

# Supply Chain Perspectives

VOL 12 ISSUE 2 2011

**LOGISTICS STRATEGY AND PRACTICAL IMPLEMENTATION**

**RAIL FREIGHT IN THE REPUBLIC OF IRELAND**

**INNOVATION AND UTILISATION: A BREAKTHROUGH OPPORTUNITY FOR  
IRELAND'S ROAD TRANSPORT INFRASTRUCTURE , PART 2**

## EXCELLENCE IN TRANSPORT AND LOGISTICS

## Upcoming NITL Learning Modules

All modules are part of NITL's Masters Programmes (which lead to the award of an M.Sc.). However, all modules are self-contained and may be taken as one-off short courses. They provide an ideal vehicle for updating knowledge, skills and competencies in the areas in question. **For further information or to register for any module contact Antonio at [adelinares@dit.ie](mailto:adelinares@dit.ie) or (01) 4024023.** Each module runs as follows: Thursday (1830 – 2100); Friday (0830-1730); and, Saturday (0830-1600).

### Executive Masters Modules in Supply Chain Management March to June 2012

#### Dublin

**Introduction to Supply Chain** 1st– 3rd & 8th –10th March

**Managing People** 22nd– 24th & 29th –31st March

**Business Strategy** 12th– 14th & 19th –21st April

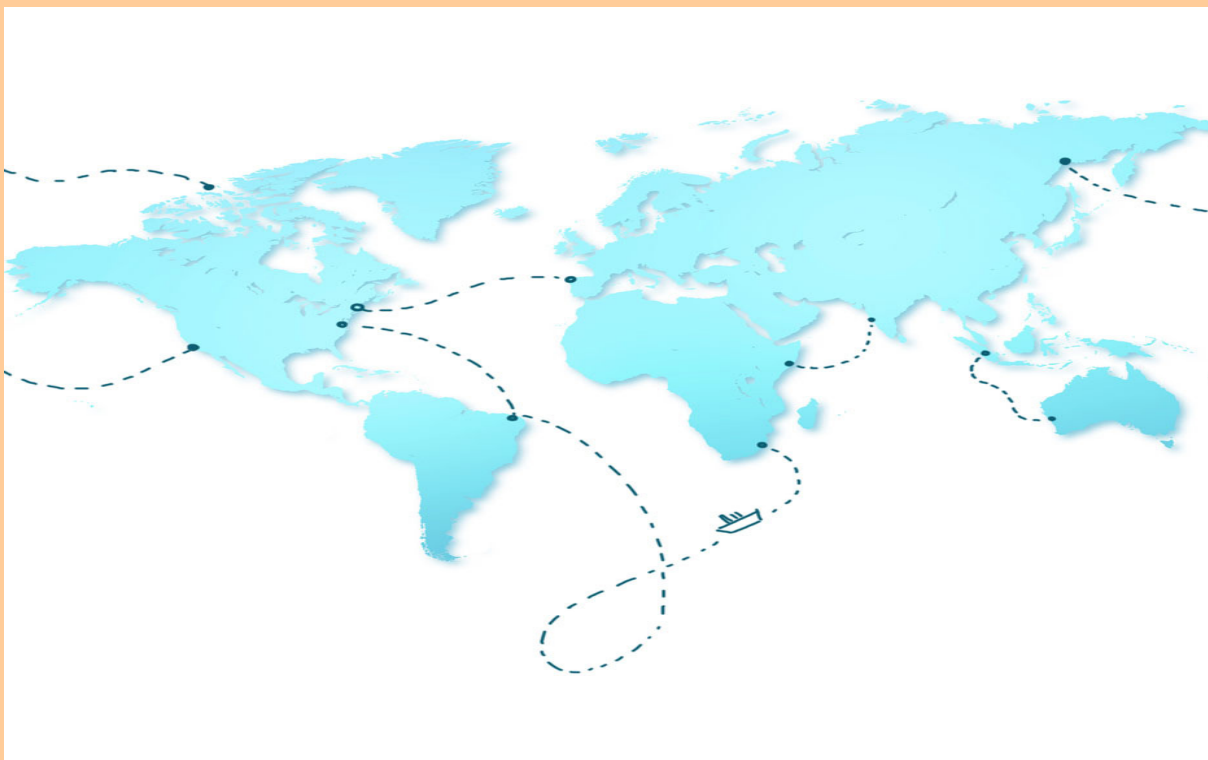
**International Supply Chain Design** 17th– 19th & 24th –26th May

**Purchasing** 21st– 23rd & 28th –30th June

#### Cork

**Sustainable Supply Chain Design and Operations** 22nd– 24th & 29th –31st March

**Change Management** 22nd– 24th & 29th –31st March



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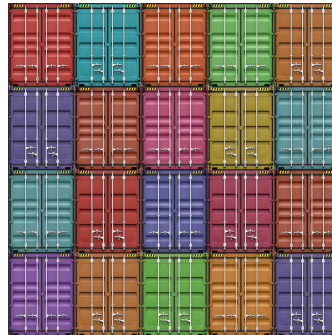
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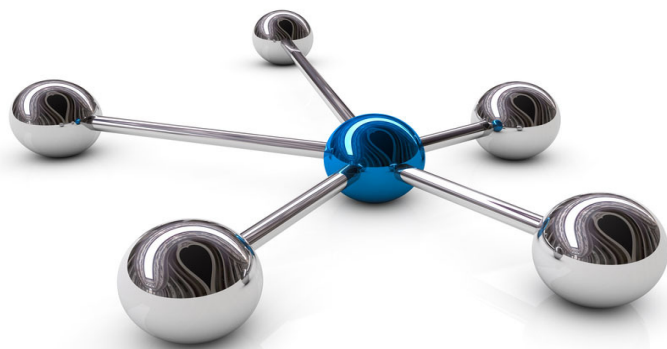
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ISSN: 2009-2342  
Vol 12 Issue 2

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**W**elcome to *Supply Chain Perspectives* Volume 12, Issue 2.

It is well documented that transport and logistics activities are vital cogs in the economic recovery wheel. Ireland's recovery will depend on our success in competitive export markets. The open nature of our economy, combined with our relative geographical peripherality, means that logistical excellence is imperative as we attempt to recover from the volatility that has been a characteristic of recent years. This Issue of *Supply Chain Perspectives* focuses on a number of key components that form important parts of this.

Part 2 of Joe Reynolds article presents some challenging policy issues from a road freight perspective. Given that the great bulk of product is transported by road on this island fresh thinking is important if further efficiencies and improved effectiveness are to be achieved. Juan Carlos Carrasco Giménez provides an overview of the current state of play in relation to rail freight. This mode has the potential to make a positive impact from an environmental point of view and new thinking is vital if its potential is to be realised in practice. It is important not to view transport as an entity in isolation from wider strategic and supply chain considerations. Patrick Daly's article provides some useful insights into the practical implementation of logistics strategy.

In addition to these feature articles, we present our usual review of useful websites, as well as news from NITL and the wider Irish and international logistics and supply chain community. There are many interesting events taking place over the coming months, notably *Supply Chain 2012*, *Logistics Ireland 2012* @ the easyFairs CityWest exhibition and the annual IPSERA conference (to be held in Naples this year). This Issue has information about each of these.

It has been a busy 2011/12 for NITL so far and we're delighted to report that 2011 saw the biggest intake to date to our SCM postgraduate programmes. This augers well for the future and will help us to tap into new opportunities as recovery in the global economy takes hold.

Your NITL Team

## SUPPLY CHAIN MANAGEMENT FORUM

A Review of Developments at NITL and the World of SCM

### NITL Launches Knowledge Base

NITL is delighted to announce the launch of the Knowledge Base component of its website @ [www.nitl.ie/Knowledge\\_Base\\_Database/Default.67.html](http://www.nitl.ie/Knowledge_Base_Database/Default.67.html)

This Knowledge Base has been developed over recent months as part of the wider DIT repository known as ARROW@DIT (see [www.arrow.dit.ie/](http://www.arrow.dit.ie/)). ARROW (Archiving Research Resources on the Web) is a digital collection of research publications produced by researchers at DIT. The term publication is used in the broadest sense as to encompass all forms of scholarly communication. Institutional Repositories (IRs) such as ARROW bring together all of a University's research under one umbrella, with an aim to preserve and provide access to that research. IRs are an excellent vehicle for working papers or copies of published articles and conference papers. Presentations, senior theses, and other works not published elsewhere can also be published in an IR.

The NITL collection comprises the publications of members of staff, categorised as:

- Articles (in peer-reviewed journals);
- Books/book chapters;

- Conference papers;
  - Practitioner journal articles;
  - Reports;
  - Ph.D. theses; and
- Other resources.

The latter category comprises selected presentations given by NITL staff at various events over the last decade.

Commenting on the launch of the Knowledge Base, Pamela O'Brien of NITL noted that the NITL online collection represents an invaluable resource for supply chain professionals in Ireland and further afield. "NITL has punched above its weight over the years in terms of its contribution to the advancement of logistics and SCM knowledge. Our Knowledge Base now provides easy access to much of the scholarly output of this research".

NITL would like to thank DIT library staff, in particular Yvonne Desmond, for their support in establishing this resource.

### PACKAGING, PROCESSING & LOGISTICS 2012

**16 & 17 May 2012, Citywest, Dublin**

After two successful editions of PACKAGING IRELAND, easyFairs is delighted to announce the extension of this show to a full-service event encompassing the full manufacturing supply chain – PACKAGING, PROCESSING & LOGISTICS 2012. This unique event will enable manufacturers to access the full range of products and services required to take a product to market.

As an exhibitor, this event will provide companies with the opportunity to demonstrate products, generate sales, make new contacts and present themselves in front of key decision-makers from Ireland's major processing and

manufacturing industries. As a visitor it will provide professionals in Ireland's major processing industries with a fast, straightforward and comprehensive overview of what's on offer in the marketplace today.







PACKAGING, PROCESSING & LOGISTICS 2012, taking place on 16 & 17 May 2012 at Citywest, Dublin,, is the perfect show for all those working in packaging, processing, operations, plant and production, through to logistics, distribution and supply-chain functions.

The show is supported by the key trade associations, including National Institute for Transport & Logistics (NITL), which will be holding its annual *Logistics Ireland*

event at the show. Ed Sweeney, from NITL, says: "We are delighted to bring the Logistics Ireland conference to easyFairs Packaging, Processing & Logistics 2012. In a change to the usual format we will run eight educational sessions over two days to fit with easyFairs time and cost effective format and the event will be free to attend. We are pleased to work with easyFairs plans in the Irish logistics market and feel that the two events complement each other perfectly. We look forward to supporting easyFairs in promoting the event to our industry contacts".

Companies interested in exhibiting should contact Marc Benoit on +44 (0)20 8843 8821 or email [marc.benoit@easyFairs.com](mailto:marc.benoit@easyFairs.com). For further information on visiting or exhibiting, visit [www.easyFairs.com/PPL2012](http://www.easyFairs.com/PPL2012).

## NITL at Diageo Supply Chain Capability Development Program

The Diageo Customer Service team at St. James's Gate recently launched their Supply Chain Capability Development Program in the Guinness Storehouse. Supply chain management (SCM) has been identified by Diageo as a key source of competitive advantage. This has prompted the team to identify ways to further enhance their capabilities in support of this strategic initiative. Key elements which have been identified in the changing role of the supply chain in strategic differentiation are as follows:

- Role of customer service as an order winning criterion
- Customer service excellence delivered through the supply chain: SCM becoming regarded as a source of differentiation
- Price/cost leadership: supply chain costs often significant

The training program incorporates these new challenges and was developed based on a self assessment program which identified priority training areas for the team across functional and business fundamentals. Key areas identified for this calendar year's program are as follows:

- End to End Supply Chain
- Collaboration and Relationship Management

- Project Management
- Change Management

The first module in the training program was delivered by Edward Sweeney of NITL. There was a great turnout for the launch with a number of invited guests from the Brewing Network, Irish Operations and European Logistics also in attendance. Pat Treacy, Head of Supply Planning & Continuous Improvement said: "It was a great privilege to have someone of Edward Sweeney's calibre to launch the programme and the response from the team has been overwhelmingly positive. This augurs well for the program and provides a platform to support improved business performance."



*Participants working at the program at the Guinness Storehouse*

## New Full-Students Commence M.Sc. Programme

As part of its largest ever annual intake, over 30 new full-time M.Sc. students recently commenced their studies and completed the first of their nine modules. The module – Introduction to SCM – provided students with an overview of all strategic and operational aspects of the subject. Each component element will be dealt with in more detail in the modules that follow during the 2011/12 academic year. This year's cohort comprises students from a wide variety of academic backgrounds – a reflection of the multi-disciplinary nature of SCM. About half

of the cohort is Irish with the remainder from many parts of the world.

The programme provides students with a detailed knowledge of the theory and practice of SCM, thus preparing them for a variety of roles in industry. The introductory module was very well received by the new students. In particular, students commented positively on the clarity of the lectures, the use of case studies and group sessions, the quality of the support materials and the manner in which the programme is organised and administered.

NITL wishes all new full-time students every success with their studies. Programme co-ordinator, Antonio de Linares commented: "We are delighted with this positive start to the academic year and we look forward to working with all new students to ensure that their potential is realised".

For further information about the full-time M.Sc. programme visit [www.nitl.ie](http://www.nitl.ie).



*Some of the new students in NITL's full-time M.Sc. programme at DIT's Bolton Street Campus*

## NITL Welcomes New Executive Masters Students

The end of 2011 saw the completion of NITL's latest running of the compulsory introductory module on the Executive Masters programme in SCM. The module brought together participants from a variety of academic and professional backgrounds. The module introduces the various components of SCM and their inter-linkages. The participants in the new cohort are from all major sectors of the economy including pharmaceuticals (e.g. GSK and Pfizer), electronics (e.g. HP and Intel) and logistics (e.g. Celtic Forwarding and Reynolds Logistics).

The module was very well received as indicated by some of the comments made by participants at the end of the module:

- "The diversity of participant backgrounds makes for very interesting interaction with many opinions and thoughts"
- "The structure of the learning had an emphasis on both academic concepts and practical examples"
- "Excellent presentation/lecturing style and ability to keep the class engaged"

- "Practical examples were excellent"
- "I can honestly say that this was the first course that I ever attended where I remained alert from start to finish"

Following this very positive start NITL wishes its new cohort of Executive Masters students well with their studies. For further information about the programme contact Antonio at [adelinares@dit.ie](mailto:adelinares@dit.ie).



*Module Leader Edward Sweeney of NITL with the New Cohort of Executive Masters Participants*



CITYWEST, DUBLIN

# PACKAGING, PROCESSING & LOGISTICS<sup>2012</sup>

16 & 17 MAY 2012

## The complete supply chain event for Ireland's processing industries

Covering the entire manufacturing supply chain, PACKAGING, PROCESSING & LOGISTICS 2012 provides you with the opportunity to showcase your products and services in front of key decision makers from across Ireland's major processing industries.

**For further details:**

- visit [www.easyFairs.com/PPL2012](http://www.easyFairs.com/PPL2012)
- call Marc Benoit on 01 903 6060 or +44 (0)20 843 8821

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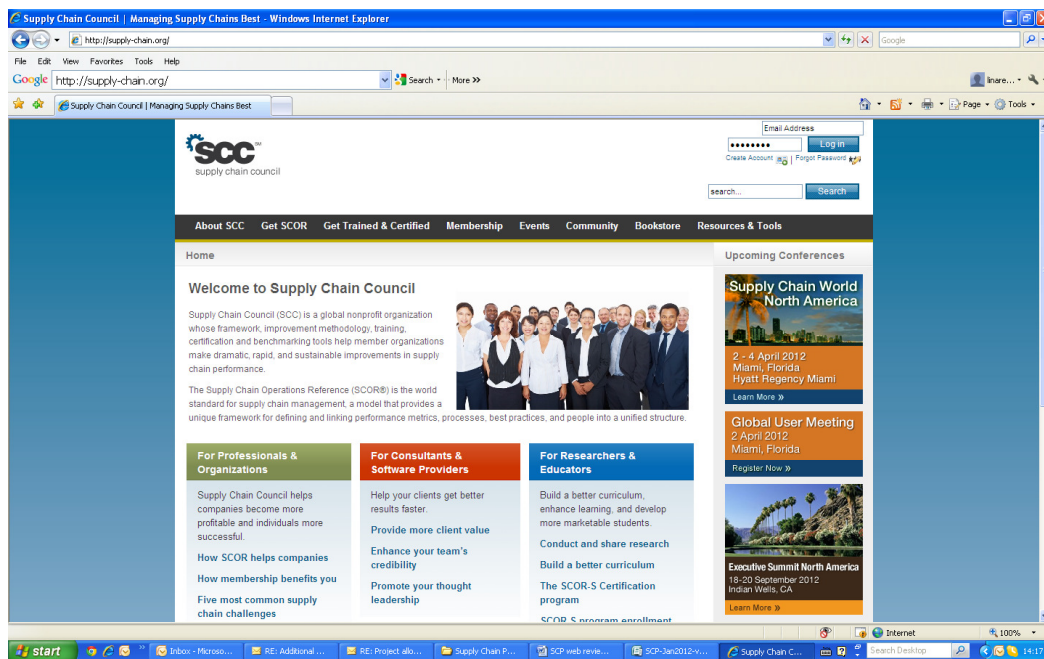
Find out more at [www.easyFairs.com/PPL2012](http://www.easyFairs.com/PPL2012)



## USEFUL WEBSITES

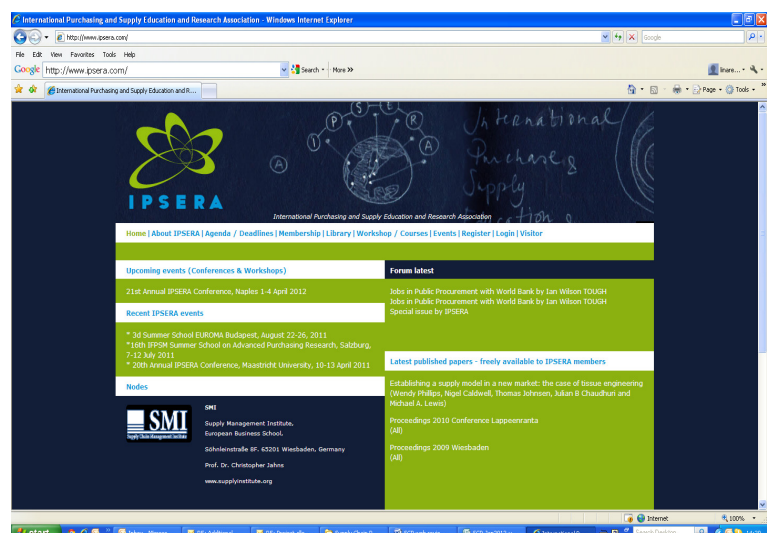
### *The Supply Chain Council — <http://supply-chain.org/>*

The Supply Chain Council (SCC) is a global non-profit organisation whose framework, improvement methodology, training, certification and benchmarking tools help member organizations make dramatic, rapid, and sustainable improvements in supply chain performance. The Council's website contains information about SCC training, membership and events. Perhaps the most useful feature of the website is the material on the Supply Chain Operations Reference (SCOR) model. This model "captures the Council's consensus view of supply chain management". The site also has an online bookstore and various "resources and tool" that can be downloaded.



### *The International Purchasing and Supply Education and Research Association — <http://www.ipsera.com/>*

The International Purchasing and Supply Education and Research Association (IPSERA) is a multi-disciplinary network of academics and practitioners dedicated to the development of knowledge concerning purchasing and supply management. The Association's website contains information about membership benefits and the various workshops, courses and other events organised by the Association. The premier event in the IPSERA calendar is the Annual Conference which will take place this year in Naples (see advert elsewhere in this issue).

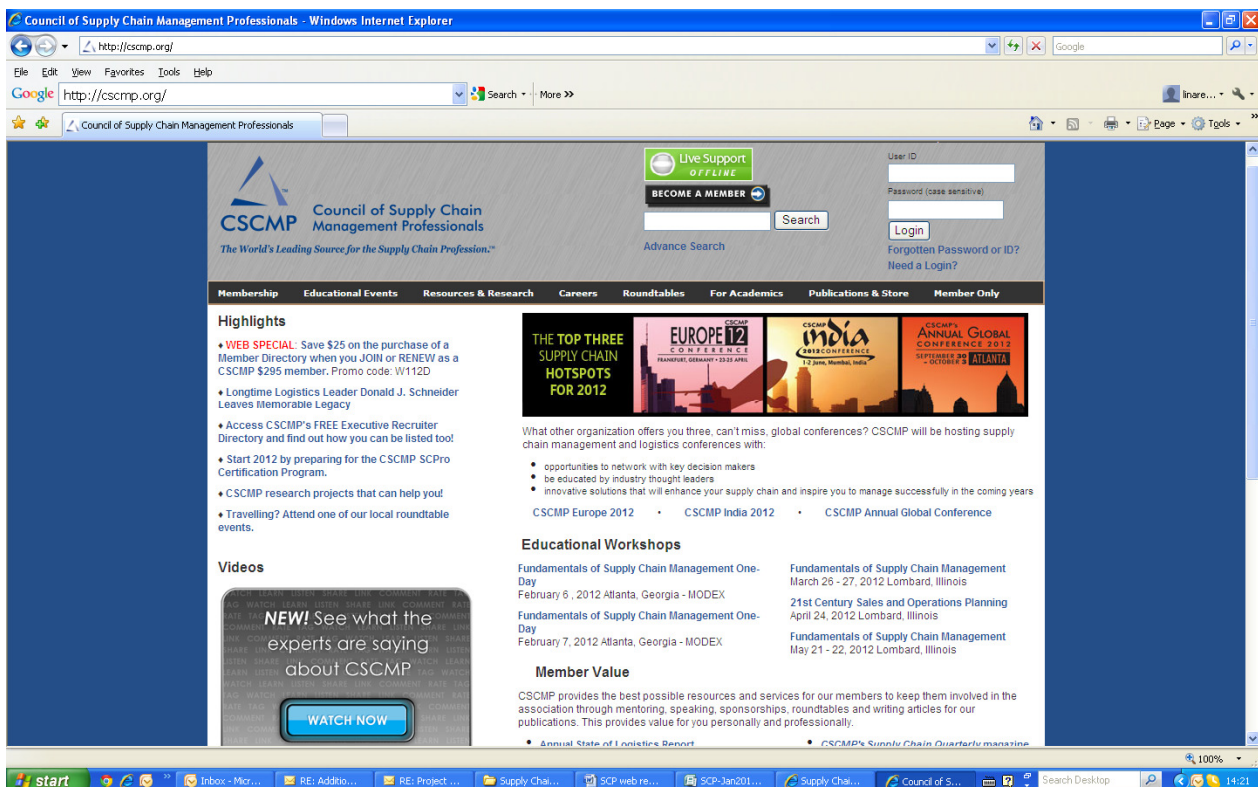


### *Council of Supply Chain Management Professionals — <http://cscmp.org/>*

The mission of the Council of Supply Chain Management Professionals (CSCMP) is to lead the evolving supply chain management profession by developing, advancing, and disseminating supply chain knowledge and research. CSCMP exists to:

- Provide opportunities for supply chain professionals to communicate in order to develop and improve their supply chain management skills
- Identify and conduct research which adds to the knowledge base of supply chain theory and practice
- Create awareness of the significance of supply chain to business and to the economy

In addition to providing information about Council membership and events, the CSCMP website provides access to many valuable resources including case studies and process standards tools. Its downloadable glossary of SCM terms is particularly useful.



## Innovation and Utilisation: A breakthrough opportunity for Ireland's road transport infrastructure (Part 2) By Joe Reynolds

### Transport Policy and Practice

The most recent articulation of Government policy and targets in relation to transport is contained in the 2009 *Smarter Travel* document published by the Department and sub-titled "A new Transport Policy for Ireland 2009-2020"

While a number of quantified 2020 targets are set for private car use, the target for freight is vague i.e. to become more energy efficient, and thus reduce emissions. The Action Points in relation to the movement of goods are also general, identifying "the need for a specific target to reduce energy and emissions from freight sector....while at the same time enhancing our economic competitiveness". Action point 10 anticipates a new forum of interested parties to explore relevant issues including:

- Priority freight routes allowing access to vehicles with greater load factors and capacity
- The need to have more rigorous testing of goods vehicles to reduce emissions and
- The potential of Intelligent Transport Systems and Services to improve efficiency

Action point 25 includes "Efficient freight movements" as an investment priority for the successor to Transport 21.

A number of common themes emerge from an examination of this and other official and semi-official documents in the area of national transport policy:

The central focus on public passenger transportation by road and rail and the conversion of private car use to rail, cycling and walking

The reduction of the environmental impact of transportation  
The promotion of sustainability, safety, efficiency and enhanced competitiveness

The most striking feature however, is the relative insignificance accorded to the movement of goods by road, despite the paramount role and importance of roadfreight in Irish transportation, the proportion of Government revenue currently generated from roadfreight, and the untapped potential of this sector to contribute to emissions reduction, transport efficiency, competitiveness and economic recovery.

In contrast to the incentives available to commuters to transfer to other modes, there are few incentives in support of roadfreight that reflect its economic significance in trade supply chains, despite the substantial benefits available. Consideration could be given, for example to incentivising transport operators to accelerate the replacement of older, inefficient, heavily polluting vehicles with new equipment.

### Recent Developments: Implications for the Transport Sector

Notwithstanding the failure of the freight transport sector to achieve proportionate official recognition for its economic and fiscal contribution, the pivotal role of roadfreight within the wider economy ensures that it will be a primary determinant of the success or failure of Government objectives across a number of key policy areas including Energy, Environment, Safety, National Competitiveness and Economic Recovery. The scope of this influence derives not only from road transport's exclusive role in goods carriage, but also from the emergence of new concepts in business management over the past decade.

In Ireland as elsewhere, the application of supply-chain management techniques has brought about major changes in the operational and commercial relationships between the various elements at all stages of the chain process from source to end-user. The relationship, and the boundaries, between transport suppliers and their manufacturing, distribution, and retail clients has been the focus of particular attention. As internal processes were streamlined under competitive pressures, increasingly stringent requirements were placed on the transport service providers, and were incorporated into

contractual performance standards. In many cases, the operational boundary between supplier and client progressively changed, as first in-house transport operations, and then additional internal processes, were contracted out.

These developments have profound implications for Irish transport suppliers. Freight transport now represents a larger component of total supply-chain cost, and the systemic significance of the sector within the Irish economy increases accordingly. Of potentially greater consequence, however, is the fact that these developments also represent a major transfer of risk, responsibility, and cost from Industry to the transportation sector. The safety and commercial aspects of this transfer are worthy of some further comment.

Commonly justified on the basis that it constituted a “non-core” activity, the cost of compliance with increasingly onerous HSE legislation was an implicit consid-

eration unpinning the contracting-out by Industry of high-risk road transport operations. Transport operators are legally obliged to rigidly comply with a vast array of licensing, regulatory and inspection regimes covering driver recruitment, training, hours of work and vehicle and equipment maintenance and repair, in addition to those imposed on business in general. The unique risk exposures associated with commercial road transport activity also involve complex risk assessments and sensitive cost/safety judgment calls on a daily basis. As the requirements become more stringent, the professional management of these risks, and HSE compliance costs, continue to rise commensurately, while the recession pushes transport activity, turnover and income in the opposite direction.

Commercially, the contracting-out process has directly led to the emergence of a new category of professional, HSE-compliant specialist transport companies providing levels of service, cost, and flexibility that could not be com-

petitively supplied by the Client under the previous arrangements. These companies are characterized by their ability to generate productivity and service levels from drivers and fleet resources that would be unthinkable under the ways of working that previously obtained in Industry. The cost benefit to Industry of the transport flexibility these companies offer is considerable, especially to those exposed to severe fluctuations in the demand for their output.

Against the sectoral, policy and evolutionary background that I have outlined, I would now like to re-state the question posed at the beginning of this presentation as follows: “Given the pivotal role played by road-freight in the cost and competitiveness of Irish goods, and its contribution to energy imports and the generation of emissions, what policy changes would enable the Irish road-freight sector to make a significant contribution towards national recovery?”

For assistance and inspiration in addressing this question, I looked back over our own experience in Reynolds Logistics of multiple clients and contracts to identify situations where innovation and the management of change in the transport element of the supply-chain had the greatest impact on overall supply-chain





cost. My objective was to see if we could derive a set of common approaches or insights from these situations that might be usefully extrapolated and applied at the level of national transport policy.

I have selected one particular contract to demonstrate the speed and scale of the results delivered, and I concluded that this single case would suffice for the purpose of this presentation. I should however also acknowledge two other factors underlying my selection of this particular contract.

The first is that a decade has now elapsed since this contract commenced, and the commercial sensitivities have diminished accordingly, but have not entirely disappeared. For that reason, the results that you will see in the next slide are presented in index format.

I must admit that the second factor is a self-serving one, and it is the fact that, arising from this contract, the client and ourselves were the joint recipients of not one, but two National Transport Awards in Britain.

The contract in question related to the delivery of bulk lubricants and presented unique logistical and commercial challenges including:

- The requirement for delivery within contractual lead-time

standards from a single production source to customers UK-wide inside normal business hours

- The requirement for segregation of quality-sensitive grades within and between trips
- A multi-market drop profile skewed towards small-volume city deliveries
- Contract unsuitable for groupage.

The challenge facing the Client was to optimise the supply-chain in terms of delivery resources and cost, while maintaining the highest standards of product integrity, safety and lead-time performance. Together with the Client, we developed and introduced a series of initiatives across the supply-chain focused on four key areas of the operation;

- Vehicle design
- Network/infrastructure rationalization
- Routing and scheduling
- Loading interface
- Application of technology

**Vehicle design:** Bulk lubricants were previously delivered in specialist road tankers constrained to between six and nine compartments, and a minimum compartment size of 1800 Litres. With hundreds of grades for delivery in drop sizes as low as 500 litres, vehicle capacity utilisation rates were extremely low and the effective cost per litre delivered commensurately high. Reynolds recognised the potential applica-

tion of Intermediate Bulk Containers (IBC's) in efficiently maintaining grade segregation in multi-product bulk lubricants deliveries. Equipped with discrete pump, hose and meter systems, these vehicles maintain absolute grade segregation while accommodating up to 16 x 1000-litre IBC's, vastly increasing average capacity utilisation and reducing delivered cost. This patented design has subsequently become the industry standard.

**Network Rationalisation:** The Client had encountered continual difficulties in meeting the delivery service standard demanded by certain customers on the east coast. To overcome these problems, the Client had established satellite storage and delivery services on the Thames. Within a year of contract commencement, the delivery performance and credibility had reached a point where a trial reversion to direct delivery was agreed, keeping the alternative facilities in reserve. Customer confidence established during the trial was such that the satellite facilities were closed at the conclusion of the trial.

**Routing and Scheduling:** Under the terms of the original contract, the function of scheduling deliveries was retained by the Client, but with direct Reynolds input. Having identified and introduced a series of high-yield improvements, both parties recognised that control of this activity was essential if Reynolds were to be fully responsible for optimising supply-chain productivity.

By overcoming internal resistance to the transfer of this key activity, the Client handed over responsibility for routing to Reynolds in year 2 of the contract, demonstrating the degree of confidence which had been established between client and contractor.

**Loading interface:** While the production facility had been automated to leading-edge standards, efficiency of bulk vehicle loading had not been a design criterion, and the real cost of delays at the loading gantry had been obscured under the previous system. In conjunction with the Client, Reynolds identified the procedural weakness, quantified the real cost, and proposed a solution under which certain fast-moving grades would be loaded manually at a separate gantry. This transfer from automated to manual activity ran counter to established conventions, but dramatically increased loading efficiencies and reduced costs.

**Application of Technology:** Both parties committed to the continuous search for new technologies applicable to the task, and to their early and pragmatic application in pursuit of cost-efficient operations. Developments included the introduction of leading-edge routing software and the installation of remotely-readable gauges on customer tanks, allowing continuous ullage monitoring, prompting of orders along specifically-targeted routes, and fully-optimised schedules.

Within four years of their implementation, the combined impact of these measures was that the same volume and geographic disposition of business nationwide was being delivered by just half the number of vehicles previously engaged.

The results are illustrated in Table 9 across the key *operational* performance indicators as agreed with the Client at commencement. While we are primarily concerned here with the

transport and operational performance indicators, it is worthy of note that these dramatic improvements in operational productivity in turn led to *service level improvements* in terms of performance consistency, and customer confidence in the Clients ability to consistently meet their contractual order-to-delivery lead times in each customer market sector.

At first glance, it might appear that this case study simply represents a one-off opportunity in a set of circumstances unique to a specific industry at a particular point in its evolution. I would argue on the contrary that the approach adopted in this case is capable of replication across transport environments generally, and I offer the detailed background and Key Performance Indicators's merely to illustrate what is possible when open minds are prepared to re-examine the transport element of a supply-chain that appears to be already fully optimized.

What lessons can be drawn from this experience in terms of a transport-led contribution to National recovery?

I would suggest firstly, a concentration on the overriding significance of *utilisation* as the key to unlocking efficiency improvements in transport operations. This involves subjecting all of the supply-chain components-whether infrastruc-

**Table 9 Case Study Key Performance Indicators Base year =100**

KPI	Year Prior to Contract	Contract Year 1	Contract Year 2	Contract Year 3	Contract Year 4
Number of Trips	100	97	85	71	68
Average Load size	100	107	124	133	142
Capacity Utilisation	100	117	125	128	131
Litres delvd Per hour	100	112	125	134	139
Litres delvd Per Km	100	103	114	123	128
Fleet Nos	100	67	60	55	50
Unit Cost	100	70	67	65	54

tural, mechanical, human or procedural -to critical examination in order to reveal potential sources of increased productivity. Inevitably, this process also reveals the barriers to change, and it requires a positive mindset to relentlessly challenge and overcome these barriers.

The order-of-magnitude utilisation improvements in the contract just described could not have been achieved had the Client not been prepared to radically challenge internal procedures and established ways of working in the single-minded pursuit of increased utilization. In some cases the required measures were counter-intuitive, such as the re-introduction of certain manual processes in parallel with the highly-automated systems in which the Client organization had invested heavily, and to which they were understandably committed.

These two ingredients, the unremitting focus on maximizing utilization and the preparedness to conceive novel ways of working outside the prevailing orthodoxies, were the foundation-stones for the utilization and efficiency gains outlined in this case study.

To these I would add a further, invaluable ingredient in the form of technology. In this context, I do not refer simply to the necessity for continuous re-appraisal of currently-applied technology in the light

of new developments, but rather the necessity to continuously assess the potential role of technology in new applications, for example in overcoming barriers and obstacles that may have previously proved insurmountable.

The next question that arises is how these principles might be applied in an Irish national context. Before proceeding to address this question, I would like to re-emphasise that I see the primary function of this presentation as providing a stimulus for further debate and legislative change on a single aspect of transport policy or practice that, in my view, would most contribute to the national recovery process.

It will be clear from what I have said thus far that the starting point must be *utilization*, in terms of volume and time. Every increment in utilisation improvement has a multiplier effect across other operational, productivity and financial indicators. Focus on, measure and improve utilization, and the others follow automatically. So how can we improve the utilization of the Irish transport network? In the specific context of roadfreight, what measures can be taken that would increase the quantity of goods carried relative to the resources employed? Consider the three elements that constitute the resource for goods transportation by road: the vehicle, the driver, and the road network on which they operate. Utilization efficiency is a function of the interaction between these con-

stituents together with a vital fourth element: the operating conditions imposed on the use of these resources by regulation and commercial practice.

Of the three resource elements, the road infrastructure is clearly the most significant in terms of investment, and also in terms of the potential for improved utilization if we wish to reap the full benefits of the massive expenditure on road construction undertaken in recent years.

In Ireland, we are about to complete the final stages of a national motorway network, constructed to European standards, that will connect the principal centres of population and industry: Dublin, Waterford, Cork, Limerick, Galway.

Due to Irish demographic conditions, this relatively small motorway network carries a disproportionately high volume of national goods traffic. This concentration of freight movement along a handful of primary corridors provides an ideal environment for a rigorous exploration of potential utilization improvements in the manner outlined earlier. All of the environmental components should therefore be subjected to scrutiny to identify and release utilization improvement potential: infrastructure, vehicles, drivers, and the procedural regime.

Given that the investment in the motorway network is already made, it would be unrealistic and arguably unnecessary to

look for utilization improvements that might be generated from further investment in infrastructure. Similarly, the incentive cost and lead-times involved effectively preclude vehicle specification enhancements across a sufficient number of the national goods fleet to materially impact on utilization improvements from this source. At the human level, improvements in driver productivity *in terms of the number of hours worked* are also precluded under the Working Time Directive.

We are then left with the fourth element to consider, the operating conditions under which the various transport resource elements are permitted to combine and interact. The parameters within which these resources may be used are established by regulation and law, as well as by business convention and practice.

In considering the utilization potential of goods vehicles, the parameter of what is currently permissible is clearly critical, defined by regulation in terms of length, weight, loadings per axle etc. Because efficiency in the transport context essentially means moving more goods with less vehicles, we are inexorably drawn to focus on the limits that are presently imposed on the carrying capacity of a single goods vehicle as one dimension capable of generating utilization improvement. Another is the matter of access. In the case study, the vehicle and access dimensions generated the

bulk of the efficiency gain. The current constraints on both of these dimensions are worthy of examination and possible review not least because they have the capacity to improve utilization within realistic horizons of time and cost.

In effect, reviewing the regulatory regime governing vehicle carrying capacity means *pro-active consideration of the use of Longer and Heavier vehicles (LHV's) on some or all of the national road network*. The issues surrounding LHV's, and the risks, costs and benefits associated with their use, have been the subject of a vast body of international research over the past decade. I do not propose to dwell at length on these reports, but would like to make a number of points relevant to the potential for LHV's in an Irish context.

Firstly, the general conclusion from these studies is that the introduction of LHV's in appropriate circumstances generates step-change increases in the efficiency of the movement of goods by road, and reductions in congestion, energy use, fuel cost and environmental emissions from transport. Under appropriate conditions, the introduction of LHV's also has a net beneficial effect of road safety, and reduces- rather than increases- the degradation through wear of road pavement structures. The negative impacts identified in these studies center around the upgrading cost of non-motorway infrastructure, and the

direct and induced modal shift to rail arising from the enhanced competitiveness of roadfreight. As we have seen, this latter factor is not a consideration in our particular circumstances.

The completion of a compact Irish motorway network connecting a small number of industrial and population centers (each with seaport access), presents us with an ideal opportunity to improve both our utilisation of this expensive infrastructure and the efficiency and cost with which goods are moved along these national corridors. In this respect, we are now in the fortunate position of being able to follow the Dutch principle of "making LHV's fit the roads, and not vice versa"

I am aware of the work currently being undertaken by the Department of Transport in reviewing the existing regulations covering goods vehicles. I believe this review should be extended in scope, and increased in urgency to the status of national priority. In terms of scope, we should envisage not a single standard, but two new categories of permissible goods vehicle lengths and weights, calibrated in one case to the capacity of motorways and in the other to the remainder of the national road network.

I am not proposing here any particular length or weight

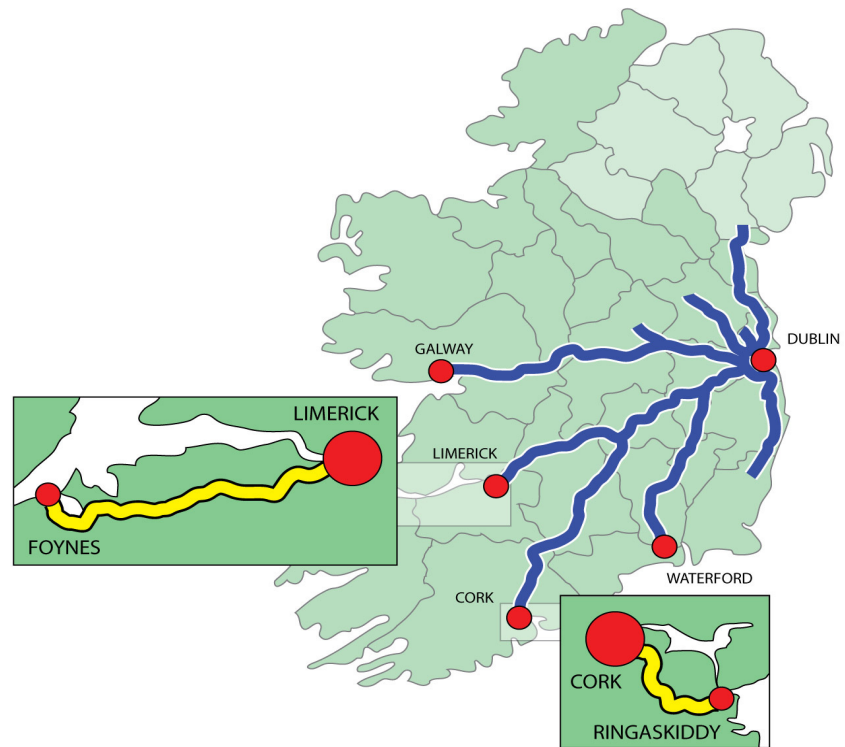


limit for either category of roadway, but for motorways a higher-limit modular system is clearly optimal. This would allow for the maximum use of the existing national vehicle and trailer stock, minimal new investment in tractors and dollies, and uncoupling and onward local delivery of trucks and semi-trailers at clearing areas located close to motorway start/end-points.

Two other points are worthy of note in this regard. The first is that the regulatory LHV exemption for motorways can specify not only the vehicle standard, but also the standard of driver skills required and the time and manner in which the vehicles are operated. Here again, the Dutch model provides a useful template, whereby LHV drivers in the Netherlands are subject to a special licencing regime and also to special driving procedures on the limited roadway network to which they are permitted access.

The second is that policing and supervision of a motorway LHV exemption along these lines would neither be as complex or expensive a task as it might appear. I have referred earlier to the very small number of HGV operators and vehicles in Ireland, of whom in turn only a small proportion would migrate to LHV motorway operation, and whose numbers would in any event be controlled by the issue of licences and permits. This area of su-

**Figure 8 Motorway Infrastructure**



pervision and compliance offers enormous potential for the application of technology. On-board and remote technology can monitor, record and relay critical conformance data- if necessary in real time- to operators and regulatory authorities.

The second dimension worthy of review concerns access. I referred earlier to the revolution that has taken place in transportation logistics over the past decade and the emergence of specialist freight providers continuously expanding the scope, flexibility and efficiency of their offering. Round-the-clock operation is today the norm for major parcel carriers, supermarkets, and industries alert to the opportunities of supply-chain optimization.

Yet the majority of businesses refuse to countenance loading or delivery outside traditional 9 to 5 office working hours, and expensive vehicle fleets are forced to lie idle for a significant portion of their working life as a result. There is an opportunity here to rectify the roadfreight incentive deficit by providing freight operators and Industry with incentives to encourage off-peak and night-time trunk movements along the motorway network.

Before leaving this issue of the underutilized capacity of the Irish motorway network to reduce national freight costs, I should make reference to the supply-chain significance of these motorway corridors to

our seaports, and to their internal and external competitiveness. The concept that I have outlined of a specific Motorway LHV exemption highlights the fact that certain ports such as Foynes, Cork/Ringaskiddy and Rosslare would be unable to reap the maximum benefit, and would require either double-handling or a further exemption to travel along the final sections of primary or secondary roads connecting the ports with the motorway. Consideration should therefore be given to upgrading of these relatively short sections of roadway in the interest of inter-port and national competitiveness.

Having identified those aspects of freight transportation infrastructure that appear to offer the best prospects for significant short-term utilization improvement, the next question we must ask is: who can or will initiate the necessary review and change process? I fully understand the current Government preoccupation with broader economic issues, but the fact remains that Government effectively controls two of the critical levers operating on the transportation environment; the price of fuel through fiscal imposition and the

level of resource productivity through regulation. In the final analysis, it is to Government that we must look for leadership in re-thinking historical conventions and ways of working, by the imaginative and dynamic use of these levers as drivers of necessary change.

The opportunity is there. The question we must ask ourselves is whether we have the courage to grasp these opportunities and bring them quickly to fruition, unconstrained by precedents and practice elsewhere.

In conclusion, I believe that targeted interventions in the road-freight sector, such as facilitating the introduction of LHV's; encouraging migration to more efficient and less-polluting engines; and incentivising off-peak activity on our roadways, would unlock meaningful utilization, fuel efficiency and productivity gains, and make a major contribution to national economic recovery.

In relation to LHV's, I would simply ask a final question: In any other area of the Irish economy, is there an alternative single regulatory measure that compares with the potential of mo-

torway LHV introduction in terms of:

1. consistency with EU, national, and sectoral objectives
2. increased utilization of the national road network and vehicle fleet
3. reduction in freight cost and emissions
4. improvement in energy supply security, standards and safety
5. minimal cost relative to benefit
6. capacity to deliver immediate results

I believe there is not.



**Joe Reynolds** is Chairman of *Reynolds Tankers Group*. Award winning *Reynolds Logistics* provides a specialised transport and distribution service for the oil industry in Ireland.

Part 1 of this article appeared in the last issue of *Supply Chain Perspectives*. It is based on Joe's presentation at *Logistics Ireland*.



## Logistics Strategy and Practical Implementation

By Patrick Daly

What are we Trying to Achieve Here?

***"It seems to me that perfection of means and confusion of goals seems to characterize our age"***

*Ralph Emerson*

Strong logistics capabilities bring consistency to a business, enable a business to walk the talk of its customer service promise and are the bedrock of reliability, credibility and reputation.

I find the greatest obstacle in my clients' businesses to achieving top class logistics capabilities is that the different functions, managers and associates involved often act at cross purposes with each other.

It is not that people wish for this to be the case but rather it is the way they are organizationally aligned and the way they are measured and evaluated that guarantees that they will act this way despite themselves.

At a tactical level, functions such as transport management, inventory management, warehousing management, supply management and customer service management have conflicting goals and ob-

jectives.

I don't want to go into the practical aspects of how excellence in these individual capabilities can be achieved here, but rather I just want to ask you to reflect for a second on the full range of stakeholders in your business that impact the effectiveness of these capabilities and the range of objectives that they might have.

### Wasted Efforts

***"There is nothing sadder in the world than the waste of human potential"***

*Diane Frolov*

Let's take a typical example from a manufacturing environment – the on site warehouse which houses the inventories of raw materials reports through manufacturing, procurement which negotiates the supplier contracts reports through finance and inventory management reports through supply chain.

In this case procurement endeavours to find low unit cost, volume-discounted supplies, inventory management strives to increase turns and reduce lead times and the warehouse manager tries to achieve efficiency in the use of space, time and labour to provide service to production lines.

Improvement efforts initiated by one of the areas in isolation inevitably encounter resistance from the others. The result, in the best case, is wasted effort, frustration and confusion and in the worst case the outcomes can represent an existential threat to the business.

Sound familiar? Yes? Depressing - isn't it?

So how do you rise above this futile enterprise?

### Rising Above the Confusion

***"The significant problems we face cannot be solved at the same level of thinking we were at when we created them"***

*Albert Einstein*

This is one of those situations where the solution is so obvious that isn't obvious. It is a back to basics common sense approach that will bear fruit.

A word of caution though, the fact the aforementioned situation is so ubiquitous in organizations of all types is testament to the reality that although what we are talking about IS common sense it certainly IS NOT common practice.

When you set goals or establish performance metrics at a tactical level within your depart-

ment or function without reference to the wider goals and objectives of the business and your colleagues in other departments do the same thing the chances of you ending up at loggerheads are very high indeed.

In this situation there is disconnect between the business objectives which are intended to be common across the organization and the actions taking place at a tactical level. The strategic goals haven't been translated into practical, executable and measurable objectives at the tactical level. Departments and the individuals therein haven't been aligned with measures that ensure that they are pulling in the same direction.

If you find yourself at cross purposes with your peers, there is no point in complaining about it to others at the same level within the organisation. You have got to

go to somebody who can actually do something about it, somebody with the authority to control reward and consequences, indeed somebody with the fiduciary responsibility to act.

If on the other hand if you ARE the person with the fiduciary responsibility to ensure that corporate goals and objectives are achieved and your reports are at cross purposes with one another then you had better take a look in the mirror.

### It's the implementation Trap

***"Firmness of purpose is one of the most necessary sinews of character, and one of the best instruments of success. Without it genius wastes its efforts in a maze of inconsistencies"***

*Philip Dormer Stanhope*

Alan Weiss the renowned strategy consultant states in his book Process Consulting that strategies never fail in the formulation but rather in the execution. Weiss goes on to point out that this is because the strategy is not translated into operational objectives, individual objectives are not aligned, accountability is not thrust down to the front line and progress is not assessed against established metrics.

Why is this so?

In my experience, it is not about a lack of knowledge, expertise or experience, nor is it about applying the latest management fad, magic-formula methodology,

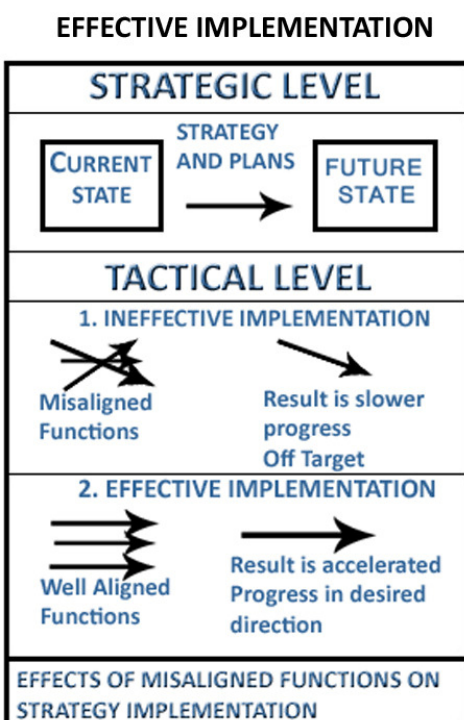
technology or high-falutin' management theory but rather it is an issue of volition, resolve and true grit – the simple determination to get things done and to hold self and others accountable- it is the true essence of the entrepreneurial spirit.

In the large organization in particular this entrepreneurial spirit can easily be swamped by other agendas of internal politics, empire building and personal and professional rivalries. The result is lack of ownership, absence of visible leadership and poor communication.

These are the most common organisational diseases and societal diseases of our time. What can you do today to cure your organization?



**Patrick Daly is Principal and Owner of Alba Logistics. He will speak at Logistics Ireland 2012 @ easyFairs Processing, Packaging and Logistics 2012 at Citywest in May.**



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**21<sup>st</sup> Annual IPSERA Conference**  
***Purchasing & Supply Management***  
***in a Changing World***  
 Naples (Italy), 1-4 April 2012



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## Call for Papers

The conference theme "**Purchasing & Supply Management in a Changing World**" reflects the current economic situation: the recent world recession imposes new challenges to Purchasing and Supply Management. Within this overall theme the following specific topics have been selected:

- Aligning sourcing strategy with business strategy
- Attractiveness in supply chain relationships
- Behavioural aspects in supply chain management
- Corporate social responsibility and impact on the supply chain
- Developing collaborative buyer-supplier relationships
- E-supply and e-procurement
- Human resources in purchasing and supply management
- In- & outsourcing
- Innovation in supply chain management
- Managing the services supply chain
- Models and Methods for supply management
- Public procurement and public-private collaboration
- Role of KM in PSM 20 years beyond the Lisbon treaty
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- Supply Risk management
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**Special sessions.** We will also organize a number of special tracks at the IPSERA 2012 conference. If you are interested in organising a special track, please contact the organisers.

**Doctoral Workshop.** We would like to welcome PhD students to attend the workshop organized for Sunday 1 April 2012. The main objectives of the workshop are to assist PhD students in: (i) building an international network of fellow PhD students and renowned faculty, and (ii) developing and improving their research projects. Participating students will have the opportunity to present their research proposals that will be discussed by their colleagues and senior faculty. The emphasis will be on methodological issues.

## Submission Guidelines

When submitting your paper, please indicate which of the research topics you think would be most appropriate for it. Three types of papers will be accepted:

- Competitive papers based on a full paper
- Working papers based on an extended abstract
- Practitioner papers based on an extended abstract

Refereeing will take place through a "double blind" review process.

### Competitive papers

Papers submitted as Competitive Papers will be conceptual or empirical papers that are, in principle, submission-ready. These papers should follow the format and style outlined in the "Guidelines for Authors" appearing on the conference website (max. number of pages: 15). Authors must submit a one page abstract indicating their intention to submit a full paper. This abstract will be used only for planning purposes.

### Working/Practitioner papers

Working Papers indicate "work in progress". These papers can report on empirical or conceptual research.

Practitioner papers can only be submitted by practitioners (also with academics) and should be objective in their approach and not be in the form of commercial promotional material for a business or product.

Authors of Working/Practitioner Papers should submit an **extended abstract** following the "Guidelines for Authors" appearing on the conference website. Authors will receive further instructions on submitting their paper if it is accepted.

The length of a working paper is limited to 10 pages.

Practitioner papers should not exceed the length of 5 pages.

*For more information visit the conference website*

# Rail freight in the Republic of Ireland

By Juan Carlos Carrasco Giménez

## Abstract

In a world where freight transport is increasing, efficiency is essential. Transport by rail is characterised by its low fuel consumption per tonne. This mode of transport became extremely important during the last century but unfortunately it has been losing its importance in the logistics sector with the passing of time. However, we are currently witnessing an important transformation in the railway sector throughout Europe. This has been promoted by the European Union, with a significant allocation of resources to this issue. With the objective of increasing the volume of goods transported by rail, European nations are conducting a transformation process of their infrastructure and rolling stock. In Ireland, the outlook for rail freight is not very positive since its market share has been dangerously decreasing. This paper presents an

analysis of the current situation in the Republic of Ireland. The research is based on a range of secondary sources, as well as on a series of semi-structured interviews carried out by the authors with current rail freight customers. A focus group comprising rail freight experts was also used to identify possible future scenarios.

## Introduction

Freight transport is in continuous growth as a consequence of the concentration of manufacturing plants far from the final products distribution areas due to the globalization. This results in higher energy consumption and the need for optimization to satisfy the world's sustainability objectives.

Global politics are focused on establishing plans to overcome this problem and railways are

supposed to play a leading role, both for goods haulage and passengers transport. This was the aim of the EU White Paper, *Transport Policy for 2010: Time to Decide*. Significant resources have been allocated to this issue and European nations are conducting a transformation process in their railway systems. However, goals for rail freight are not being achieved as a result of a number of barriers that have been appearing. The Republic of Ireland is not an exception and rail freight in Ireland is suffering a dramatic decrease in its market share.

To analyze this situation, different forums and studies have been accomplished by important consultancy firms and organizations like InterTradeIreland (the body responsible for the promotion of trade between the Republic and Northern Ireland), Booz & Co. and the Irish Exporters Association among others. This paper is aimed at identifying the barriers to rail freight development in the Republic of Ireland exploring the point of view of Iarnród Éireann (the national rail company) and the logistics sector, as well as current users of rail freight.

This paper is organized into five sections. After the introduction, the second section presents a literature review about the issues associated with transporting freight by rail. The third section



sets out the methodology followed in this research. Findings and results are shown in the following section. The paper finishes with the conclusions section which summarizes the highlights of the research.

### Literature Review: Convenience, Barriers and Recommendations in the Rail Freight scenario

The adoption and support of strategies to increase the transport of goods by rail has become a major issue in recent years for EU policy makers. Rail haulage has been decreasing in Europe whereas it has been flourishing in the US with a market share close to 40% (compared to a decline in Europe to 8.4 % of total freight) [1]. This huge gap can be explained taking into account critical differences between North-American and European railways [2], summarized as follows:

- Haul distances tend to be longer in the USA and railways are more competitive for such distances;
- In North-America two or more rail operators compete in the same route versus road hauliers;
- In Europe there are gauge restrictions since the infrastructure is designed in general for passenger services;
- In North-America rail operators give priority to freight traffic whereas the opposite occurs in Europe since passengers receive priority;
- In Europe the railway indus-

try is highly regulated whereas there is a more competitive environment in the USA;

- In Europe rail infrastructure is controlled by an administrator whereas this is under operator control in North-America; and,
- Railway infrastructure financing is largely public in Europe while it is largely private in USA.

The environmental sustainability of rail freight transport is well-known and widely recognized: “travelling by rail is on average 3-10 times less CO<sub>2</sub> intensive compared to road or air transport” and “rail is on average 2-5 times more energy efficient than road, shipping and aviation” [3]. Furthermore, if the locomotive is powered by electric energy instead of fuel, CO<sub>2</sub> emissions are strongly reduced: “CO<sub>2</sub> emissions in a train towed by diesel traction locomotive are between 2.4 and 2.8 higher than the same train

crisis:

“Railway operating companies as well as infrastructure companies need to invest consistently – even during the current crisis – in expanding the rail network and driving forward optimisation of capacity management and order management”.

### Methodology

The objective of the paper is to investigate the current situation regarding rail freight in Ireland and, in particular, the barriers which are slowing down its development. The specific objectives of the research are as follows:

1. to understand current Irish Government strategy regarding rail freight;
2. to understand perception of

Millions Euro/ year	External Costs by mode of transport			
	Road	Rail	Aviation	Waterborne
	223114	4487	6250	2632

Fig1. External Costs by mode of transport (Source: [6]).

This scenario represents a major competitive advantage in favour of the road: “External costs should be taken into account to allow a fair comparison between modes” [5]. Recent research conducted by Booz & Co. [7] reveals that rail freight actors need to adapt capacities and costs quickly to the significantly lower demand experienced due to the economic

larnród Eireann with regard to rail freight; and,

3. to identify the external and internal factors affecting the development of rail freight in Ireland.

The analysis is based on secondary research and semi-structured interviews both with logistics companies and

railway experts. The initial part of the study concentrated on gathering data about rail freight traffic and investment in railway infrastructure. That information is then used to elaborate a comparison versus other modes of transport. The second part of the study is based on gathering data and conducting interviews with Iarnród Éireann professionals to build up the perception of rail freight within the company. The final part involved a series of meetings and focus groups with experts and interviews with professionals working in the rail freight field.

### Analysis of the rail freight state of art in the Republic of Ireland

#### Current situation in Ireland

Rail freight traffic in the Republic of Ireland is characterized to be very low in comparison with other EU countries and almost insignificant compared with road haulage. The volume – measured in millions of tonne-km – reduced dramatically in the period up to 2009 [8]. This trend surprisingly changed during last year with the volume increasing slightly [9]. To put this in context, road haulage volumes actually decreased dur-

ing this period [10]. Figure 2 shows this evolution:

In any case, although this change suggests grounds for optimism, there is a long-term target fixed by the EU [1] and the reality is that freight in Ireland has seen a continuous shift from rail to road over a long period of time with rail freight now almost negligent in the context of total freight movement in Ireland. Currently rail freight customers are confined to the following small group:

**Boliden:** Transportation of lead from Tara Mines located in Navan to Dublin Port.

**DFDS:** Having taken over Norfolk line and carrying three trains per week from Ballina to Waterford Port.

**Coillte:** Two transportation routes are used. Firstly, a route from Ballina to Waterford depot, with a level of service of two trains per week. Secondly, trains going two days per week from Wexford to Waterford depot. In both cases haulage must be transported by road from Waterford depot to the Smart Ply manufacturing plant. Coillte pays for road transport at both ends since Iarnród Éireann provides rail transport only.

The low market share of rail freight can be explained analyzing Government policy in this area, transport needs for freight across the island of Ireland and Iarnród Éireann's performance. Regarding Government's investment, plans are focused on road

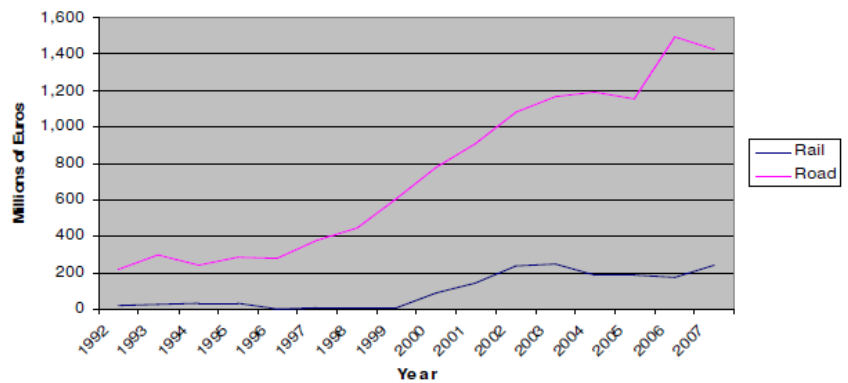


Fig 3. Government's investment. (Source: [8]).

**IWT:** Four trains per week from Ballina to Dublin Port.

transport as it is shown in figure 3:

Regarding the investment in rail, this has been aimed at increasing passenger numbers rather than freight. The Irish Government's approach emphasises moving people using public transport with freight movement taking place primarily on the roads [8].

Millions Tonne-km	2004	2005	2006	2007	2008	2009	2010
Rail	399	303	205	129	103	79	92
Road	17144	17910	17454	19020	17402	11687	10939

Fig 2. Millions Tonne-km (Source: [9,10]).



This illustrates the lack of focus on rail freight planning.

Regarding the transport needs of the country, most freight needs to be delivered over relatively short distances from seaports. This matter was pointed out both by Stephen Aherne, Manager of Iarnród Éireann Freight, and Harry McGeehan, Senior Economist of Córas Iompair Éireann (Iarnród Éireann's holding company), and it is also highlighted in the road freight survey of the Central Statistic Office (CSO) [8]. However, in other countries – for example, New Zealand – there are many examples of freight going by rail over short distances [11]. Market share for rail freight in New Zealand is approximately 15% [12].

Regarding Iarnród Éireann's approach, there are two important negative aspects. The first one is the dependency of resources on the passenger side. Iarnród Éireann Freight shares locomotives and drivers with the passenger division of the company. Iarnród Éireann's policy dictates that the passenger business has priority when it comes to the availability of drivers and locomotives. The other negative aspect is that downloading and uploading processes have to be done by the customer since Iarnród Éireann Freight only "sells" the load transport. Both add uncertainty to the customer which makes the decision of relying on rail more difficult when designing and implementing supply chains.

### **The Iarnród Éireann point of view**

An effective way to evaluate the internal and external factors affecting a company involves defining its strengths, weaknesses, opportunities and threats (or SWOT). A SWOT analysis realized by Iarnród Éireann is shown as follows [13]:

#### **Strengths:**

- Strategically rail-connected depots.
- Rail connected ports in Dublin and Waterford.
- The ability to move large volumes speedily, regularly and reliably.
- The ability to reap economies of scale.
- Rail is an environmentally friendly and safe mode of transport. The external cost of rail freight is €19 per 1,000 Tkm. as against €88 for road freight.
- The proven ability to move dangerous substances safely.
- The railway helps to reduce indirect social costs to the community arising from accidents, traffic congestion, pollution, land utilisation and imports of vehicles and fuel.
- Rail is most economic user of energy. While road freight uses 50 grammes oil equivalent (GOE) per tonne kilometre, rail freight uses only 22.

#### **Weaknesses:**

- Distances in Ireland tend to be short and subsequently uneconomic.
- The restricted nature of the network sometimes give rise to extended journey distances and consequently journey times, e.g.

Galway to Sligo – road distance 134 km as against rail distance 257 km.

- In providing a door-to-door service, road shunt distances of 150 km and upwards can be involved, e.g. Cork to West Cork.
- Rail has to bear the cost of transshipment depots.
- Very few firms are rail connected. Without grant aid, the cost of providing rail connections to customers' premises places rail in an uncompetitive position with road.
- The absence of large-scale heavy industry, such as coal and iron ore mining, for which rail is ideally suited.
- The concentration of industry on the east coast, together with the development of port facilities around the country, results in short haul domestic movements and generally provides little opportunity for rail transport of import/export traffic.
- Being an island, there is no through rail traffic except to Northern Ireland.
- There are also some physical limitations restricting railway operations, e.g. axle load limitations, bridge clearances and the high proportion of single line trace.

#### **Opportunities:**

- There is an increased level of awareness of the environmental benefits of rail freight.
- Cork, Drogheda and Dublin Ports have expressed an interest in improving the rail

links in their respective ports.

#### Threats:

- Open access to rail infrastructure is available to other rail freight operators.
- There is a marked increase in the number of UK based logistics companies entering the Irish market.
- Increasingly competitive Road Freight industry.
- Significant investment in road infrastructure.
- Economic recession.

#### The Customer Perspective Point of View

When measuring service quality, the customer's point of view is a key factor. Companies dealing everyday with rail freight service have an in-depth knowledge of the current situation and the shortcomings which are influencing the decrease of rail freight market share.

Semi-structured interviews and surveys were conducted with almost all current rail freight customers. DFDS, IWT and Coillte responded positively to our request for collaboration in this regard. Customers were firstly questioned regarding their satisfaction with the service. Thereafter the interview focussed on assessing the importance of different elements to the improvement of service. Figure 4 (below) summarizes their answers.

EVALUATION OF THE RAIL FREIGHT SERVICE	DFDS	IWT	Coillte
Satisfaction with the current service	Medium	Medium	Medium
Importance of the following issues to improve the service	DFDS	IWT	Coillte
Freight Transportation Time	Low	Low	Medium
Price fluctuations among different transportation modes	High	High	High
Punctuality	High	High	High
Alternative travel routes available at varying departure times	Medium	Medium	High
Availability of functional fast rail lines	Very High	Very High	Medium
Wagon customization based upon customer preferences	Very High	Very High	Medium

Fig 4. Evaluation of Rail Freight Service. (Source: Self elaboration).

There is a total agreement between the companies in relation to satisfaction with the service. Customers consider that there is a need to improve the service and evaluate it to be of an average standard (i.e. medium satisfaction). Availability of functional fast rail lines and wagon customization based upon customer preferences were chosen as the key issues to be improved. Some rail lines have low speed limits which is problematic when urgent transport is required, making road more competitive. The lack of flexibility with rail freight is also highlighted.

Punctuality and price fluctuations among different transportation modes received the same importance rating. The first is essential when relying on freight transport and it is negatively affected by the priority given to passengers over freight transport. The second is highly important and was the primary reason for Diageo's shift from rail to road [14]. A key issue when assessing the quality and satisfaction of a service is to review and analyze if changes have been accomplished to attract future customers. Current customers were asked about

Changes in the past 5 years	DFDS	IWT	Coillte
Freight Transportation Time	Unchanged	Improved	Unchanged
Price fluctuations among different transportation modes	Unchanged	Unchanged	Unchanged
Punctuality	Improved	Improved	Unchanged
Alternative travel routes available at varying departure times	Unchanged	Unchanged	Unchanged
Availability of functional fast rail lines	Unchanged	Unchanged	Unchanged
Wagon customization based upon customer preferences	Unchanged	Unchanged	Unchanged

Fig 5. Changes in Rail Freight Service in past 5 years. (Source: Self elaboration).

how different issues regarding rail freight service (punctuality, etc.) changed in the past five years.

As it is shown in figure 5, not many changes have been introduced in the rail freight service during this period. The most improved issue was punctuality which is of great value for transport services to guarantee the reliability of the supply chain. IWT specifically highlighted a service improvement in terms of freight transportation time (Ballina-Dublin Port connection). Customers consider there is a real need for the improvement of the following rail connections: Ballina to Dublin, Dublin to Waterford, Waterford to Cork, Cork to Limerick, Limerick to the West Boarder, Dublin to Cork, and Waterford to Dublin.

Other comments during the interviews were the following:

- Routes are only one-way tracks and bypass length are not enough.
- Night rail freight traffic would reduce travel times since there are no passenger services. The main barrier is the lack of agreement with Iarnród Éireann staff for night work.
- Railway infrastructure is old and not well adapted for freight transport. The load capacity of bridges is not enough and the same with tunnel clearances. Infrastructure needs to be revamped.
- Uploading and downloading processes should be integrated into Iarnród Éireann's service

offering.

- Transit times are a problem. Speedier tracks could reduce these transit times.

## Conclusion

Rail freight is not an outmoded means of transporting goods but an efficient mode of transport and a key choice to guarantee sustainability in the transport sector. This paper has presented an overview of the current situation in Ireland regarding rail freight from different points of view: the operator and customers. Different shortcomings have been pointed out. The following important conclusions can be outlined from research:

- There is a lack of strategic support from the Irish Government to develop rail freight with the majority of transport investment focussed on road transport.
- Some rail corridors need to be revamped and adapted to rail freight. Increases in speed limits are essential to compete with road.
- New strategies for wagon customization should be adopted to add more flexibility.
- More frequented rail corridors should be electrified to further reduce CO<sub>2</sub> emissions.
- Bypass lengths should be increased where appropriate.
- The possible entry of competitors into the rail freight market needs to be considered.

Further research will be focused on analyzing the point of view of former customers of rail freight and on elaborating a comparison with how other countries in Europe are overcoming barriers to the development of their rail freight transport systems.

## Acknowledgements

Authors would like to thank the help and collaboration of the following people and organizations: Ivan Sheridan (Lecturer at Dublin Institute of Technology), Harry McGeehan (Senior Economist of Córas Iompair Éireann), Stephen Aherne (Manager of Iarnród Éireann Freight), Howard Knott (Trade Facilitator of the Irish Exporter Association), logistics professionals from DFDS, Coillte and IWT. Juan Carlos Carrasco would also like to thank specially to Argo Global Foundation and La Caixa Foundation.

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This article originally appeared in the proceedings of the Irish Transport Research Network Conference held at UCC in September 2011.

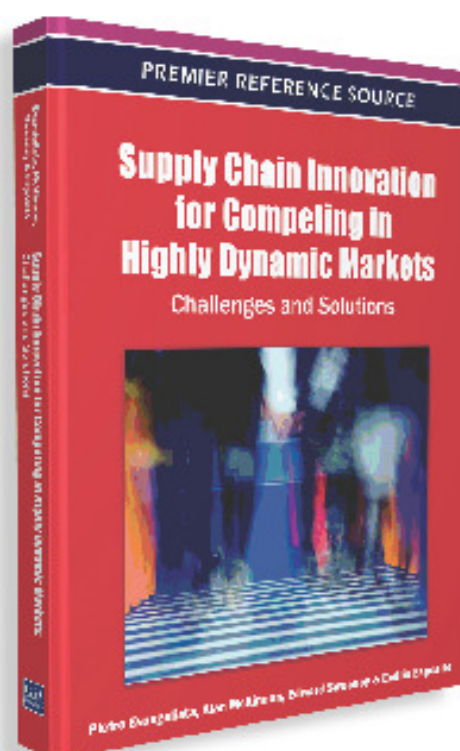




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ISBN: 978-1-60960-585-8, © 2012, 350 pp.

**OCTOBER, 2011**

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