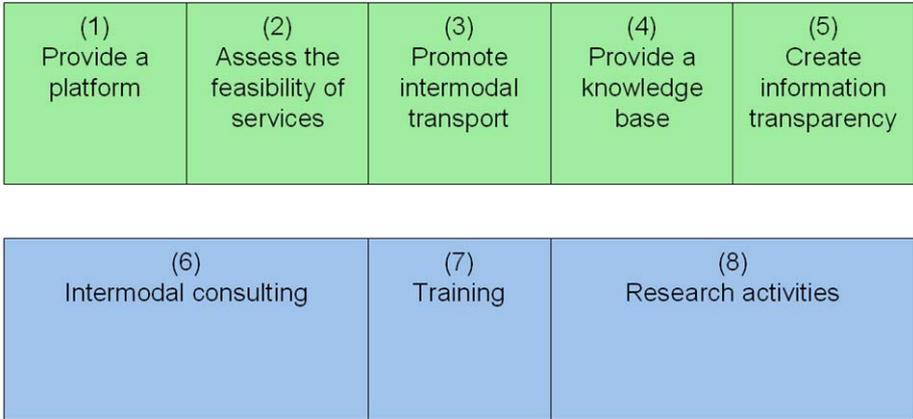
These service categories are explained in more detail below.

Beyond institutional services, IDCs may also offer additional revenue-based services depending on their abilities and levels of staffing. Three revenue-generating service categories have been defined:

6. Intermodal consulting
7. Training
8. Research activities

IDCs are free to define additional revenue-based services in response to the respective demands, as long as these are not in conflict with the provision of IDC institutional services.

Figure 1 Schematic view of IDC institutional services (1–5, green) and revenue-generating services (6–8, blue).



It is clear that all IDC services will need to be customised to local/national contexts and requirements. The establishment of IDCs in the most promising transport corridors, possibly with a strong involvement of the regions where they are located, can generate an initial momentum for accelerating the modal shift and produce new

showcases for intermodal transport, with the aim to use this momentum and exploit these showcases to entice other actors to follow.

3.1 Institutional services

3.1.1 Provide a platform for the actors involved (users, operators, policy makers)

The category of platform services relate to all activities that are aimed at bringing the different actors (supply side, demand side, public bodies, research, interest groups) together to generate fruitful discussions and afford informal contacts that can stimulate new co-operation activities, such as projects for better service integration, better information exchange, joint ventures, or joint marketing schemes. The validation process with a range of stakeholders with in ISIC project has indicated that this is probably the most important of all institutional services.

Useful platform tools are:

- Round table discussions (around common political, strategic and research interests)
- Technical/organisational workshops
- Think-tank – production and knowledge sharing (brainstorming)
- Networking and liaising with existing initiatives – be a networking partner
- Web-based community tools (discussion forums, mailing lists, weblogs, etc)

Target groups that will be invited to platform activities are Public and private stakeholders in intermodal transport infrastructure as well as representatives of transport supply and demand.

3.1.2 Assess the feasibility of intermodal transport services

This second service category covers activities for evaluating the feasibility of intermodal options in specific corridor(s), leading to the identification of gaps and opportunities. Based on this knowledge, IDCs can then approach the relevant users, intermodal operators and policy actors in order to discuss and initiate specific intermodal services. Such a 'feasibility service' can involve a range of specific activities:

- Support users' transport strategies and modal choice decision making on the background of the collected intermodal knowledge. This activity may lead to the promotion of specific demonstrators as described in the next service category, and also, to revenue-generating services such as intermodal consulting.
- Contribute to corridor infrastructure planning through the communication of requirements from demand and supply sides and the identification of physical and information barriers and bottlenecks. This activity will often be informed by revenue-
- Advise users on intermodal quality levels, interoperability standards, and supporting technologies relevant for their operation. This may involve site visits and status quo investigations, interviews, desk research etc., and will provide input for the more specific services listed below.

3.1.3 Promote intermodal transport, raise awareness

This service category falls into (1) Promote freight integration concepts on dedicated corridors, and (2) Raise awareness.

(1) Promote freight integration concepts on dedicated corridors. IDC can stimulate communication between different transport users and providers in different modes who organise their cargo flow individually. IDCs can stimulate Demonstrators/pilots on specific inland corridors by bringing together public stakeholders and market players. IDC can assist in the process of deciding how such a pilot project can be developed, assisting the core of the consortium with the evaluation of the pilot, and assisting the consortium by contacting a possible commercial exploitation group. Concrete pilots could be for example: transport of trailers by train from A to B, establishment of a pool of intermodal equipment, development of mutual IT systems/databases, supporting the idea of launching a one-stop-shop marketing department for specific services, etc. Such pilot projects with various competitors 'in one boat' probably need a neutral co-ordination and support function at least for contract negotiations, price agreements and marketing/product brand issues.

(2) Raise awareness. On a more general level, IDCs should use promotion tools to make potential customers aware of intermodal transport and its benefits and inform about the "state of the art" of intermodal transport (e.g. www.intermodal-events.com, member of EIA). Promotion tools for this are:

- Targeted information events and seminars
- Promotion via print media (dedicated brochures, leaflets, case reports)
- Promotion via own online media, for example, on via opt-in mailing lists, the IDC website
- Effective public relations by launching articles and press releases via established print and online publications and news channels
- Presentations (talks and poster sessions) of intermodal concepts, success cases or research at trade meetings, fairs and conferences
- Participation in panel discussions at conferences
- Networking with to relevant trade associations, policy actors, and interest groups

3.1.4 Provide a knowledge base

To support IDC promotion, training and consulting activities, a detailed and up-to-date knowledge base about the transport market, the technical infrastructure, and issues in specific corridors is regarded as necessary.

The monitoring of the market will be a significant activity that will accumulate as a knowledge base. Monitoring will be based on the collection of market-relevant information, but also its elaboration and analysis.

Relevant aspects for monitoring are:

- traffic and modal split, also by the elaboration of indicators that allow comparisons and benchmarking between the services
- best practices at each level of the field of intermodal transport: initiatives and agreements between operators; solutions implemented by single "integrator" operators

- policy measures and regulations and their impact, for example, impact of toll systems or safety and security regulations
- infrastructure management and planning: IDCs can play the role of an “observatory” for the monitoring of the infrastructural planning and of its actual realisation
- barriers and bottlenecks: pinpoint weaknesses of the corridor, in terms of both the behaviour of operators/actors/regulators, and physical (infrastructural/technical) limits
- feedback from the transport community (linked to the “Platform” activities): enquiries and analysis of preferences of different actors

The knowledge base of individual IDCs will include

- Background papers, market assessments, forecasts and analyses
- Transport statistics at the corridor level concerning all the modes of transport
- (Pointers to) the relevant EU and national regulations;
- Documentation of best practice cases, press releases, etc
- A repository of promotion and training material that may be re-used / adapted across IDCs

Some elements are likely to be kept offline to be used at IDCs' discretion in individual cases, under observance of specific restrictions and confidentiality requirements. This would apply to documentation on contacts, interviews and expertise exchange with the partners or members of the IDC.

3.1.5 Create information transparency

Information transparency is critical in all feasibility assessments of intermodal transport undertaken by shippers or forwarders. IDCs should collect supply side information relevant for intermodal transport in their specific corridor. In covering the entire corridor, they may co-operate with other IDCs or other actors based in other countries.

For this, co-operation with operators and wherever possible, subscription or syndication solutions to retrieve timetable and other relevant data directly at the source shall be established. Information is needed on

- transport operators (possibly including performance metrics)
- terminals and infrastructure providers
- other ancillary services contributing to the functioning of intermodal transport

The information database shall support the mode choice decision making process.

3.2 Revenue-based services

The provision of revenue-based services will often grow out of the institutional services. There are many possible interrelationships between both service types. Often, the difference is one of effort and depth. All activities, revenue-based and institutional, contribute to the growth of the knowledge base.

3.2.1 Intermodal consulting

Intermodal consulting may follow from feasibility analyses (service category 2) or the promotion and support of intermodal demonstrators (service category 3), covering selected services in more detail and providing specific support to users or operators. The following list is merely indicative:

- Benchmark transport alternatives. A benchmarking system gives a more systematic insight in the current efficiency of the transport. It raises the cost conscience of the shipper and gives insight in the competitive position of the carrier. For shippers, the quality of the transport (lead time, punctuality, state and completeness of cargo, flexibility regarding time and capacity, etc.) is as important as the cost – sometimes even more important.
- Apply and advise on intermodal transport co-ordination tools and heuristic tools for route-searching. This would entail licensing and operation of model-based planning tools, possibly on an ASP basis. In an advanced commercial IDC context, such tools might back up consultancy activities and may be marketed to intermodal operators or large shippers' in-house logistics departments. IDCs may assume customisation, training and support functions.
- Support users in defining transport requirements, tender documents or contracts, including the definition of legal, administrative and commercial targets, e.g. in defining service level agreements
- Support users in the evaluation of commercial offers and proposals against requirements identified (including functional and technical aspects as well as human factors)

3.2.2 Training

The education and training services performed by IDCs may include to

- take into account the present existence and characteristics of training institutes and branch organisations;
- be outlined according to a modular scheme.

In an educational context, basic training modules are needed, supported by adequate documentation (slide shows, computer-based training, and online tutorials). IDCs should liaise with educational institutions offering logistics and SCM courses to ensure that intermodal transport is fully reflected in future curricula.

IDCs with a slim organisation may not be able to carry out extensive training activities. However, they can act as brokers, pointing customers to training services by other organisations.

An opportunity exists to develop training concepts together with partners, for example, with IDCs at the other side of a European corridor. This will allow addressing intercultural differences and lead to better understanding of specific national legacies. It can help define commonly agreed procedures and arrangements in cases where different organisational or technical regimes need to be brought in line in order to create a seamless intermodal transport service.

3.2.3 Research activities

IDCs may participate in publicly or privately funded research activities, for example, in research and development projects funded by national or EU programmes. Private companies may commission market surveys or technical state-of-the-art reviews.

The contribution of IDCs to research will be valuable since they act as an interface between the supply and demand side of the market and policy makers. Their closeness to the market will often open doors and simplify and shorten the capture of user requirements needed in RTD activities. It is a common experience in research that commercial actors often do not have the time or the skills to reflect on their practices or to formulate their problems or requirements in a structured manner. Research projects involving IDCs could help to fill this gap.

3.3 Potential stakeholders in an IDC (members, shareholders or hosting organisations)

IDC founders will usually have a network of contacts to relevant stakeholders, such as organisations and regional authorities. They will need the support (ranging from letters of support to co-funding commitments) from these stakeholders. These stakeholders may become hosting organisations for IDCs. The following paragraphs indicate typical advantages and disadvantages of co-operation with a range of stakeholders.

- National or regional authorities. The backing by existing structures within public bodies could lead to an easy and fast solution. However, this may entail a strong political influence and not enough independence. Regional and national politicians must be held accountable for their contribution towards intermodal transport, and this might be easier to achieve from a non-governmental organization.
- Regional development agencies. This option would have the advantage that many regional target groups are already used to working together. The biggest disadvantage could be that transport and traffic are only one of many topics. If it is possible to bring transport and traffic on the top of the agenda, this could potentially be a good partner.
- Chambers of commerce. Chambers of commerce integrate a broad range of different interest groups and may have good facilities for meetings and training activities. As with regional development centres, there is a risk that transport and traffic issues will not get the highest attention. The co-operation of the intermodal promotion centre MCA Stichting in Flanders with the Chamber of Commerce is a successful example.
- Associations related to the transport and logistics sector. These associations often have very good specific know-how and a good network of contacts in the transport and logistics sector. Conferences, exhibitions, round tables etc. there is a high possibility to foster intermodal transport issues. The disadvantage will be that it is hard to find an association which is not specialized in only parts of the intermodal transport.
- Short sea shipping Promotion Centres (SPCs). SPCs are established bodies used to promoting a specific variant of intermodal transport with strong support from the EU Commission. Resources, competence, network and locations will in most cases only be adjusted to short sea transport, but may be extended to cover other modes. Therefore, an SPC may grow into an IDC.
- Universities/ polytechnics specialised in transport and logistics. These existing institutions have infrastructure, good know-how, high credibility, neutrality and network contacts. Many will have an interest in promoting intermodal transport from a scientific standpoint and in carrying out projects to support education by practical experience to fund research and to increase network. Financial structures and dependency on governmental influence need to be analysed case by case.
- Transport and logistics consultancies. These organisations often have a good know how and good market contacts. They evidently take a strong interest in hosting IDCs since this will create spill-over effects and can lead

to the acquisition of new business. However, other stakeholders may doubt their neutrality.

3.4 The hosted IDC

Two main models of individual IDC (hosted IDC and stand-alone IDC) are defined below. The stand-alone variant is again divided into a public (public-equivalent) IDC operated as membership association, and an IDC operated by a Public-Private Partnership (PPP).

A further possible model, in which the IDC is set up and operated by a private commercial company, is not considered here, as it is more realistic to assume that a private company interested in setting up an IDC function would prefer the “hosted” model as described below. The validation activity had revealed that most respondents do not believe in the revenue potential of the core institutional services. The commercial attractiveness of an IDC obliged to offer the institutional services is therefore low.

It is furthermore proven that any of the discussed IDC set-ups will experience economic difficulties if funding runs short.

The model implies the existence of an institution, either private or public, PPP, or trade association, with the following characteristics:

- Ability to provide the core institutional services (platform function, implementation support, promotion, etc.)
- Demonstration of independence from commercial interests that may hinder the transparent and non-discriminatory provision of IDC core institutional services or damage the IDCs reputation and standing as neutral actor

3.4.1 The financing challenge

Even if hosted by a hosting entity, the IDC should have its own legal status, i.e. being registered in the respective commercial registries, issuing its own balance sheet and income statement.

Operational costs are then shared with the hosting organisation:

- Office depreciation and maintenance are covered by the hosting organisation;
- Consumption costs (hardware usage, energy, etc.) are entitled to the IDC on a consumption basis. This cost category includes costs for promotional activities (e.g. brochure and leaflet printing, services to design and implement the IDC's web-
- Personnel costs are borne by the hosting organisation, which issues invoices to the IDC for the man-time employed by its employees/professionals for IDC purposes.

The “hosted IDC” has to provide all non-profit “institutional activities”. Beyond these it can offer “revenue-based services”. The IDC hosting activity itself can be considered as “institutional service”, the costs of which are covered by the IDC budget according to the respective business plan.

The opportunities to provide revenue-generating services largely depend on the strategic approach fit to the local context. IDCs will be aware that their integrity and

ability to fulfil their mission depends on their neutrality. They therefore have to assess whether any revenue-generating services such as intermodal consulting could constitute unfair competition in their respective market and negatively influence their perception as a “neutral” player, undermining the efficacy of institutional activities.

The cost structure of the Hosted IDC variant is described below:

- Rent of the office: no cost (cost is borne by the hosting entity)
- Depreciation of ICT equipment: only the costs for the equipment which is specifically committed to the IDC activities are borne by the IDC itself (some €1.500); mostly, this cost item is borne by the hosting entity)
- Consumables: costs for generic consumables are borne by the hosting entity. For consumables utilised for the IDC own promotion (pointed out as “printing” and “web presence”), costs are born by the IDC. Such costs are higher in the first year (some €14.000) and are halved in the following years
- Licenses and Third party services: similarly to the ICT equipment, such costs are borne by the IDC itself for a small part (€2.000 in the benchmark year) and mostly by the hosting entity
- The General Manager is paid by the IDC according to the respective work-time which is assumed to amount to 30%; this percentage grows to 50% after the termination of public funding
- All other personnel costs are shared with the hosting entity and therefore amount to 50% of the respective costs in the stand-alone option. Only the cost of interns has been assumed as 200% of the stand-alone option, in order to represent a probable higher employment of interns. This is due to the lower budget of hosted-IDCs which may suggest the employment of staff earning a lower wage

As for the **incomes**, besides the phasing out path of public funding previously defined, it is assumed that other forms of public funding (National/Regional) are fixed over the years. Membership fees from interested players follow an increasing trend (steeper after the third year) but never overcome 20% of total costs.

Figure 2 Hosted IDC (MIN scenario): income items

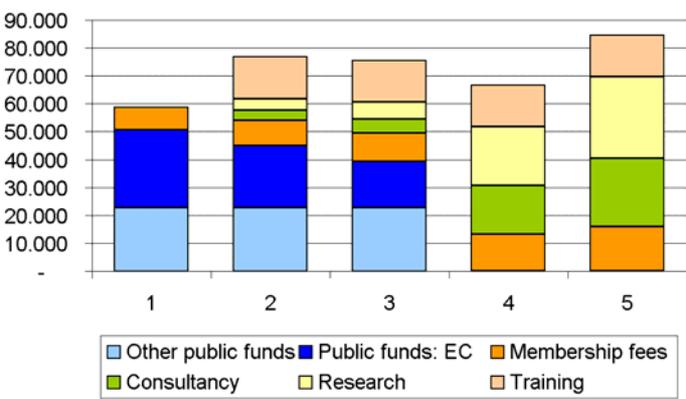


Figure 3 Hosted IDC (MIN scenario): cash flows

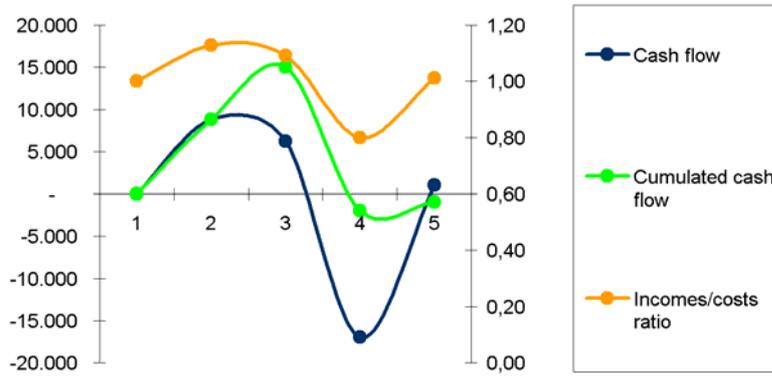


Table 1 Hosted IDC (MAX scenario)

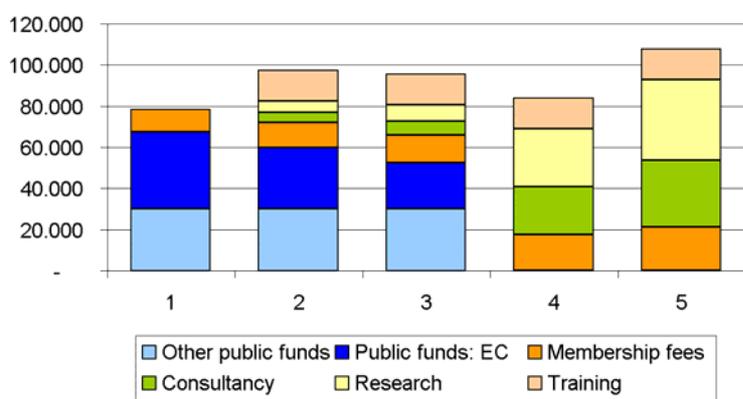
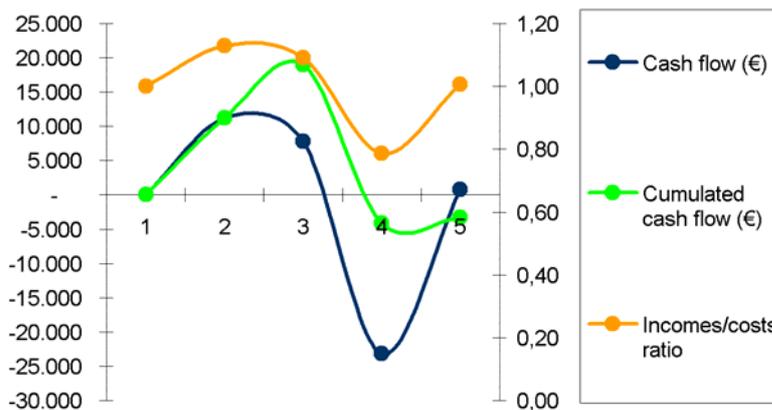


Figure 4: Hosted IDC (MAX scenario): cash flows



Let alone the differences of the amounts between MIN and MAX scenarios, the results shown by the charts basically describe a common development over the considered period for the Hosted IDC.

At the end of the start-up (public funding) period, for this variant of IDC, the need to resort to different forms of income is obvious, as shown by the fact that the cumulated cash flow drops below zero. Consultancy and Research become more significant in the income share: revenue-based activities generate an income of € 26.000 (MIN scenario) and € 29.667 (MAX) in the benchmark year. Afterwards, consultancy and research activities has to grow remarkably (the step is in year 4 with an increase of 250%, whereas the growth during year 5 is of 40%), as a consequence of the decrease of work-time committed to institutional activities.

The incomes/costs ratio, equal to 1 in the first year by hypothesis, increases at first thanks to the start of revenue-based activities. After the termination of public funding, the incomes/costs ratio dramatically decreases, but in year 5 it may improve, thanks to the momentum gained by the efficiency of the now prominent revenue-based activities. The cumulated cash flow at year 5 is slightly below zero, but at that point in time the trend is towards self-sustainability (cash flow is positive).

3.5 The stand-alone IDC

The model of stand-alone IDC implies the initiative of a public entity, or PPP, aimed at establishing a new legal entity (company or association) with the objective to perform the core institutional IDC services as well as additional revenue-generating services. Both political and commercial potential will be needed to justify this option.

The partly-commercial role of the IDC makes the business model similar to those of logistic competence centres or regional development agencies. In particular market scenarios, and in a desirable situation, IDCs may have reached their goal of promotion of intermodal transport, so that the importance of IDC institutional services may diminish after a significant (3 to 5 year) period.

In some cases, the operation of a stand-alone IDC may lead to a situation where it provides a significant amount of revenue-generating services. The development of the intermodal market in the respective corridor and growth of competing service providers can lead to a situation where a market-neutral operation of the IDC can no longer be maintained.

3.5.1 The stand-alone IDC as Public Association

The simplest possibility to establish a stand-alone IDC consists in a public association. In this model, the IDC initial capital is provided by public entities (National and Regional Government, other local entities) and the status of the IDC would be that of a **Public Equivalent Body**. According to a general definition by the European Union, a Public Equivalent Body is

- established for the specific purpose of meeting needs in the general interest, not having an industrial or commercial character
- has legal personality
- is either financed, for the most part, by the State, or regional or local authorities, or other bodies governed by public law, or subject to management supervision by those bodies, or having an administrative, managerial or supervisory board, more than half of whose members are appointed by the State, regional or local authorities or by other bodies governed by public law.

In particular, the Stand-alone “Public” IDC meets the latter element in that it is financed for the most part by public funds. Required is to fund the start-up phase, guaranteeing a part of the budget, which can be:

- Either determined on a phasing-out path (e.g. 50% the first year, 40% the second, etc.), to be stated in the public evidence procedure;
- Or stated by the applicant entity on a fixed rate,
- Or computed as the 50% of the total cost sum over the first three years.

It is worth underscoring that these are only some of the possible options of the funding scheme by the public, pointed out in order to define a set of hypotheses from which to choose a guideline for the outline of the financial projections.

In any case, the grant has to be assigned for a start-up period only, in order to give the IDC association the responsibility to cover a growing share of its budget through revenues.

This model implies a higher financial responsibility (according to the National trade regulatory frameworks) of public entities involved, appointed to take the risk of losses caused by occasional lack of subscriptions or of commercial revenues.

The involvement of private parties consists in signing association agreements. Three options are possible within the “public” model:

- Association without annual fees for membership partners;
- Association with different status of partnership, and level of fees differentiated among categories (e.g. low for Universities, research centres and individuals, higher for private companies, highest for “supporting members”);
- Association with fixed fees for every partner

As the “public” model does not imply a fixed involvement of private partners in the capital asset, it favours the development of synergies with existing organisations, such as Universities, Regional Development Centres, Research Centres, Chambers of Commerce and industrial associations. The target of associates is then enlarged to a wider audience, including partners not wishing to lock up financial assets but interested in the participation in one or more activities of the IDC.

The services offered by the “public” IDC are those included in the list of “core institutional services”, and additional revenue-based activities such as intermodal consulting, training, or research activities, including participation in nationally or EU-funded RTD projects.

As the vision of the IDC highlights its nature of “neutral” player, the existence of private associates taking part in the logistics and transport chain (e.g. Supply chain associations, forwarders, logistics operators, road hauliers, etc.) must not compromise the free competition and should not bias the position of the IDC in documents and consultancies.

In this respect, the neutrality can be ensured if any associate can benefit from preferential terms and discounts on revenue-based services provided by the IDC. This attitude would prevent interference and/or lobbying attitudes in the institutional services of the IDC.

This type of discount structure is in some cases called a “logistics voucher”, by which private partners of the IDC (or Logistics Competence Centre) can purchase intermodal consultancies from the IDC on a commercial basis, although at a rate lower than market prices. This advantage is only referred to revenue-based activities, and it helps in justifying the payment of an annual association fee. Nevertheless, the access to institutional services is ensured on equal basis to all actors, either associates or not.

3.5.2 The stand-alone IDC as Public-Private Partnership (PPP)

The second option for a stand-alone IDC shifts its nature closer to a **private company**, or, more realistically, a **public-private partnership (PPP)**. The capital is provided by public entities (National and Regional Government, local entities) and private partners. Besides Public Authorities and public or semi-public institutions such as Chambers of Commerce or Regional Development Agencies, the panel of possible shareholders covers all the list of actors possibly involved in logistics and transport chain, and other parties interested in benefiting from IDC services:

- Shippers
- Freight forwarders
- Intermodal operators
- Other transport operators
- Transport infrastructure providers
- Training institutions (e.g., public universities' logistics courses or private training organisations)

The role of the public sector would be the funding the start-up phase, guaranteeing a part of the budget.

This model implies the same financial responsibility for all shareholders involved, either public or private, appointed to take the risk of losses caused by insufficient income from revenue-generating activities. Being established with the nature of a company, in fact, shareholders are in charge of the loss recovery.

For the same reason, the PPP-model does not foresee the existence of “members”: private companies, associations and other entities can only participate in the IDC by purchasing shares, of course with limited responsibilities in decision-making, proportional to the shares owned.

The key issue of the model concerns the involvement of private actors, which is only likely if the IDC can convince shareholders that it will achieve self-sustainability after the start-up period (e.g., after 3 years). Otherwise the business plan of the IDC has to show the requirement of a decreasing amount of loss recovery after the “public-funded” period. Nevertheless, the public funding usually keeps coming from the public shareholders which, usually owning the majority of capital shares, bear the largest amount of loss recovery.

In this respect, the neutrality can be ensured if shareholders benefit of financial discounts in accessing revenue-based services provided by the IDC, while institutional services are, as in the “public” model, accessible on an equal basis to all actors. The trade-off for private parties is between:

- benefiting from discounts in purchasing revenue-based services, and “labelling” themselves of the participation in a “sustainable-transport-friendly” initiative;
- sharing in the financial risk of the company.

In order to safeguard the non-profit character of the IDC, the contract with the supporting public authority may define that any surplus made by the IDC through revenue-generating services is re-invested in improving the institutional services of the support infrastructure used by these services, at least as long the IDC still receives public funding.

The “loss recovery path” may be mapped out and agreed upon among potential partners before the establishment of joint company, or determined at the annual General Assembly approving the balance sheet.

The permanence of a loss recovery rate, even after the start-up period, is often required by public and private shareholders of agencies which can be considered benchmarks for the IDC. This is accepted in order to prevent possible competition between the shareholders and the IDC itself on some commercial activities (e.g. transport economics consultancy, which is often performed by industrial association spin-offs).

3.5.3 The financing challenge

Operational costs are directly borne by the IDC. The inclusion of office depreciation, maintenance and consumption costs makes a balance requirement of about 180.000-240.000 €/ year in the PPP solution.

This amount is subject to a range because of two elements:

1. the IDC geographical location which can affect the average costs, and
2. the panel of activities performed, since this influences the fixed asset investments necessary for performing them, for example:
 - GIS software in order to provide geo-referenced information
 - Model-based transportation planning software
 - Hardware and software for a relevant web presence.

This IDC variant has the legal status of “Public Equivalent Body” and functions as an “association”. Therefore the public funding has been assumed to be constant (50% of the benchmark yearly costs) through the 3 years: in this way, the IDC is allowed to develop over the start-up period and to consequently increase the share of income deriving from association fees.

Other public funds are subject to a cap of € 93.000 (€ 70.000 in the MIN scenario) in the first 3 years, and of € 113.000 (€ 85.000 in the MIN scenario) for the following years, when public funding has terminated. Association fees follow the same growth trend as the membership fees in the Hosted model.

Besides this, the differences versus the Hosted solution consist of:

- A fixed rent cost borne by the IDC of € 20.000 per year;
- Higher ICT equipment and Licence and Third Party Services costs;
- Higher costs for consumables, both generic and for own promotion (€ 18.667 in the first year,);
- All personnel is full-time, so that its costs are wholly borne by IDC, amounting in the benchmark year to some € 127.000 to € 170.000 in the MAX; there is a minor utilisation of interns compared to the Hosted model.

Figure 5: Stand-alone "Public" IDC (MIN scenario): income items

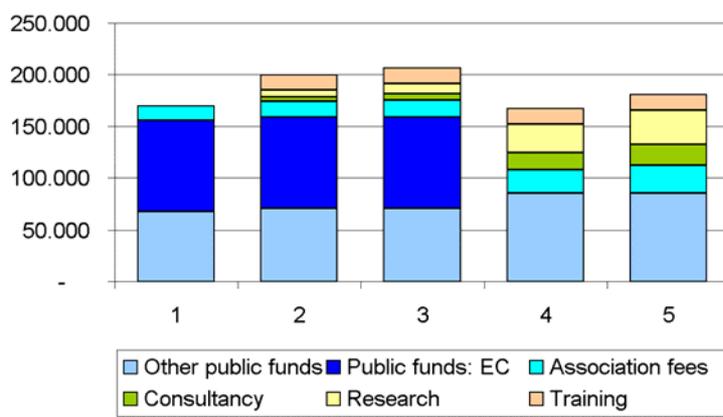


Figure 6 Stand-alone "Public" IDC (MIN scenario): cash flows

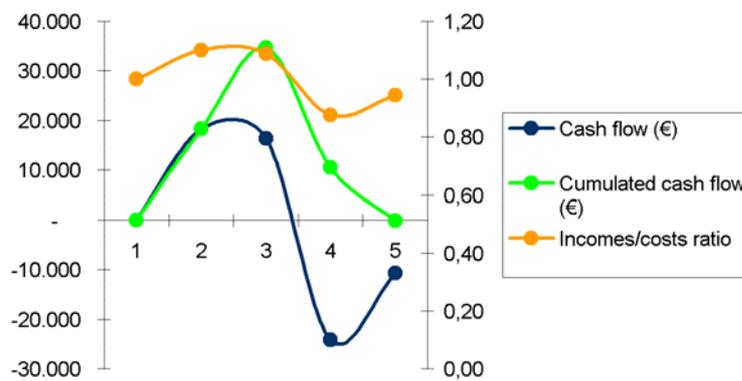


Figure 7: Stand-alone “Public” IDC (MAX scenario): income items

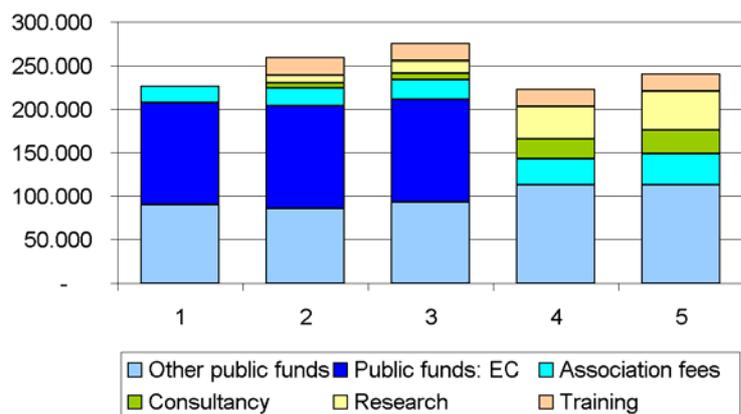
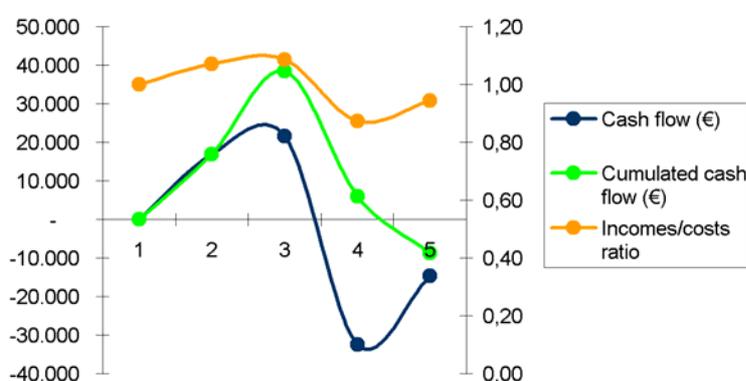


Figure 8 Stand-alone “Public” IDC (MAX scenario): cash flows



In this model also, MIN and MAX scenario do not differ but for the overall amounts, whereas trends and ratios are similar.

As the charts show, the “public equivalent” nature of this model, reflected by the permanent public funding, reduces the requirement of revenue-based activities in order to let the IDC move towards self-sustainability even after the funding has expired. The increase of Consultancy and Research activities after the 3rd year is still relevant, but at lower rates than the Hosted solution: 180% during the 4th year, 20% during the 5th. With these rates, after five years the cumulated cash flow is negative (- 14.639 Euro), but the incomes/costs ratio (which is never higher than 1,09) is in a growing path (0,87 in year 4, 0,94 in year five).

3.5.4 The stand-alone “PPP” IDC

The Stand-alone “Public-Private Partnership” IDC model entails the existence of shareholders, both public and private, which:

- input an initial amount of capital assets (some € 83.000 to € 111.000);
- are required to cover losses, if any.

The public funding in this case is assumed to follow the “phasing out” path (according to the common assumptions: 50%-40%-30% and then expires).

Given the existence of the “loss recovery” item among the income figures, which by definition make the cash flow null in each year, charts reporting such result (as well as the income/cost ratio which is always equal to 1) are not significant.

Figure 9 Stand-alone “PPP” IDC (MIN scenario): income items

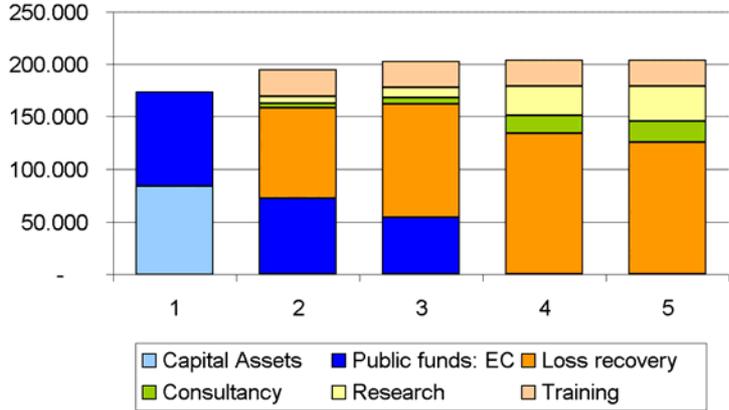
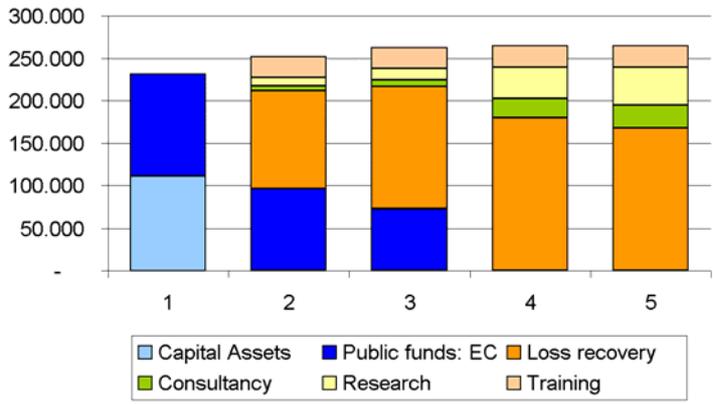


Figure 10 Stand-alone “PPP” IDC (MAX scenario): income items



Equally for the MIN and the MAX scenario, the loss recovery item follows a similar path to that of the National/Regional public funding in the “Public” model. Given the same growth rates for the incomes from revenue-based activities, at first loss recovery grows – as public funds decrease – and then becomes lower in the 5th year, as the revenue-based activities gain momentum and generate a higher share of income.

3.5.5 Conclusions regarding institutional options

Individual IDC business plans were built in order to demonstrate that sufficient co-funding and revenues will allow a sustainable operation beyond start-up funding.

The possible models for implementing IDCs are numerous. In order to give an outline of the most significant variants, the following table outlines the main indicators calculated for the three main models, in the “maximum” cost/income scenario.

The Hosted solution turns up to be the one that mostly relies on revenue-based activities, therefore on the efficiency of the personnel and of its own work, as the hypothesis of growing performance in providing such activities also depends on the outcome of institutional activities such as the creation and maintenance of a knowledge base. The fact that the cost structure is very slim influences the cash flow (income/cost ratio has its peak in this model) and labour productivity, since most personnel costs are borne by the hosting entity.

The difference between the two variants of the Stand-alone model basically lies in the fact that, whereas loss recovery is due and theoretically without an upper limit, the amount of public funding is subject to a gap.

It is necessary to bear in mind that the financial projections have been made for general “European” cases, with a general range of incomes and costs ratios. A more detailed analysis should be carried out to inform parameters in the IDC tender requirements, for example:

- Assess the potential for service sales across European corridors and regions, which will be related to the maturity of the intermodal market in the respective corridors;
- Assess the differences in labour costs and productivity across EU Member States, in order to derive a more detailed list of maximum affordable public grants per country;
- Assess the differences in trade and commercial legislation throughout Europe, as far as they can affect the possibility to establish one or more “blueprint models” of IDC.

4 Overall conclusions and outlook

- The situation as it is today sees a limited number of regional initiatives which could be branded as IDC. These activities are very different from each other.
- There is no co-ordination activity happening. However, for the SPCs an umbrella organisation exists.
- Most of the existing IDC institutions and the SPCs face under-financing problems.
- Although sometimes mentioned in their official communications, promotion of intermodal transport as an action plan activity is somewhat off the agenda at the European Commission. The Commission was not willing to support any new structures of IDCs on a European level in 2006. With regional activities the Commission is not concerned. The Commission favours rather to support the existing structure of the SPCs.
- However the only SPCs which are well financed are financed by shipping lines, which will not support any information on competing modes like rail.
- It is rather unlikely that IDCs will be able to survive economically without constant public funding.
- The impact of IDCs onto the modal split is yet unproven.
- The feedback given on the results of the ISIC study (Integrated Services in the Intermodal Chain) has demonstrated that the development of 'neutral' intermodal promotion and development centres, while welcomed by many, is also opposed by some market actors who fear undue interference with the market mechanism and a distortion of competition in favour of rail, inland waterways and short sea shipping. Most opposition came from the side of the forwarders.