

## **5. Mass- individualisation and logistics**

**G.A.W.H. Goossens  
Nedlloyd**

### **Preface**

The core activities of Royal Nedlloyd are world wide container logistics and European Transport and Distribution. This article focuses on European Transport and Distribution in which we offer the following products: Parcel Distribution, LTL Traffic (Less than Truck Load or Groupage Cargo), Warehousing, Integrated Logistics Services, Fashion Services, Transport for the Chemical Industry and Customs Clearance Services. The total turnover of Royal Nedlloyd in 1996 came to Dfl 6.8 billion of which Dfl 3.3 billion was generated by the core activity European Transport and Distribution.

### **Mass-Individualisation and the **Logistics Service Provider****

Efficient Consumer Response (ECR) and more particularly Efficient Replenishment (ER) as an integral part of ECR, is the logistics answer to the demands of the social and economic challenges imposed on us by mass-individualisation.

What once started in the United States with Wal-Mart is now also common good in Europe. One jar of peanut butter is nowadays five jars of different flavours of peanut butter, which in turn are in five different jar sizes. The pioneering role of the fresh food market and the big food retail chains has now also found followers elsewhere in the retail industry. Electronic Point of Sale (EPOS) pull effects of the supply chain, **triggered by the final consumer** is no longer the prerogative of only the grocery retailer.

Also elsewhere in the retail industry flows in the supply chain are activated as and when the consumer satisfies his needs. To constantly satisfy these needs is explicitly (also) a logistics challenge.

The acknowledgement that the LSP is an important contributor in the total process of serving the consumer, has meant that the pan-Europe operating LSP has been invited to join the ECR-Europe forum discussions initiated earlier by the big European retailers and manufacturers. At the very successful second ECR-Europe Congress in Amsterdam, Nedlloyd ran a workshop on the theme "The Role of the LSP in the Supply Chain".

In the traditional rivalry between retailers and manufacturers, the LSP can play an important role as **facilitator or even mediator** in order to eventually improve our common goal to serve the consumer. This will be illustrated with some real life examples.

### **Business-to-Business Market**

In order to meet the high expectations of the consumer in a very competitive market, both the retailer and the manufacturer have a common interest to have the right product in sufficient quantities at the lowest costs on the shelf each and every moment the consumer is ready to buy. Sufficient quantities mean minimal stock to meet the anticipated demand for all products at that moment. The **logistics consequences** are a highly frequent delivery of small consignments from many manufacturers to a wide range of retail outlets. In view of the cost drivers of the LSP, i.e. economies of scale and duplication on delivery, we immediately identify a big challenge for the LSP, but also for the manufacturer and the retailer.

Based on some real life experiences, it will be illustrated how Nedlloyd handles these challenges and as a consequence facilitates the relationship between the manufacturer and retailer.

#### *Makro Supply Chain*

The range of products on the shelf in the Makro shops in the Netherlands has increased substantially over the last few years. Around 15 million “markets” with their own specific demands must be served.

The daily supply to the many shops belonging to the retail chain from some hundred manufacturers is an interesting challenge. In this case the retailer is in the driving seat.

The **demand pull in the supply chain** is triggered by the EPOS cashier and activates an order at the head office of Makro with the many manufacturers whilst at the same time a request is sent to Van Gend & Loos to pick up the products at the specified manufacturers. The dense network of Van Gend & Loos with 26 region cross-dock and sorting terminals subsequently arranges delivery at the ordering shop within 24 hours. The multi-user principle of the Van Gend & Loos network also guarantees the maximum use of the available transport capacity. Moreover, Van Gend & Loos guarantees that the many orders placed by the one shop with many manufacturers, is delivered by one single truck.

The consolidation of products from in principle an infinite number of manufacturers to one delivery at the shop is triggered by reading the barcode on the parcel/pallet in the receiving region terminal after the pick-up from the manufacturer, which in turn will feed

the main computer steering the sorting and distribution process. By means of this advanced **computer aided logistics process**, each manufacturer can meet the demand of the retailer. It does not matter whether the manufacturer has only one or many parcels or pallets and for how many different shops and in what frequency. The demand of the consumer becomes the demand of the retailer on the manufacturer. In order to control the processes of the LSP, we introduced the barcodes and standardised the EDI messages in the total supply chain.

As a direct consequence the LSP also facilitates a much improved communication pattern between the manufacturer and the retailer.

### *Pan-European Distribution of FMCG*

A second example is on a pan-European level where the introduction of standardised processes imposed by the LSP, has made a substantial contribution to everything that **ECR** stands for. In this particular case we deal with a British manufacturer exporting to six countries on the Continent by means of a franchise organisation in each of the countries. The balance of “power” in this case is with the manufacturer.

Until very recently each of the franchisees in the six countries used their own selected LSP to pick-up the products in the UK for stock keeping in one or in some cases several warehouses per country. Subsequent delivery to the many shops in each of the countries was arranged by some three or four different LSP's. All in all around twenty different LSP's were involved in the delivery from manufacturer to retail shops in Europe and twelve stock keeping warehouses (owned and subcontracted).

In that concept the manufacturer was never in a position to obtain a proper up-to-date survey on the turnover per shop per product in each of the countries or the total stock in the supply chain or the actual lead time for slow- and fastmovers etc. Since the product was of an outstanding quality and sales had been booming since introduction five years previously, the development of management and marketing information systems had been neglected. However, with the recently increased competition the going became tough and an appeal was made to apply the most basic elements of ECR.

Since then the manufacturer and his franchise holders decided that the supply chain from manufacturer to the many hundreds of shops on the Continent could be better handled by only one LSP i.e. Nedlloyd. Transparency in the supply chain from manufacturer to the retail outlets on the Continent meant the closure of six stock keeping warehouses, the reduction of the order lead time by 60 to 70 %, a much improved product assortment per shop (and in some cases even for the first time the ability to offer the full range of products), proper well co-ordinated product introduction and a substantial cost saving.

The decision to choose one LSP was based on the fact that the LSP is capable of **integrating all relevant data in the supply chain by means of EDI** in an advanced order

management and distribution system with all parties in the chain, virtually irrespective of which standard, file or communication strategy is currently used by the other parties. **The Nedlloyd Order Management and Distribution System (NOMADS)** facilitates integrated supply chain management. Central error free billing based on a central database of rates and agreed calculation rules, issuing of transport orders by the manufacturer to the LSP and from the LSP to his companies in the various countries, performance / quality reporting and a database of all shipment information movements down to parcel level allowing for a comprehensive management reporting system accessible to any mutually agreed party, are only a few of the possibilities. Particularly this last feature allows our customer to monitor exact product movements and stock levels at any given time. Every time a bar-coded product passes a reader, be it at a LSP facility or an owned warehouse or in the retail shop, the status is recorded and instantly available. Hence transparency in the chain and tools to comply with ECR.

### *Automotive Industry*

Another striking example is the use of the same principle for a big Scandinavian car manufacturer. Mass-individualisation has already been a known fact in this industry for years. Cars are modular- and custom built. In this case parts are manufactured in Spain, Italy, France and The Netherlands.

The supply to five manufacturing/assembling plants in Scandinavia from around 100 subcontractors in Europe is highly frequent and in small lots along a very tight time window which calculates in hours. By means of a strictly controlled European consolidation system via cross-dock hubs at strategic locations in Europe, cargo flows are thickened and economies of scale achieved. **The purpose is zero stock in the chain and just in time delivery.** The management of this process demands a high degree of automation and discipline on the “workfloor”.

Detailed instructions combined with a self-imposed strict performance monitoring system assist us to maintain the agreed quality and to steer the routine and perhaps even more importantly to control the occasional exception. **The Nedlloyd Order Management and Distribution System** is again the tool to play the role of total supply chain integrator keeping us (but also the part manufacturers and our customer in Scandinavia) permanently on top of the total process. Transparency in the chain and instant access to information are the key to a successful operation.

## Business-to-Consumer Market

In the business to consumer market many new developments are currently under way. Within the Netherlands the Nedlloyd company Selektvracht is an important player in this market.

In addition to the traditional mail order market, which already has a long history, new retail sales channels reach out to the consumer. The introduction of interactive telematics creates new opportunities and enables consumers to place orders from the comfort of an easy chair at a time suitable to them. **Teleshopping, part of electronic commerce**, the modern version of the mail order company is at present the subject of many studies and already displays several variations.

The best known examples for the general public are the commercials in the off-peak hours on the TV channels and on Internet. Future expansion of the glass fibre cable capacity, satellite disc receivers, the introduction of pay-channels and in particular the integration of the TV and computer will open an increasing possibility for interactivity in the business to consumer market. Mass-individualisation “par-excellence”!!

The LSP delivers the products to the home address of the consumer at a time convenient for the consumer. It will be obvious that the smooth handling of this operation will call for a very close co-operation between all the parties in the supply chain. Parties in the chain are a.o. the media provider (Internet, TV channel owners etc.), manufacturer, retailer, financial institution, call centre and the LSP. All should be able to communicate seamlessly via EDI with each other.

## The Challenges for the **Logistics Service Supplier**

In short the challenges are to deliver the products on time, complete and damage free with maximum of information transparency to all parties in the chain at acceptable costs.

- On time in the business-to-consumer market constitutes delivery within a couple of hours, whilst in the business-to-business market on time means from within 8 hours up to several days for the pan-European traffic. The overriding driver will always be the lead-time in the supply chain, which is dictated by the final consumer.
- Complete means the delivery of the consignment composition as ordered by the receiver. That can be one parcel from one source, but also twenty parcels from eight factories in four countries. Consolidation in the chain will combine the original eight consignments to one consignment on delivery at the receiver (in one truck).
- Damage free is self-explanatory.
- Transparency means to be able to inform all players in the chain at any give time about the status of their consignments. Here we do not talk about only the physical location,

but explicitly also about the possibility to accurately monitor the performance/quality of the service as agreed among the parties, the ability to send one specified invoice for sometimes complex logistics operations or the facility to offer interconnectivity of several **information systems** allowing for seamless data interchange on EDI basis. Key words are EDI, Barcode, Standardisation, Interconnectivity, Communication and Partnership.

*Example: Van Gend & Loos*

The Nedlloyd company Van Gend & Loos collects per day in the Benelux for distribution in the Benelux or transport to elsewhere in Europe some 180.000 parcels and pallets / 100.000 consignments. After collection and receipt at the nearest Van Gend & Loos terminal all cargo is automatically sorted per destination by reading the barcode on the parcel/pallet. At that moment the Van Gend & Loos computer captures the following data: name and address of sender and receiver, the number, the size and the weight of the collected cargo. This information is also instantly available to the sending customer by means of an EDI connection with the Van Gend & Loos computer. Some of our customers only use this source of information to update their internal stock data and to invoice their end customers for the sold products. That is (one aspect of) transparency and adds value for our customer.

At acceptable costs demands a solution for the paradox of the high costs for the LSP for very frequent delivery of relatively small consignments, as imposed on the supply chain by the forces of mass-individualisation and existence of the economies of scale cost saving opportunities for the LSP if cargo moves in big(ger) flows.

## **Future scenarios**

In the future the European consumer will increasingly insist that he can avail himself of exactly that product which his **erratic behaviour** tells him to buy at that particular moment. Product brand loyalty or the limitation by the consumer to shop at only one retail chain is something of the past. Nowadays there are numerous different brands of beer or an overwhelming choice of audio equipment etc. The individualisation of the consumer as a social phenomenon will continue and will mean that an ever bigger product assortment will be on offer through a wider scale of retail channels. A bigger assortment customised to the wishes of the consumer translates into increased flexibility of production. Specialised subcontractors in the automotive industry are a good example. In the PC market the **products are made country and customer specific late in the chain**. An extreme example is the customer who phones in his body measurements and has a suit tailor- made and home delivered at a day / time convenient to him out of office hours.

The European market will also become more transparent and consequently offers more choices. Europe will grow as the European Union increases its membership. Increased affluence in Central and Eastern European countries will mean more consumers of our products whilst also production will move to or start in the former East Block countries. These developments will also attract American and Asian investors, keen to serve the relatively rich European consumer.

All in all this leads us to believe that in future an increasing number of manufacturers and retailers will battle for the favours of the individual European consumer with his unpredictable buyer behaviour.

The above mentioned observations force us to conclude that the **present and future developments for the Logistics Service Supplier** will show that:

1. Highly frequent delivery of relatively small consignments can only be done at acceptable costs if economies of scale are reached. This can be achieved when:
  - Manufacturers or retailers outsource their logistics service requirements to fewer LSP's
  - LSP's increase in size (autonomously, take-overs, partnerships);
  - Ad-hoc for that specific customer a number of LSP's bundle their services and offer a creative solution. These ad-hoc clusters could well become a breakthrough.
2. There will be an increasing trend to close regional distribution / stock keeping centres (RDC) and a move to fewer or in some cases even one European Distribution Centre (EDC). Though at first sight it may appear that we move (geographically) away from the consumer, it remains that the cost saving aspects of closing the RDC supported by the improved transport and distribution possibilities in Europe, outweigh the possible negative aspects of such a move.
3. Stock in the supply chain will be further minimised. This will be achieved through the integration of data interchanges amongst the parties in the chain. The role of the LSP will be proactive and more dominant. Stock keeping, transport and distribution in Europe will be managed by the LSP on the single article level. One stop shopping for logistics services, single invoicing/self-billing, real time data interchange will become standard. Transparency is the key success factor and Nedlloyd is already well positioned in offering this facility in the form of the Nedlloyd Order Management System (NOMADS).
4. The role of the LSP will continue to move away from a "commodity" seller to that of a dedicated service provider to all parties in a specific supply chain adding real

tangible value in a rapidly changing environment.

5. Whilst on the one hand there is a call for standardisation in the products of the LSP to reduce the costs, there is also the demand to quickly adjust to the specific needs of the customer i.e. flexibility and the ability to offer one-stop-shopping total logistics solutions. This must prompt the LSP's into giving their future profile proper consideration. Does he indeed want to be / become the chain manager and integrator? And consequently will he own and buy the hardware or is it good enough to subcontract and "only" retain the management function? Alternatively is being a specialist niche operator an attractive option? After all it is difficult to be all things to all men.
6. The LSP will have to closely monitor and possibly also take part in the developments on the "electronic" highway. The question is not whether **retail sales will be effected on the electronic highway**, but rather the extent to which this new retail channel will substitute the until now more traditional retail channels. In anticipation of what we can expect, Nedlloyd is already involved in discussions with builders preparing the highway such as financial institutions, retailers, IT consultants and TV cable operators.

## Summary

The LSP is an important partner when it comes to serving the erratic European consumer. If we talk in ECR terminology, we maintain that the enabling techniques of the LSP are a strong shackle in the chain linking demand management and supply management and the final consumer. The key success factor is transparency in the chain. We at Nedlloyd are well aware of the challenges and as a learning company permanently shaping the organisation to meet the demands of our customers. Listening to our customers is the main source of inspiration.

To conclude some food for thought:

The consumer can be served optimally **when all the players in the supply chain form a team**. The team functions well when all players know each other's wishes. Hence: Key players in the supply chain will work one month per two years in the industry of the other player.