

Distribution



The EC distribution sector is undergoing considerable restructuring. Changes include concentration, reduction in the number of traditional wholesalers, transformations in the retail sector and a tendency towards diversification and internationalisation.

Moreover, the future of the distributive sector will be influenced by the achievement of the internal market and the opening-up of Eastern Europe.

The Economic importance of the industry in the EC economy

In analysing the overall importance of the sector within the economy, the major problems are those of definition and of adequate statistics. The definition issue is chiefly due to the fact that the divisions between the sub-sectors concerned (manufacturers, wholesalers, transporters, agents, retailers) are becoming less clear. These actors are tending to overlap, and the fact that manufacturers or transporters are fulfilling roles which were typically those of wholesalers means that this activity is not recorded in the official NACE statistics for this sector. This consequent lack of reliable statistics makes it difficult to assess the value of the sector in the Community economy. Nevertheless, it can be stated that the sector represents about 13% of both output and employment in the European Community. These figures have remained relatively constant over the last ten years, showing that the distribution sector has grown in line with economy.

Description of the industry

The industry is divided into two sub-sectors

- ❖ wholesale distribution (NACE 61), defined as "units exclusively or primarily engaged in the resale of goods in their own name to retailers or other wholesalers, to manufacturers and others for further processing, to professional users, including craftsmen, or to other major users."
- ❖ retail distribution (NACE 64 and 65), defined as the distribution to final consumers of
 - food, drink and tobacco;
 - dispensing chemicals;
 - medical goods, cosmetics and cleaning materials;
 - clothing;
 - footwear and leather goods;
 - furnishing fabrics and other household textiles;
 - household equipment, fittings, appliances, hardware and ironmongery;
 - motor vehicles and cycles;
 - motor fuels and lubricating oils;
 - books, newspapers, stationery and office supplies;
 - photographic, optical, jewellery and other retail distribution.

These definitions describe the function and product areas characterising wholesalers and retailers. They do not cover the

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fact that many organisations perform both functions, or that the ownership of wholesalers and/or retailers may reside in operators from another sub-sector of the supply chain (such as manufacturers), or that manufacturers in some areas carry out their own wholesaling and retailing and are not thus covered by the statistics for the latter sector.

A further important point is that the definition of wholesalers ignores the increasingly wider role that many operators within the sector are playing. For example, the change in manufacturing to tightly-managed production techniques (such as Just-In-Time) means that the whole distribution chain is becoming more sophisticated, and that wholesalers are also taking on functions such as packaging, quality control and administration. None of these is included in the NACE definition, but they nevertheless affect the contribution to the economy of the sector as well as the profile of the wholesaler.

Structure of the industry

There is great change occurring within and between the sub-sectors of the distribution industry. This can be summarised as:

- concentration, expressed in terms of a reduced number of larger operators, and closer vertical links between manufacturers, wholesalers and retailers;
- a general reduction in the number of traditional wholesalers, bearing in mind the fact that the concept of wholesaling seems to have different meanings within different Member States;
- a series of transformations in the retail sector, with significant differences between Member States. Overall a slower increase than before in hypermarkets, a

rise in franchising and a proliferation of forms of distance selling are prominent features;

- a tendency towards diversification of activities into other service areas and some specific moves towards internationalisation.
- Geographic variance remains of great importance in the structure of the distribution industry.

The concentration phenomenon is more evident in northern Member States, with not only a rationalisation in the direct retail sector, but also the emergence of purchasing groups and voluntary chains to benefit from economies of scale.

Wholesalers are often thought of as being things of the past, in that the traditional operator now often finds himself squeezed out, either through a manufacturer's wish to control distribution himself or through the large retailer's practice of upstream extension.

However, some forms of wholesaling are on the increase, such as wholesaler-owned voluntary chains and specialist operators who focus on specific end-users (such as schools and hospitals). "Traditional" wholesaling does survive in raw materials and bulk products, because of the logistics involved.

The structure of retailing continues to evolve, with marked differences between the north and the south of the Community.

In the north, concentration and larger outlets are the new trends. In the south, smaller shops remain very prominent.

An interesting trend is emerging within the retail sector, whereby

- retail groups are the typical operators in food retailing
- voluntary chains feature in non-food retailing, and

- franchisees are moving into services (travel, financial services etc) as well as goods.

Diversification of activities is occurring, whereby producers (typically non-food) set up retail operations, or where retailers offer services such as travel, financial services, restaurants etc.

Internationalisation tends to occur towards neighbouring Member States at first, because of cultural similarities. Non-food retailers are the operators most prone to internationalise, with great attention having to be paid to national consumer tastes. The Euro-consumer does not yet exist, even if consumption patterns are moving closer together.

Geographical features

The most obvious influence of geography on the sector is in the differences of definition of what a wholesaler is, and in the role of the small retail outlet.

In Germany, for example, wholesaling tends to be thought of as the distribution and procurement activity of manufacturers. In France, the tendency of manufacturers to subcontract sales activities and of retailers to subcontract buying, results in wholesaling being seen as a large growth sector. The Dutch import-export agencies, which are major economic operators, contribute to that country having the feeling that the sector is dynamic, while in the United Kingdom, a more restrictive view is taken, namely that of the old-style "middle man" between manufacturer and retailer, now in decline.

Taking these differences of perception into account, the major feature of geographical variance in wholesaling is that the northern Member States exhibit much more evidence of a blurring of activities between

manufacturer, wholesaler and retailer then do those in the south.

As for retail, large food and non-food shops are steadily increasing their dominance of the market in northern Member States (including France) while the small operator survives tenaciously in Italy and Spain. The overall importance of the small outlet should not be underestimated; for example, the 80 largest food retailers in the Community do less than 60% of the total business.

Concentration in retailing is thus correlated with the level of economic development of the Member State, except for Italy, which retains its high number of small shops.

Franchising and non-shop retailing are also notable for some geographic variance, explained in the monograph on retail distribution.

Risk and opportunities for the future

The changes inherent to the sector itself (concentration, increased use of technology, vertical integration and diversification) must be seen together with extraneous developments such as the creation of the Internal Market by 1 January 1993 and the potential opening-up of East European markets.

While the achievement of an integrated EC market will require a European distributive systems (and the Community's actions in the transport, competition, investment, structural funds and enterprise policy areas are helping this to come about), distributive sector operators face two conflicting pressures in seeking to meet the challenge. The first is the increased competition from other Member States as the concentration and integration in the sector, encouraged further by cost reductions following the completion of the Internal Market, forces them to broaden their horizons and seek cross-border opportunities.

The second feature is the continuing requirement to respect local culture in delivery of services, a feature which reduces the scope for rationalisation and internationalisation.

The key may thus be effective streamlining of operations through technology, enabling the operator to carry out more activities at an overall higher level of sophistication. Electronic Data Interchange (EDI), Electronic Point-of-Sale (EPOS), and Direct Product Profitability (DPP) techniques are used widely as essential tools in upgrading activities.

The problem is, of course, for smaller players, who may find that the investment in technology required is too great for them to support.

The opportunities created for logistics planning and management by the abolition of internal frontiers should contribute to expansion in physical distribution activities.

Taken together with the liberalisation in road transport, this area should see major change. This will in turn produce a situation where distribution strategies will influence consumption patterns, and where marketing activities typically performed by manufacturers may be taken on by distributors and traders.

Finally, the trend towards a lower percentage of household income being spent on retail goods (and more on housing, leisure, travel and other services) will contribute to ever more aggressive fights for market share and continued change in the sector as a whole.

Written by: DRT Europe Services

The traditional role of the wholesale sector in supplying warehousing and transport services is rapidly being eroded by the development in technology and logistics management. Traditional wholesale services are still in demand, but increasingly only as part of a sophisticated package of services including marketing know-how, financial services and training. The completion of the Single Market is expected to increase competition as well as the need for strategically located warehousing. New information technologies will force wholesalers to examine their relationships with suppliers and customers and will probably lead to closer relationships if they are to survive. Increased competition and new information technologies are expected to lead to greater concentration in the sector. Employment opportunities remain high, but re-training in the new technological applications is increasingly necessary.

Description of the sector

Wholesale distribution is defined, according to NACE 61, as: "units exclusively or primarily engaged in the resale of goods in their own name to retailers or other wholesalers to manufacturers and others for further processing, treatment, packing or unpacking to which they are usually subjected by the wholesale dealer. Generally speaking, the latter's role involves, on the one hand, the storing of goods and, on the other, taking title to and/or having the right to dispose of the goods in question."

This definition reflects the traditional role

of the wholesale trade as the suppliers of warehousing and of transport services, with particular emphasis on the bulk supply of consumer goods to the industrial and agricultural sectors. However, it has become more difficult and less useful to define the boundaries between wholesaling and other commercial activities. In practice, the NACE definition, and the statistics collected in accordance with it no longer reflect properly the nature and extent of activities of bulk distribution. Wholesaling should be viewed in the function that it performs in the supply of

goods to the market place. All goods pass along a supply chain, starting as raw materials, processed into commodities (such as iron), converted into equipment or consumer goods and ultimately used by the final consumer.

At each stage of the chain, companies "add value" to the product and sell at a higher price in order to make a profit. This "value added" can take many forms and is not necessarily a manufacturing function. Frequently, it is a service function such as the provision of knowledge, technical support, a wide range of goods, a delivery service, training or maintenance.

The manner in which wholesalers operate and the extent to which they provide services, depends on several factors:

- ❖ the number of customers and the degree of concentration in the market place. A small number of customers and a large concentration reduces the role for wholesalers (food wholesalers have almost disappeared in several countries as retail chains have vertically integrated and concentrated);
- ❖ the service level demanded by customers. The higher the service levels demanded, the greater the role for wholesalers (e.g. in the pharmaceutical industry, chemists dispensing drugs demand high service levels as they cannot afford to have their own stocks and the manufacturer cannot provide the delivery service);
- ❖ the geographical spread of customers. The more geographically spread out the greater the role for wholesalers (e.g. agricultural cooperatives still thrive in many rural areas, supplying a wide range of agricultural products);
- ❖ the physical characteristics and value of

the product. It is economical to distribute at a local level bulk items, steels, chemicals and fertilisers which are expensive to store and transport relative to their value;

- ❖ commercial and marketing pressures. The greater the pressure for a manufacturer to preserve a brand image and market position, the greater the incentive to control downstream operations.

It has already been said that it is perhaps more convenient to view wholesalers in terms of the functions they perform within the value chain. However, an issue secondary to this is the question of ownership. For example, if we look at the food sector, a food wholesaler could be owned by an independent wholesaler, a consortium of retailers (buying group), a retail chain or a manufacturer. The food wholesaler, owned by the different categories, provides the same function to all of them, but its ownership, and therefore, the manner in which it shows up in the statistics, is very difficult. The role of wholesalers varies from product stream to product stream. Below we briefly examine the nature of each of these:








- ❖ With raw materials and bulk products the role for the wholesaler remains strong, mainly because of two reasons: transport costs are high relative to the value of the products and customers demand high service levels with short delivery times. The logistics elements of supply dominate in this sector with emphasis on the minimisation of transport costs. There is little "value added" to the product. This sector tends to be concentrated on a few large international companies, often closely linked with a producer;
- ❖ Industrial and capital goods wholesaling is mainly import based, where the whole-

saler often also acts as the importer, usually with exclusive sales arrangements with the manufacturer. Often such wholesalers are regarded as technical specialists and are likely to provide a range of value added services such as installation, maintenance and training. In general, companies tend to be medium-sized and operate either regionally or within a single country.

However, manufacturers often feel that traditional wholesalers are unable to offer the quality of service for their products that they would wish, and that the wholesaler also stands between the manufacturer and his customer. As a result, exclusive distribution agreements are often established, or the manufacturer establishes his own distribution operation. This development is particularly strong in the computer industry and allows the manufacturer direct access to his markets.

- ❖ In the consumer durable sectors, wholesalers are bypassed as there is a high concentration in the retail sector. This is particularly true for furniture, electrical goods, footwear and toys. Exceptions to this are textiles and gifts, where wholesalers react quickly to changes in fashion and style;
- ❖ The food and fast-moving consumer goods (FMCG) sector is being radically changed by the intense concentration in the retail sector at the expense of the traditional family wholesalers. Retail operators have centralised their distribution functions, thus taking over part of the process formally undertaken by wholesalers. Similarly, independent retailers have favoured purchasing cooperatives, again at the expense of the traditional wholesaler. The remaining independent wholesalers

Figure 1
Wholesale distribution
The value chain

					ISSUES	
PRODUCTS	BULK MATERIALS				<ul style="list-style-type: none"> ∩ TRANSPORT ∩ SERVICE ∩ SUPPLIER RELATIONSHIP 	
	INDUSTRIAL GOODS				<ul style="list-style-type: none"> ∩ EXCLUSIVE SALES AGREEMENTS ∩ VALUE ADDED SERVICE 	
	CONSUMER DURABLES				<ul style="list-style-type: none"> ∩ VERY FEW ∩ NICHE MARKETS 	
	FAST MOVING CONSUMER GOODS				<ul style="list-style-type: none"> ∩ BREAK BULK FUNCTION ∩ VALUE ADDED SERVICES ∩ VARIED OWNERSHIPS 	
Source DRT Europe Services		Raw Materials	Manufacturer	Retail	Consumer	

have concentrated on specific market segments such as the independent catering market, replenishment of petrol stations and the chilled food sector. Mail order and telemarketing operations, freight carriers, commercial agents and other suppliers of distributive services (who do not necessarily take title to the goods) have also decreased the role of the wholesaler.

The different types of wholesalers, arising from the function they perform, can be classified as follows:

- ❖ **Traditional Wholesaler:** specialised in a particular product category. As described above this sector is rapidly disappearing, but is still strong in bulk goods, pharmaceuticals and seems to be reemerging in certain FMCG areas. In the FMCG sector, wholesalers primarily "break bulk" and take several forms: traditional independent wholesalers, voluntary chains, purchasing cooperatives, cash and carry operators, upstream retail distribution operations, downstream manufacturing operations;
- ❖ **Specialist Wholesalers:** these focus on particular end users and seek to meet all their requirements. Such operations ser-

vice schools, hospitals, office users and specialist retailers;

- ❖ **Trading Houses:** these are often import/export agencies who specialise in procuring a wide range of products from overseas and selling them in domestic markets. Traditionally, they may have been associated with a large trading house that may have started by supplying commodities such as tea, coffee and even raw materials. However, they have expanded their operations over the years to include consumer durables such as clothing, cars and electrical products. Many of these have established very close links with particular manufacturers and in some instances could be regarded as "distributors" rather than wholesalers;
- ❖ **Procurement Agencies:** these specialise in identifying particular markets, finding products and suppliers to satisfy them.

As discussed in the overview, distribution is increasingly viewed as a "supply chain" in which manufacturers, wholesalers and retailers all play a role. As a result, the distinction between these has become increasingly blurred in recent years, making

the definition of the sectors and the collection of statistics difficult and even meaningless.

No reliable information is available on the role of non-profit making organisations in wholesaling. However, it is clear from the types of wholesalers described above that the majority of enterprises exist to make a profit. This is underlined in table 2 which emphasises the small, family nature of many wholesale operations. The major exceptions to this may be voluntary chains and purchasing cooperatives which exist as a service to their members. However, no reliable data exists to help identify these as a separate category.

Current situation

Manufacturers, who are both suppliers to and customers of wholesalers, are consolidating their operations into fewer specialist facilities and adopting just-in-time (JIT) production techniques. This has the effect of both physically lengthening the supply chain and making the service requirements of the supplier of crucial importance. Both of these factors represent an opportunity for the wholesaler who is prepared to

become a close business partner with a manufacturer. This involves not only developing a business relationship, but also installing IT communications links directly with each other's computers and control systems.

The buyers of these services are becoming increasingly sophisticated and will specify strict standards of service, stock levels, ordering procedures, delivery lead times and invoicing and financial arrangements. Wholesalers will need to respond to these demands by developing high quality services based on good control and sound technical knowledge. They may also be able to respond by offering other value added services such as packaging, quality control, assembly and essential administrative procedures.

Trends in trade

There are a number of important factors which will affect trading patterns over the next few years.

The implementation of the Single European Market in 1993 is widely expected both to increase the flow of goods to be traded within the Community while at the same time increasing competition within the sector and leading to a restructuring of distribution operations. A number of legislative changes being implemented will have the effect of producing a more "level playing field", enabling distribution operations to be set up along logistics lines rather than on national lines.

In particular, the removal of bi-lateral quotas for international journeys will enable operators to make better use of their vehicles for cross border trips and should ultimately result in reduced transport costs. This will be further enhanced by the introduction of "cabotage" - enabling oper-

Table 1
Wholesale distribution
(except dealing in scrap and waste materials)
Main indicators

		Number of enterprises	Turnover (excl.VAT) Mio. ECU)	Gross value added at market prices (excl. VAT) Mio. ECU)	Number of persons employed
Belgique/België	1987	44 891	80 718.7	6 355.0 (*)	112 135 (*)
Danmark	1986	24 060	50 681.6		121 492 (*)
BR Deutschland	1986	108 858	363 279.2	58 109.5 (*)	975 167
Hellas	1988				90 085
España	1988				355 118
France	1987	80 405	232 496.9	30 460.5	894 267
Irland	1988				44 563
Italia	1981	109 057			629 136
Luxembourg	1987	1 335	3 053.7	275.9 (*)	8 857
Nederland	1987	39 995	126 946.3	11 434.7	333 086
Portugal	1988				80 507 (*)
United Kingdom	1987	114 978	265 489.7		806 631

(*) Estimation based on turnover and total amount of purchases

(*) 1988 - Based on "Labour Force Survey"

(*) 1985

Source: Eurostat

ators from one country to operate entirely within another.

In addition, the harmonisation of key cost elements such as diesel tax and road tax (currently under discussion) will ultimately encourage operators to locate according to the demands of the market and not necessarily according to other cost factors. Consequently, operations are expected to become centralised on major warehouses at strategically significant locations. These will form the basis of European Logistics Networks which will undertake far more intra community trade than exists at present.

These types of operations generate a greater need for well-managed warehousing and transport operations. This of course is the traditional role of the wholesaler but when manufacturing and retail companies do not wish to use a wholesaler they will frequently place the physical distribution into the hands of a contract distribution company. Most of these companies have grown from road haulage operators, but many of them now operate pan-European distribution services

effectively acting as agents for their clients.

Finally, the recent developments in Eastern Europe have opened up a number of opportunities for the wholesale sector. While trade has been limited up until now, the privatisation of state enterprises and the encouragement of commercial enterprises has opened the door to the setting up of operations, especially where this is accompanied by investment. A major expansion of trade in the medium-term is expected.

Employment trends

Table 1 indicates that there is a total of about 4.45 million persons employed in the wholesale sector in the EC. This figure seems to have been fairly consistent throughout the last few years with total employment changing hardly at all in the years 1984 to 1988.

Table 2 provides a more detailed breakdown of employment. Traditionally wholesaling has been an industry of small organisations, often serving specific geographic areas or occupying niche markets. Such organisations have often been family owned and run. This is clearly identified in the table that shows the relatively low

Table 2
Employment in wholesale distribution
 (except dealing in scrap and waste materials), 1987

	As % of total employment in wholesale distribution		Ratio of self employed to employed persons	As % of total working population		
	Men	Women		Men	Women	Total
Belgique/België	74.2	25.8	1: 3.8	2.12	0.74	2.86
Danmark	69.7	30.3	1: 8.8	3.10	1.35	4.45
BR Deutschland	63.7	36.3	1: 10.3	1.93	1.10	3.03
Hellas	74.8	25.2	1: 2.7	1.77	0.60	2.36
España	79.2	20.8	1: 4.6	2.27	0.59	2.86
France	69.4	30.6	1: 12.6	2.69	1.18	3.87
Ireland	80.0	20.0	1: 6.7	2.85	0.71	3.57
Luxembourg	72.3	27.7	1: 14.1	2.93	1.13	4.06
Nederland	73.7	26.3	1: 12.6	4.99	1.78	6.77
Portugal	78.7	21.3	1: 4.5	1.51	0.41	1.92
United Kingdom	69.5	30.5	1: 10.2	2.16	0.95	3.11
EC 11	70.2	29.8	1: 7.4	2.35	1.01	3.36

Source: Eurostat

ratio of self employed to employed persons. Some 30% of the work force are women, a statistic that varies from 20% in Ireland to 36% in the Federal Republic of Germany. A number of conflicting pressures exist in employment opportunities in the wholesale sector. On the one hand, a declining working population will make recruitment of suitably qualified staff more difficult. On the other hand it is anticipated that the industry will move increasingly towards high levels of automation and will reduce the demand for labour. This later trend will be accompanied by a structural change in the industry which will mean fewer and larger companies. This in turn increases the opportunities for the successful implementation of highly automated operations which will demand a smaller but more highly qualified workforce.

Investment and technology trends

While most wholesalers have computerised their commercial systems some years ago, it is only relatively recently that technology has started to take over some key logistics functions.

Data communications systems are increasingly being used for direct company to company contact. Electronic Data Interchange (EDI), defined as the transfer of structured information in electronic form between computer systems belonging to separate companies, reduces the communication chain by greatly speeding up order processing and the distribution cycle, and reducing time and distance constraints. However, for data communication use to develop, method and technologies have to be standardised. Frequently this is developed at an industry level with cooperation between suppliers, customers and competitors. This is particularly true for direct customer/supplier links and of electronic shopping systems which display various supplier prices. EDI is increasingly used for order processing, invoicing and stock control. Its benefits are that it is fast, reliable and accurate.

The major areas of investment are expected to be in the use of scanning equipment, EDI links and radio data systems in warehouses. All these technologies play a major role in supporting the logistics func-

tions of inventory control, order entry and warehouse control systems.

Information technology systems now operate throughout the entire supply chain and provide many benefits to client users.

Examples are:

- ❖ EPOS (electronic point of sale) uses bar codes and laser scanners to identify sold products, automatically triggering replenishment requests. Users of these systems are only just beginning to appreciate the value of the information generated by EPOS systems (shelf management systems and direct product profitability (DPP) systems). EPOS can also be linked to EFTPOS (electronics funds transfer at point of sale), which aids cashflow control;
- ❖ Radio data terminals in modern warehouses control the flow of goods. Product flow around warehouses is monitored and instructions are communicated to fork lift truck operators via onboard screens, helping to optimise the operations of the fork lift trucks.

All these systems influence the provision of a flexible, responsive supply chain and represent challenges that wholesalers

need to confront. However, these systems effectively shorten the supply chain and thus reduce the opportunities for wholesalers to "add value". In addition, the investment required is often too great for smaller companies to be able to support. As well as investment in Information Technology, investment is needed in physical facilities. Warehouses, more correctly referred to as distribution centres, are increasingly developed at strategic locations and accommodate highly automated equipment. Sophisticated control systems ensure that the equipment is effectively utilised and that the product is always available for the customer.

Structural changes

As shown in table 1, warehousing consists of nearly 1/2 million companies in the EC employing some 4.4 million people. While it has been suggested that some degree of consolidation in the industry ought to be taking place, it is very difficult to detect such changes in official statistics.

However, a number of factors would indicate that consolidation is inevitable over the next few years:

- ❖ a move towards European Logistics Operations as opposed to local operations;
- ❖ the cost of the necessary investment in information technology and advanced systems will be too high for small companies;
- ❖ pressure from the large retail groups, who are beginning to develop their own "wholesale" functions in the guise of centralised distribution. This will lead increasingly to independent wholesalers being superceded;
- ❖ the ability of advanced IT systems to bypass the wholesaler entirely;
- ❖ The economics of scale, especially in the consumer goods and sector.

The wholesale sector is therefore under pressure from a number of areas and will need to respond by:

- ❖ being more efficient and reducing operating costs;
- ❖ being more aware of customer requirements and "Value added" needs.

Outlook

The changing structure of the industry in the European Community and development of advanced information technology (IT) has forced wholesalers to reappraise their relationships with both their suppliers and their customers.

The demand for the tasks and services provided by wholesalers is expected to increase in the next few years. Indeed, as the general volume of trade increases, so will the demand for distributive services.

The issue however is who will perform these tasks and provide the services.

There is strong evidence to suggest that as large companies seek to control their supply chains, they will increasingly take over the traditional wholesaler role themselves. Thus many of the major retailers have already sought to control their supply chains by undertaking their own "wholesale" functions and by developing close supply relationships with manufacturers.

Likewise, manufacturers will seek close relationships with their customers and therefore, assisted by sophisticated communications links, will begin to bypass the traditional wholesaler or insist on greater control of the wholesaler's functions.

However, these options are only currently available to large companies and traditional wholesalers will continue to provide services, either in niche markets or to retailers and manufacturers who are not big

enough to provide their own distribution infrastructure. Such wholesalers will need to continue to invest in modern technology, including communications links with suppliers and customers as well as sophisticated logistics control systems.

The next decade will therefore be a period of investment together with a period of evolution to meet the demands of modern supply chain techniques.

In this way the wholesaler will become an essential part of the customer's business and will remain an integral part of the total supply chain.

Written by: DRT Europe Services / Planned Warehousing division

Retail trade in the European Community is characterised by marked disparities of structure and level of development.

Nevertheless, some overall trends can be seen at Community level: Movement of concentration of companies, development of logistics, technological change and the use of new tools of management.

Furthermore, the impending arrival of the Single Market presents new opportunities for distributors and faces them with new choices of strategy: external growth, diversification or internationalisation.

Description of the sector

The retail trade sector, as defined in NACE categories, includes retail distribution of the following merchandise:

- ❖ food, drinks, tobacco;
- ❖ dispensing pharmaceuticals;
- ❖ medical goods, cosmetics and cleaning materials;
- ❖ clothes;
- ❖ shoes and leather goods;
- ❖ furnishing fabrics and other household textiles;
- ❖ household equipment, household fittings and household appliances, as well as ironmongery;
- ❖ cars and bicycles;
- ❖ motor fuels and lubricating oils;
- ❖ books, daily newspapers, stationery and office supplies;
- ❖ photographic, optical and jewellery goods, etc.

Present situation

European distribution, strictly speaking, does not exist; the disparities of the respective levels of development of the different countries and regions of the Community are reflected in marked structural differences in the retail trade sector. And although there may be convergences inside the European jigsaw puzzle, both with regard to forms of distribution and modes of consumption, they have to integrate national peculiarities linked to the history and culture of each nation.

The flow of modernisation of distribution circuits in Europe, born of the Northern countries at the start of the 1960s, has spread gradually and sluggishly in the Mediterranean countries. This development, favouring an organised and concentrated method of distribution, has given rise to the emergence of new protagonists charac-

Table 1
Retail trade in Western Europe, 1988

	Population (millions)	Retail sales (million ECU)	Retail sales per inhabitant (ECU)	Commercial Shops (thousand)	Densities
Belgique/België	9.88	34.8	3 522	113.7	87
Danmark	5.13	17.7	3 450	41.7	123
BR Deutschland	61.14	233.0	3 811	415.0	147
Hellas	9.98	17.6	1 764	171.5	58
España	38.91	81.9	2 105	540.0	72
France	55.75	207.6	3 724	418.2	133
Ireland	3.54	7.1	2 006	31.5	112
Italia	57.4	182.3	3 176	871.3	66
Luxembourg	0.37	1.4	3 784	3.7	101
Nederland	14.72	39.3	2 670	156.2	94
Portugal	10.23	18.8	1 838	97.5	105
United Kingdom	57.07	156.9	2 750	343.4	166
Austria	7.61	23.6	3 101	39.1	195
Norway	4.21	15.2	3 610	39.1	108
Sweden	8.41	34.4	4 090	63.4	133
Switzerland	6.56	32.1	4 893	54.4	121
Total	299.25	1 103.7	3 688	3 399.7	1 821

Source: Retailing in Europe (1990), The Corporate Intelligence Group, London

terised by all or some of the following features:

- very large outlets (supermarkets, hypermarkets, specialist large outlets...). It should be noted that no European standard exists concerning the sales area of retail outlets: for example, it is found that the countries new to distribution, such as Spain and Italy, have the highest averages of hypermarket sales area, with over 7,000 m²;
- a high degree of automation of operations;
- retail outlet networks enabling effective covering of the region or of the national territory;
- a considerable shopping space and increasingly sophisticated sourcing methods, especially in relation to the increased weight of branded retail products;
- the creation of exportable concepts.

This movement is occurring at rates which vary according to countries, relative to the stage of economic development, life style and consumption habits of the inhabitants.

The richest countries have recorded a rapid concentration of retail distribution,

whereas the independent traders retain a large market share in rural or less developed areas. The concentration of the food trade is found especially to have a direct correlation with the economic level of countries, which explains the strong anchorage of specialist distribution in southern Europe: whilst in Scandinavia, 75% of food products are sold in general food

stores, this percentage drops to below 50% in Italy or Spain. On the contrary, the most powerful distribution groups are found in Northern Europe and France. This correlation is found again with regard to sales area per inhabitant: over 2,000 m² per 10,000 inhabitants in France as against 453 in Italy. Finally, the share of turnover achieved by independent trading in general

Table 2
Retail food trade in Europe
Classification according to turnover, 1989

Company	Domestic Base	Turnover 1989/90 (million ECU)
Metro-Gruppe	BRD	11 473
Leclerc	F	9 948
Intermarché	F	9 238
Carrefour	F	9 214
J Sainsbury	UK	9 049
Rewe-Leibbrand	BRD	7 858
Aldi	BRD	7 836
Marks and Spencer	UK	7 836
Ahold	NL	7 673
Vendex International	NL	7 587
Tengelmann	BRD	7 520
Tesco	UK	7 195
Asko-Schaper-Massa	BRD	7 038
Isocoles	UK	6 917
Promodes	F	6 566
Migros	Switzerland	5 890
Coop AG	BRD	5 566
KF Group	Sweden	5 280
Argyll	UK	5 273
Kesko	Finland	5 264

Source: Institute of Grocery Distribution

foodstuffs varies greatly from one country to another: from 30% in Italy to only 2% in France.

It is nevertheless necessary to moderate this statement. For instance, the relatively small sales area per inhabitant in the United Kingdom does not constitute an index of under-development, but reflects a specific distribution of private consumer consumption: this country, in fact, has the highest consumption outside the home in Europe, and the restaurant trade there is seen as the main competitor of the supermarket. Incidentally, recent studies ("2000 Distributors" Study carried out by GIRA) have revealed the low concentration of distribution at EC level: the 80 leading multiple food chains achieve less than 60% of the total turnover.

Despite pronounced differences, the different channels of distribution in Europe are developing according to some major trends of a transversal nature, with variable effects according to countries:

- a decrease in the number of general food stores, in the region of 30% between 1976 and 1985, recorded everywhere except in Spain and Italy, where comparatively very low reductions are seen;
- an increase in the number of hypermarkets, the strongest growths having been found in the Mediterranean countries and the United Kingdom. On the other hand, there is a fairly clear difference in the case of the Netherlands: there, the small number of hypermarkets is explained by the strong presence of self-service in foodstuffs;
- the accentuation of the phenomenon of concentration, particularly clear in the foodstuffs field. It can be seen that con-

centrations are frequently accompanied by diversifications, especially for the groups in which department stores were their original activity.

- the internationalisation of distribution by southern Europe: the markets of northern Europe are occupied by some powerful groups, which limits the possibilities of expansion to external growth through mergers, take-overs or partnership agreements, whereas the Mediterranean countries have to catch up in respect of the modernisation of their sales machinery.

In this context, the completion of the large internal market constitutes a complex challenge for the retail trade during the next few years. Management of the change becomes an essential condition of survival for operators forced to conciliate local trading format and international competition strategy.

Structure of the sector

The structure of the retail trade sector varies considerably from one country to another in the European Community. On the one hand, the definitions of the different distribution formats, especially those based on selling space, are not homogeneous. In addition, there are channels specific to a given country, which limits international comparisons. On the other hand, with comparable distribution formats, the operating methods (organisation of relations with suppliers, corporate identity, ownership, etc.) are likely to cover a wide diversity of forms. A hypermarket can, for example, be created and run by independent retailers, generally associates in a purchasing group, firms with subsidiaries, companies running supermarkets, consumer cooperatives, or even department stores.

Three main organisational formats can be

differentiated for retail distribution:

- isolated independent trading, in which the firms have no ties with co-ordinating or centralising organisations for their selling or buying activities. These, in the majority of cases, are specialist trades;
- concentrated or integrated trading, which, at least some of it, performs wholesale and retail functions at the same time: department stores, discount stores, multiple chains, consumer cooperatives, mail order companies (at least those which offer a general catalogue), supermarket management companies. Commercial groups are found within this organisational format, i.e. groups of companies characterised by a uniformity of management and whose contours are defined by financial links, shares of control and shares of interest;
- associated independent trading, which is characterised by a concentration of resources without financial integration in a single organisation in which the traders are still the owners of their capital and are responsible for their own management. This category includes retailers' cooperatives, voluntary chains and franchising.

A certain specialisation of business appears notable amongst the three associated trading families, which tend to be in food for the retailers' cooperatives, non-food for the voluntary chains and with an increasing trend towards the sale of services (offered on their own or simultaneously with merchandising of a product) for franchising.

The aforesaid organisational formats of the retail trade apply to different distribution formats, the main ones of which are briefly described below:

- the hypermarket:

This is generally defined as a retail sales establishment with a minimum selling space of 2,500 m² offering, mainly by the self-service method and at very competitive prices, a wide range of food and non-food products (25,000 to 50,000 references, 4,000 of which are in the food trade), and which in addition have parking facilities. In certain countries this term designates stores with selling space of over 5,000 m², whilst retail outlets with selling space between 2,500 m² and 5,000 m² inclusive are called "superstores".

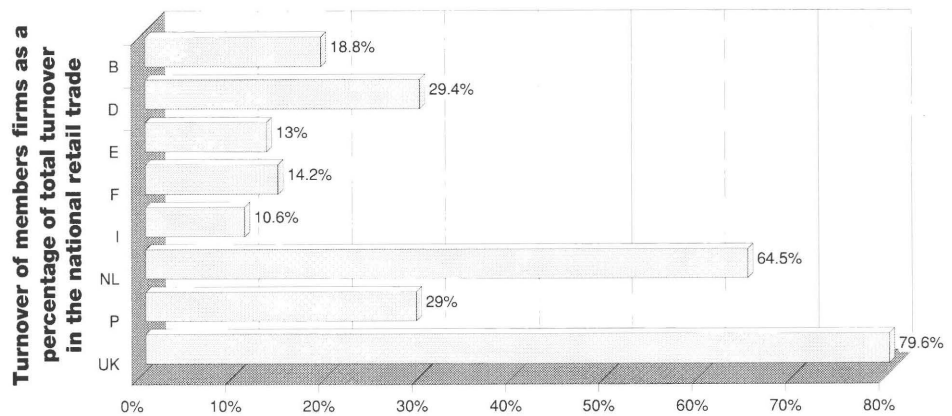
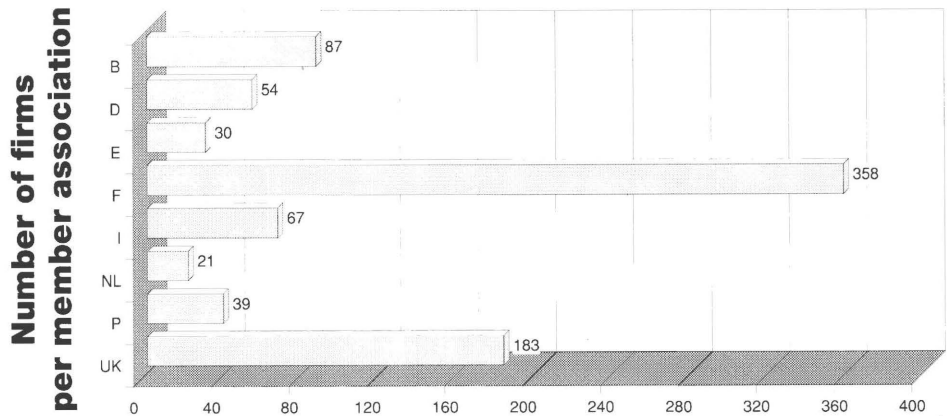
The preferred location of hypermarkets and superstores is out-of-town, bearing in mind the necessary space. The hypermarket mostly plays the "locomotive" role of a shopping centre, where it exists alongside specialist trades and service businesses. The hypermarkets occupy an important place in all the European retail markets, but the rapid growth recorded during recent years appears to be slowing down. In France, the initiator of the concept, they play a preponderant role and achieve over 19% of the turnover of the whole of the retail trade. Hypermarkets have set foot in the Mediterranean countries, where they have been introduced by French groups and they are in a period of sustained growth in Spain and, to a lesser extent, in Italy.

– the supermarket:

This is a retail sales store operated on a self-service basis, with a sales area between 400 m² and 2,500 m² inclusive, and offering a complete range of food-stuffs - including perishables - to which may also be added other large consumer items.

The development of the supermarkets is variable in Europe. In the southern coun-

Figure 1
Retail trade
Supermarkets



Source: Groupement Européen des Entreprises de Distribution Intégrée (GEDIS)

tries with a strong traditional type of trade (as in Spain, Italy or Greece), this sales format has expanded the most rapidly during the past ten years, such that it enabled a transition towards modern methods of distribution to take place by adapting itself to local situations (large number of medium-sized towns, areas of limited market radius, attachment to tradition).

In northern Europe the number of openings is increasing at a slower rate and distributors appear to favour amalgamations and mergers of businesses. The location of shop brand names is also becoming increasingly segmented. New formats place the accent on proximity, offer of ultra-fresh

products and services, whilst the "hard discounters" (Aldi and Lidel in Germany; Eda in the Netherlands; Europa Discount, Le Mutant and Ecomarché in France) are currently achieving considerable success with very spartan formulas (very plain presentation and range limited to 600 references). In those countries where modern distribution is already strongly established, the supermarkets constitute a large share of the selling apparatus. It is observed that all the large food chains in France (Casino), the United Kingdom (Sainsbury, Tesco, Asda), in the Federal Republic of Germany (Aldi) or the Netherlands (Ahold), own a powerful network of supermarkets.

– the consumer co-operative:

Table 3
Buying and services groups in Europe

Organisation	Country	Retail Turnover mill. ECUs	Wholesale Turnover mill. ECUs	Number of Members	Sales Outlets
Zentgens	D	32 613	11 562	124 470	149 100
Edeka	D	10 294	7 349	12 372	14 558
Crai	I	7 264	1 466	6 000	6 800
UFCC	F	5 575	1 555	7 437	8 856
Conad	I	3 673	1 374	12 000	12 070
Codec	F	2 365	1 395	984	1 088
Uda	E	2 066	826	9 950	10 100
Sigma	I	955	341	3 650	3 650
Sperwer	NL	625	255	477	490
Hoki	DK	522	203	665	672
Enkabe-Unika	NL	395	181	622	660
ANCD	I	312	112	660	700
Ucrepa	P	237	136	6 000	6 000
VAC	B/L	119	90	620	660

Source: Union Européenne des groupements d'achat et de services coopératifs

This is a distribution enterprise in which the customers are the owners, conducting retail selling, working on the legal bases of the cooperative system. In the United Kingdom, France, Belgium and Germany, consumer co-operatives are declining, losing market shares in the face of more competitive chains, whereas they are enjoying good health in Italy and Denmark. Consideration at European level leads to the mention of countries outside the EC where powerful cooperative movements are to be found: Switzerland, with Migros and Coop Suisse, and Finland, with Kesko, Fineka and Sok.

In France and Germany, this sector is currently experiencing a difficult situation.

Firstly, the consumer cooperatives have suffered the full brunt of competition from the new forms of distribution and many of them have disappeared. Secondly, the German "Coop Ag", the former leader of the European cooperative movement, is today collapsing under debts and is planning large transfers.

– the purchasing group:

This type of organisation consists of two different formats: the voluntary chain and

the retailers' co-operative. The voluntary chain consists of a form of collaboration between one or more wholesalers and retailers for the purchase and sale of products, generally carried out under a joint name or brand and accompanied by technical assistance to the retailer. A more widespread system: a vertically structured commercial company with a central control unit, one or more wholesalers and retailers who commit themselves to making a minimum percentage of their purchases from each other.

The retailers' cooperative, on the other hand, consists of an amalgamation of independent retailers associated for the purpose of making common purchases and collectively running a certain number of services. Very common in the Nordic countries, the retailers' cooperatives are also active in Germany, where they claim over 30% of the market. In France they amount to over 13% of the retail turnover, almost half of which can be put down to the Leclerc Group.

– the department store:

This is defined as a sales establishment with a minimum of 2,500 m² of selling

space, offering a wide range of products (especially household goods and clothing), presented in several departments and generally sold over the counter, and also offering various types of services to its customers. The department stores, which appeared in Europe at the end of the XIXth Century, have had to carry on in the face of an environment completely overturned by the appearance of the modern distribution formats.

After attempting to export the concept of the city centre department store to medium-sized urban centres or out-of-town shopping centres, the Groups have lost ground against the competition of the hypermarkets and specialist multiple chains. The sector has seen large concentration and restructuring movements and has started to diversify its traditional activities (to banking in Germany, real estate and travel agencies in Spain, for example). The market share of the department stores today shows a tendency to stabilise, or even regress, especially in Germany (approximately 5%) and France (less than 2%). It is observed that the very big department stores (from 8,000 m² to 30,000 m²) record good results, obtained after relocation of businesses, internal reorganisation and up-dating of their image.

The leading department store chains are found in the United Kingdom (Marks & Spencer, Harrod's), Germany (Karstadt, Kaufhof, Hertie), the Netherlands (Vendex International) and, to a certain extent, in France (Printemps, Galeries Lafayette, Nouvelles Galeries) - countries whose capital cities have high densities of population. Although department stores are less numerous in Spain and Italy than elsewhere, they are nonetheless "beacon" busi-

nesses and are included amongst the ten leading ones in the European classification.

– franchising:

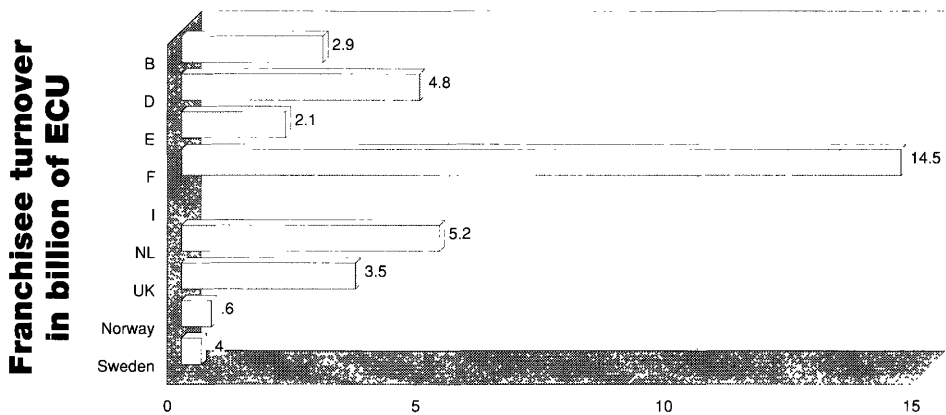
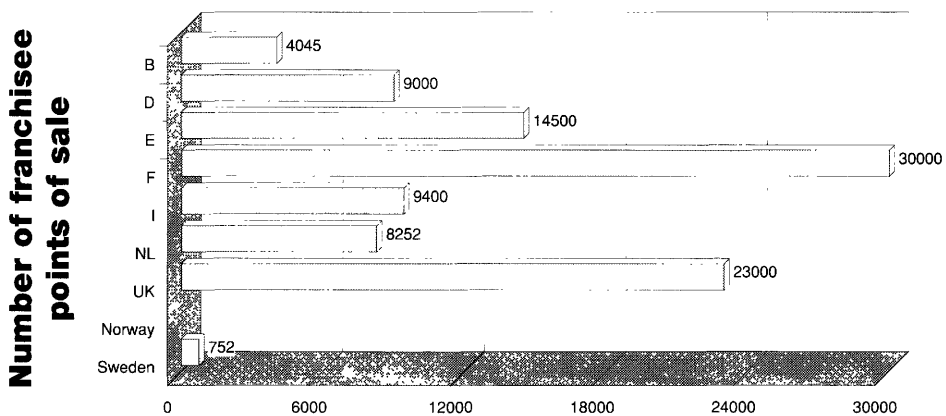
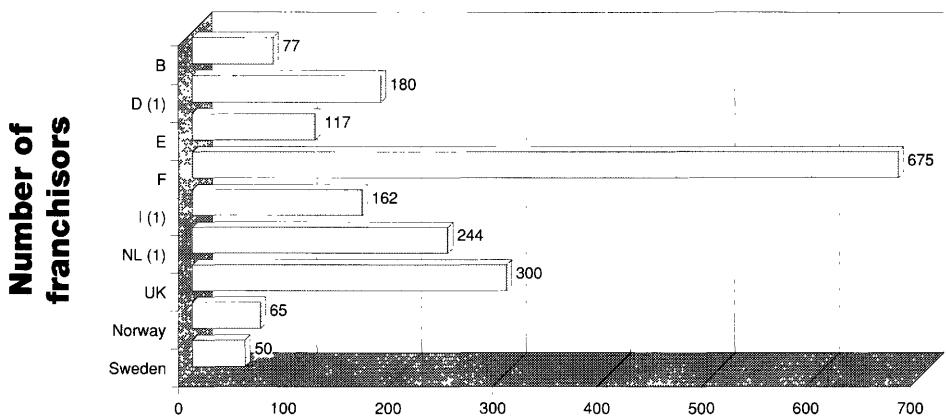
Franchising is a method of collaboration between a firm (the franchisor) wishing to distribute a trade mark, brand name or products, and an independent operator (the franchisee). It entails for the franchisor:

- ❖ ownership of or the right to use signs for winning customers: trade mark, brand name, commercial name, etc.;
- ❖ possession of a certain know-how;
- ❖ a range of products and/or services.

The combination of these three factors constitutes the concept of "franchisable", on the basis of which the franchisor develops a franchised network, the perpetuity of which he must ensure. Franchisor and franchisees are bound by a contract the contents of which are very close to those of the commercial dealership, and which differentiates from it only in the payment of a charge by the latter to the former.

"Franchising" Europe consists of approximately 2,000 franchisors and 90,000 franchisees. However, the situation appears to vary considerably from one country to another, by the extent to which the development of brand names has taken place unequally over the past ten years. France occupies a dominant position in this niche, strengthened by a long tradition: franchising was born as early as 1929, on the initiative of the big wool merchants of the North. In Belgium also, franchising is long-established. On the other hand, the take-off of this formula is more recent in the Netherlands and Germany, where it is rapidly increasing. A large presence of foreign chains can be seen in the United Kingdom, dominated by American master franchises, and in the southern countries of

Figure 2
Retail trade
Franchises



(1) Including concession
Source: French Franchising Federation

Europe, where they can be traced to the origin of the boom which has been taking place in franchising for a few years now.

– mail order:

Mail order differs from the other forms of selling by the absence of direct contact between seller and buyer and is defined through three criteria:

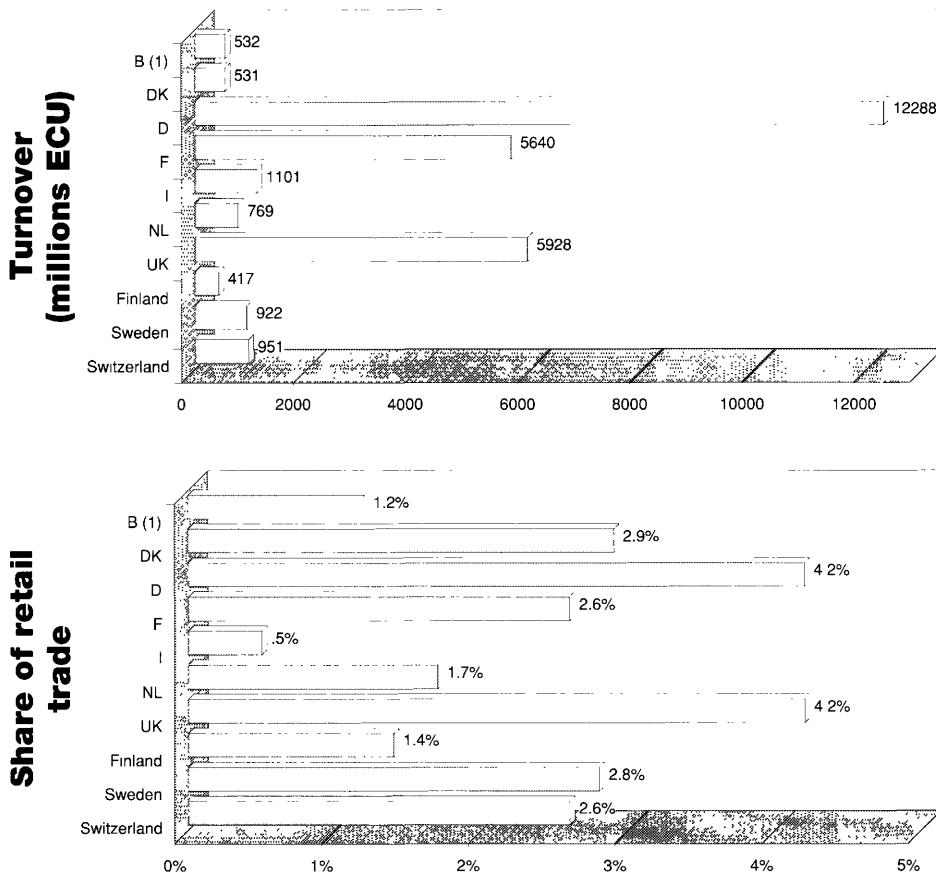
- ❖ offering of products or services by means

of mailshots which are addressed to each individual potential purchaser;

- ❖ agreement by the consumer expressed by an order;
- ❖ dispatch of the products or carrying out of the services after receipt of the order.

At European level, mail order only occupies a significant place in the retail trade in Germany, France and the United King-

Figure 3
Retail trade
Mail order selling in Europe, 1989



(1) 1988
Source: Association of mail order and long-distance retailers

dom, which three countries alone achieve over 80% of total sales. In the other countries, mail order business represents approximately 2% of retail turnover, either because its development has been restricted by a limited market (Belgium, Netherlands), or because its expansion is hampered by various difficulties (problems with postage, transport, etc., in southern Europe). The main companies are therefore found in the countries where mail order occupies strong positions, especially in Germany (Otto Versand, Schickedanz - Quelle), the European leader, where sales per capita are twice as high as in France (La Redoute, 3 Suisses, Camif), or in Great Britain (Great Universal Store). The development of telecommunications has enabled the advent of new remote sell-

ing formats: sale by video-magazine (supplement to the traditional catalogue), by video-catalogue (completely autonomous, this method is associated with a telephone ordering service, generally open 24 hours a day), home supermarket (orders by telephone or minitel based on a catalogue of approximately 1,200 products, delivered to the home), electronic sales centres and tele-shopping.

The principle of tele-shopping is simple: from a television studio, a presenter suggests directly to viewers that they telephone in to purchase immediately a product, the characteristics and qualities of which he describes in just a few minutes. Originating in Italy more than fifteen years ago, tele-shopping subsequently developed in Japan. It reached the United States in

1985, France in 1987, and Germany, Great Britain and Belgium the following year. It is a real industry which is in the process of seeing the light of day throughout the whole of Europe. Remote selling is currently becoming the most strongly established in France, thanks to a voluntarist policy of development of the minitel system. By considerably enlarging the size of the market open to enterprises, the Europe of 1993 should favour the emergence of large tele-distributors controlling four types of activity:

- ❖ distribution;
 - ❖ television and cable television;
 - ❖ banking and finance;
 - ❖ physical delivery of goods.
- home selling:

This is based on human relations and consists of taking the initiative of direct, physical contact with the end consumer and offering him products or services outside premises normally reserved for selling (at home, in the place of work, etc.). Home selling is not limited to mere canvassing; it is becoming increasingly orientated towards two types of format. The first is based on "parties", of the type organised by Tupperware. The second is multi-level selling, which is based on sponsorship. In the case of the first method, the turnover achieved at each "party" enables the organiser to receive a percentage. With the other method, each distribution agent has to become a "sponsor" and recruit one or more "protégés", whose purchases will procure a commission for him. In 1988, the turnover of home selling increased in France to over 6 billion Francs, achieved by 250,000 sellers, 90% of whom were women. However, this form of selling represents less than 1% of the turn-

over of retail trade in all the countries of Europe.

– itinerant trade:

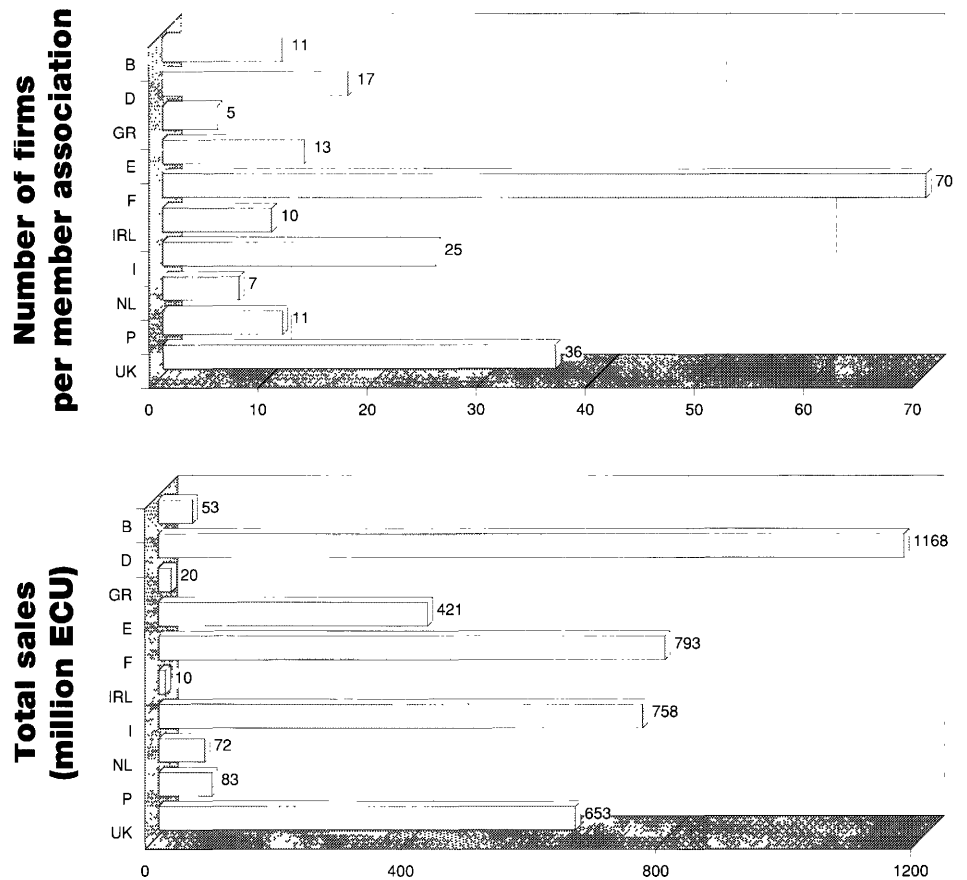
This sector is withstanding the competition of the other distribution formats, especially in the sector of fresh produce. Subject to many regulations in the majority of countries, the activities of the mobile shop and market trading are becoming effectively restricted to authorised street markets. In Southern Europe this trading format represents a significant share of the retail market, in an effort to fill the gaps of modern distribution.

Structural changes

One of the most salient characteristics of retail distribution during the past ten years consists of the movement of concentration of businesses, which have consequently become less numerous but more powerful, and which control larger market shares.

This trend, which affects all sectors of the retail trade in varying degrees, is sustained by a strategy of growth based on the increasing of market shares. This phenomenon appears particularly marked in the food distribution world. The markets today tend to become saturated and household consumer consumption is no longer increasing much. Upstream, furthermore, the large consumer product industries (especially agro-foods) are concentrating at a sustained rate on European and also world bases. Finally, adoption by the distributors of discount policies (especially in France, Germany and Spain) has been reflected in a reduction of margins, whilst at the same time, investment was becoming increasingly costly. The combination of these structural factors leads inescapably to concentration: only the size of the volumes handled enables them to withstand in-

Figure 4
Retail trade
Door to door selling, 1988



Source: European Federation for Door to Door Selling and Services

creased competition whilst bearing the increase of certain running costs (computers, logistics, advertising, etc.). For example, in Europe, Portugal, Belgium and, outside the EC, Switzerland, are distinguished by a high concentration of their retail food distribution: the three leaders there represent over 65% of the market (relative to the ten leading distributors). A point common to these three countries is the limited condition of the national market. Great Britain, Denmark and Ireland form a second group, where the leaders exceed the 50% threshold. Here also the size of the market has played a determining role. The third and last group, consisting of France, Italy, the Netherlands and Germany, consists of four countries with more fragmented distribution systems. In the medium

term, large-scale restructurings should take place. This is already the case in France, where mergers and acquisitions have multiplied during recent years. The movement is taking place less rapidly in Italy, West Germany, the Netherlands and also in Spain, the latter countries being characterised by the weight of the co-operatives and purchasing groups. This logic of concentration is making its full effects felt in the field of purchasing: a decrease in the number of national buying groups and maximum centralisation on the one hand, and the setting up of international buying groups and "Euro-buying groups" on the other hand. Concerning the first aspect, for instance in Great Britain, it can be seen that the distributors, confronted very early on with concentration of

the agro-food industry, have reacted similarly: only seven decision-making centres for the five leading brand names. This compared to two hundred in Germany, where the five leaders control 60% of the turnover of the retail food trade.

As for the Euro-buying groups, resulting from the amalgamation of several national buying groups with the Single Market in mind, they pursue three aims (besides that of increasing the purchasing power of their members): the search for manufacturers essentially established in the EC, joint prospecting, and the pooling of logistic, administrative, financial and marketing resources in order to optimise purchasing. At the present time there are eleven European buying groups. It can be seen that other initiatives preceded the creation of the Euro-buying groups: buying groups within a sector (Intersport International, Intercoop) or partnership arrangements (the Casino-Ahold - Argyll association).

Large-scale distribution, predominantly of food, sets an example to the specialists, who are gaining some experience: for example, the French Phox chain (photographic, video and electronic equipment) has just joined six European associates in a Federation called Euro-Activ.

The logic of concentration of distribution gives rise to the appearance of two major stakes: the development of logistics and the transfer of the merchandising skills of industry to commerce. Future increases of productivity will no longer be obtained through purchasing power and tariff negotiations alone, but more by nationalising stock management, transport and handling, and conditions of delivery and of payment. The crux of this development lies in the optimisation of logistics, associated with centralisa-

Table 4
Retail trade
Food distribution: weight of the three leaders amongst the top ten in each country

Country	The Top Three	Market share within the top ten (%)
Portugal	Sonae Supra Pingo Doce	79
Switzerland	Migros Coop Usego AG	76
Belgique/België	GB Group Delhaize le Lion Makro NV	65
United Kingdom	Sainsbury Tesco Gateway	56
Danmark	FDB Dansk Supermarket Irma (FDB branch)	52
Ireland	Power Supermarkets National wholesale Musgram	52
France	Lecierc Intermarché Carrefour	49
Italia	Coop Italia Végé La Rinascente	47
Nederland	Ahold Vendex Super Unie	44
BR Deutschland	Metro Leibbrand Aldi	43

Source: Eurostat

tion of information flow. The combination of these conditions enables distributors to improve ranges and undertake a true merchandising role. For instance, central buyers tend to enter into direct competition with their suppliers: distributors' brand names, generators of profit and image, in fact, are steadily increasing their market share. Distributors and producers will doubtless be increasingly led to enter into relations of a partnership nature and jointly to develop new products, as is already happening in northern Europe.

Regulatory environment

Generally speaking, all the countries, with the exception of Italy, possess a more or less powerful arsenal designed to guarantee free competition, recently completed by the introduction of control of concentrations at Community level. Discriminatory, restrictive and promotional commercial practices are the subject of very varying attitudes according to the Member States: discriminatory practices are, for example, defined and generally prohibited in the Mediterranean countries (France, Greece, Por-

tugal and Spain), or generally permitted or forbidden in the individual case elsewhere.

Opening hours and conditions of establishment and location are subject to widely diversified systems.

In 1989, retail stores stayed open an average of 53 hours a week in the eight European countries (the Twelve less Greece, Denmark, Ireland and Luxembourg), with peaks of 56 hours in France and 58 hours in the United Kingdom. The shortest opening hours are seen in Spain (45 hours), Germany (48 hours) and Italy (49 hours).

Non-extension of opening hours is generally justified by compulsory administrative regulations and high social costs. Germany, Denmark, the Netherlands and Italy, in fact, have very restrictive legislation on part-time work and overtime. With regard to licences for opening hours of large retail outlets, certain countries have introduced laws protecting the small

independent shopkeeper, as in Belgium, Italy (Act 426) and, to a lesser extent, Germany and France (the Royer Act). From the taxation point of view, VAT rates vary considerably from one country to another, from a reduced rate of 0% in Portugal, Ireland and the United Kingdom to a maximum of 38% in Italy, through standard rates ranging from 10% in Ireland to 22% in Denmark. However, they tend to tally - a fact which could in time lead to the disappearance of the frontier shop.

Finally, protection of the consumer does not attain the same degree of maturity in all the States of the Community. In the majority of the countries of northern Europe, especially in the United Kingdom, the Netherlands and Denmark, effective legislation exists, subjecting products on sale to the public to a set of strict requirements.

Table 5
Retail trade
Concentration of buying groups, 1988

Country	Top 5 Organisations	Distribution of Turnover %	Decisions
BR Deutschland	Aldi Edeka Leibbrand Selex A&O + Tania Tengelmann	> 60	200
France	Auchan Carrefour Casino Intermarché Leclerc	30-60	100
United Kingdom	Avgyll Asda Gateway Sainsbury Tesco	30-60	7
Italia	CID Conad Coop Italia Crai Végé	< 30	261
España	Alcampo Bibo IFA Pryca Sandisa	< 30	5

Source: Nielsen

In Southern Europe, on the other hand, consumer protection appears to be a relatively new concept and has only developed very recently.

Although the law influences the structure of distribution in the different countries, nevertheless it has to be noted that one and the same measure can lead to variable and unforeseen consequences, connected with other parameters (economic apparatus, transport infrastructure, cultural characteristics, etc.). Commercial planning rules, unfavourable to large retail outlets, for example, are reflected in Germany in the development of an important mail order sales sector, made possible by the efficiency of the German road and railway systems. This has not happened in Italy, where the infrastructures are less efficient,

also connected with the social and convivial aspect of the shopping relationship.

New technologies

The retail trade is today passing through a phase of profound technological change characterised by the continuous search for increased productivity. The improvement of the information systems of the distribution enterprises enables better availability of the necessary data for decision-making and the implementation of new tools of management (Direct Product Profitability (DPP), expert systems, simulation models..). In Europe, retailers have mainly invested in systems enabling the gathering of data at the retail outlet, especially retail outlet electronic processes (EPOS) and electronic funds transfer at point of sale (EFT-POS). In both cases, the initial moti-

vation was based on definite advantages, i.e. the savings connected with the increase of productivity (reduction of in-store unit marking operations, reduction of collection costs). The potential of these systems today lies in the possible gains resulting from indirect repercussions, which are far more difficult to evaluate and which are obtained over a long period of time. The use of optical mark reading, thanks to information in real time on unit sales of merchandise, production of which this system makes possible, can in fact have numerous applications: a reduction of unknown marking down, management of seasonal goods, as well as of sales, stocks and supplies, management of installations, customer studies, etc.

EPOS has penetrated food distribution better than non-food distribution. In the former, its adoption has been favoured by the rapid increase of marking at source of large consumer items by printing a bar code directly on the package. This rapid increase has itself resulted from good cooperation between producers and distributors in national organisations with equal representation (such as Gencod in France). In the second case the difficulty of setting up universal standards for families of non-food products constitutes a major obstacle.

Moreover, EPOS diffusion is to be made available to small chains and independent groups, which have developed a systematic equipment policy. Thus, for instance, the rapid increase in Italy of the rate of equipping with scanner cash stations is attributable to the strategy of the associated trade, pushing its members to improve their productivity. The leading big chains have shown great caution with regard to

Table 6
Retail trade
European buying groups

European buying groups	Base	Members
ERA (European retail alliance)	Luxembourg	Ahold (NL) Avgyll (UK) Casino (F)
AMS (Associated marketing service)	Switzerland	Migros (Switzerland) Dansk Supermarket (DK) La Rinascente (I) ICA (Sweden) Kesko (Finland) Mercadona (E) GB (B) Paridoc (F) Socadip (F) Markant (D with cooperation extension in 7 foreign countries)
EMD (European marketing distrib.)	Switzerland	GB (B) Paridoc (F) Socadip (F) Markant (D with cooperation extension in 7 foreign countries)
IGDS (Intergroup of departement stores)	Switzerland	Karstadt (D) Printemps (F) Jelmoli (Switzerland) Selfridges (UK) Vroom & Dreesmann (NL)
Eurogroup		Rewezenral (D) Vendex-Food (NL) GIB (B)
Sodei	France	Paridoc (F) GIB (B)
Intercoop	DK	Coop (D) Coop (Switzerland) Coop (Austria) Coop (I)
CEM (Coopération européenne marketing)	B	Codec (F) Conad (I) Crai (I) UDA (E) Edeka (D)
Spar		Unigro (NL) Intergroup Finanz (Switzerland) Internationale Spar Centrale (NL) Intergroup Trading (NL) Spar Internationale Financierung (NL)
Tengelmann	D	Löwa (Austria) Skala Coop (Hungary) KD-France (F) Hermans (NL) Superal (I) A&P (United States) Isocoles (UK) Gateway (UK)
Difra	F	Rallye (F) CFAO (F) Montlaur (F) Artaud (F) Catteau (F) Monoprix (F) Genty-Cathiard (F) Delhaize (B) Zanin (I)

Source: Lebensmittel Zeitung

Table 7
Retail trade
Commercial legislation of the twelve Member States

Country	Compulsory Closing	Commercial Development	Commercial Property
B request	24 hr. weekly rest	Act of 1.7.1975 Strict control	Capital value determined by court valuer, on Commercial leases subject to regulations.
DK	Closed on Sundays and Saturday afternoons	Delegated to the communes who set up their own development plan	No special legislation on commercial property and commercial leases.
FRG	Closed on Sundays and Saturdays afternoons	Authorisation necessary in certain urban zones (selling space over 1200 m2)	Value of goodwill. No special legislation.
GR	Opening hours fixed by the Prefects. As a general rule, Sunday closing	No special legislation. Building licence issued by the Prefecture.	Value of goodwill Special legislation on commercial leases.
E	Freedom of principle at national level. Special legislation in Catalonia and Valencia.	Competence of the municipalities within the framework of general town planning programmes.	No legally protected value of goodwill. Commercial leases subject to regulations.
F	Sunday closing (except for 3 Sundays a year)	Permit required for creation or extension of any space greater than 1000 m2 (in communities with less than 40000 inhabitants) or 1500 m2 (in communities with over 40000 inhabitants). Royer Act of 1973.	Protected commercial property. Commercial leases subject to regulations.
IRL	Freedom of opening days	Legislation on town planning and the environment. Control of large outlets.	Commercial property (General Right of Transfer Act). Commercial leases subject to regulations.
I	Sunday closing + 1/2 day	Very strict regulations. Act 426	Control of commercial property. Special legislation on commercial leases.
L	Closed on Sunday afternoons	Control/Regulations by the Department of Economy.	Protection of commercial property. Special legislation on commercial leases.
NL	Closed on Sundays and national holidays Derogation: 4 days a year.	No specific regulations regarding to commerce.	No protection of the goodwill value. Commercial leases subject to regulation.
P	Opening possible 7 days a week, subject to municipal by laws.	No specific legislation Municipal legislation on town planning.	Protected commercial property. Commercial leases subject to regulations.
UK	Sunday rest + 1 day of early closing (1.00 p.m.)	No specific legislation, but local municipal regulations permit control.	No protection of goodwill. Commercial leases not specifically subject to regulations.

EPOS, at least at the start, proving resistant because of the prospect of a slow return on investment. Today, however, new prospects are opened up to them with the exchange of computerised data (EDI) which makes it possible for EPOS to liaise

with management and suppliers, as well as with Direct Product Profitability (DPP), which enables identification of real costs and profit connected with each product present in the store. The introduction of electronic funds trans-

fer at point of sale (EFT-POS) took place after the introduction of EPOS. The point of this process is that it enables retailers to benefit from faster payments, to do away with certain administrative tasks and to eliminate the risks of loss associated

with troublesome cheques, thanks to the use of magnetic or microchip cards. Although the technique used has been available for several years, the growth of EFT-POS throughout Europe is faced with considerable obstacles: absence of national or international standards; fragmentation of the structure of the banking sector in a certain number of countries (especially the Netherlands); the controversy given rise to by the distribution of the costs and profits of the system amongst the different participants; finally, the lack of enthusiasm demonstrated by the consumer with regard to new methods of payment.

France and Belgium are at the head of the Twelve as regards installation of EFT-POS.

The present development raises the problem of the use and management of information procured by systems with increased performances, and consequently that of the management levels of the company. Which decisions at which level? The new information technologies broaden the spectrum of possible choices. A European trend appears to favour the decentralisation of operational decisions at regional or divisional level, while the head office retains the control of decisions on strategy and key functions. In this way, management evolves from a traditionally hierarchical role to a function of assistance and advice to retail outlets.

Consumer consumption trends

The diversity of the distribution structures in Europe reflects the diversity of consumer consumption behaviour and customs. The retail trade must adapt itself to the increase in customers of the third and fourth generations, responsive to new ser-

Table 8
Retail trade
Use of electronic point of sale process in the United States

(%)	Wholesale	Department Stores	Specialist Stores	Foodstuffs
Unit control	37	50	38	13
Sales follow-up	61	73	59	87
Daily deposit to bank	40	27	41	47
Internal credit	24	69	25	7
External credit	21	57	28	0
Control of working hours	8	8	13	7
Promotion follow-up	47	19	9	60
Follow-up of non-promotional products	24	4	13	87
Price changes	32	23	25	80
Restocking	11	12	22	0
Control of incoming products	11	12	38	13
Management of coupons	29	19	16	40
Physical inventory	16	6	31	7
Planning	8	15	0	20

Source: Institute for Retail Studies, Stirling University

vice formats (take-away food, tele-shopping, etc.). Moreover, all the European countries are witnessing an overwhelming increase in the number of single households (i.e. consisting of a single person). The latter constitute an up-and-coming market - for example, keen on food products in individual portions, as also are mixed generation families with very individualised behaviour. Finally, the Europeans are devoting more and more time to leisure activities and constantly making choices in that sense. This is why couples who both go out to work are particularly keen on increased flexibility of shop opening hours, especially on Sundays. The change in ways of living brings about a change in consumer consumption habits, which tend to converge. From one country to another, the structure of spending is developing in a comparable way and national or regional peculiarities are becoming blurred. Food, clothing and household equipment are falling in value in comparison with the profit of accommodation, leisure activities, transport and telecommunications.

These trends of consumer consumption, common to the whole of Europe, are accompanied by an increased segmentation of demand. Whilst the mass markets are stagnating, even regressing, the micro-markets are experiencing a really rapid growth. Distribution itself strengthens this phenomenon by contributing to the acceleration of the rate of renewal of products, to the ever shorter life cycle. All these trends reveal the complexity of the challenge to be met by the distributors - the challenge of winning and retaining the loyalty of the customer.

Employment trend

Distribution enterprises as a whole represent 15 to 20% of employment in the European Community, including part-time workers, school leavers and immigrant workers.

However, their needs are in the process of changing, connected with the increasing penetration of the new technologies and the simultaneous improvement of information systems on the one hand, and the increased competition accompanying the

approach of the Single Market on the other hand.

The development of these new technologies produces two main effects in terms of employment. It enables automation of a certain number of basic tasks (stock management in particular), which has been reflected, over the course of the past ten years, in the degrading of different jobs in wholesale and retail distribution, which from now on are given to workers with no special training and to part-time staff. Moreover, this process tends to favour the decentralisation of management and the emergence of innovative formats with regard to marketing, merchandising and strategic planning. Hence a perceptible evolution of distribution enterprises towards decentralised management based on smaller but more qualified teams, and above all better trained.

Distribution strategies for 1992

The race for growth, the constraints represented by concentration of the producers and the reduction of the share of household spending in the retail trade, not forgetting the opportunities offered by the Single Market, are causing the distributors to operate a certain number of choices of strategy. Three major possible options are found:

- external growth;
- diversification;
- internationalisation.

The aspects relative to external growth have largely been developed in the section on "Structural Changes". Diversification, prior to internationalisation (and frequently preferred, even today) can take several forms: entrance to new markets, vertical integration, and extension of activ-

ity in the services sector. The do-it-yourself market, for instance, has attracted all the major food distribution groups in the Community, such as GB-Inno-BM in Belgium, Vendex International in the Netherlands, Asko, Tengelmann and Rewe-Leibbrand in Germany, Auchan and Carrefour in France, La Rinascente in Italy. As has commercial catering: in France, for example, Casino, Auchan, Ralys and Euromarché have developed chains of cafeterias, fast food, theme restaurants, etc.

Vertical integration may be the result of action by the distributors, extending their control of physical distribution upstream and occasionally of production of merchandise, similar to the action of the producers, developing their own retail sales networks.

This strategy has not always succeeded in the food distribution groups, but on the other hand finds a good many followers in the non-food sectors: Benetton, Bally, Singer are just some examples of producers who have diversified into distribution, as also have many manufacturers of microcomputers. The services have also tempted numerous distributors. First of all, financial services: development of exclusive cards giving access to a variety of services, acquisition of control of banking establishments, the sale of financial products. Secondly, non-financial services: the setting-up or takeover of travel agencies, introduction of divisions or subsidiaries responsible for after-sales service, running of specialist professional services (maintenance, temporary staff agencies, etc.).

With regard to internationalisation, it is observed that the European distributors, in their entirety, operate essentially regional and national strategies, aimed at streng-

thening their positions in local markets. On the other hand, internationalisation measures, where they exist, show ambitions which largely exceed the European framework. In the majority of cases, internationalisation of the distributors of northern Europe has mainly taken place between countries of the same culture, whereas later expansion towards southern Europe was more in response to tactical considerations in the face of less organised markets. France, the interface between the north and the south, is receiving establishments of distributors based in Great Britain, Germany and the Benelux countries, but is also expanding into the Mediterranean countries.

Very early on, the Benelux distributors spread out of their too-limited internal markets: the Dutch C & A and Vendex and also the Belgian GB-Inno-BM have become deployed throughout the whole of Europe. German distribution devoted its original efforts to reorganisation at national level. It is now gaining a footing in its neighbour countries by targeting niches of which it has perfect mastery: discount food (Aldi), computer stores (Microland), large electronic or household electrical appliance outlets (Hyper-Media). British distribution, the most profitable in Europe, possesses large financial resources. Two-thirds of its investments have been made in the United States. In northern Europe, the English presence is ensured by some big names: Habitat, Marks & Spencer, Laura Ashley, Burberry's. In the south, only the take-over of the Spanish Galerías Preciados is recorded in 1987. Finally, with regard to the Mediterranean countries, internationalisation concerns mainly textile specialists, these in the majority of cases being franchises:

Benetton, Stefanel in Italy, Cortefiel in Spain.

Evaluation of the impact of the Single Market requires a few comments. Measures favouring finalisation of the big European market are already in force, e.g. the "Dijon Cassis" [blackcurrant liqueur] legal precedent set by the European Court, which establishes freedom of circulation of

merchandise. Other measures, for example liberalisation of exchange control, will come into effect in 1992. Other regulations, for instance, relative to more controversial areas, such as VAT, will no doubt be ready by that date. One thing is nevertheless certain: completion of the Single Market will further strengthen the weight of intra-Community trade. The latter, which

represented approximately 59% of the trade of the EC in 1988, could attain a share of 71% in 1994.

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In the metal production sector, secondary raw material supplies have a strategic advantage, in that they avoid the need to import minerals, improve energy balances and limit the amount of harmful emissions on production sites. In the industrialised countries, these materials form part of a highly structured collection and international dealing system. They play a crucial role in a number of specific industrial activities such as electric steelworks and the production of secondary non-ferrous metal.

Scrap iron forms the basis of one third of total EC steel production, with 48 million tonnes in 1988 out of a total 137 million tonnes, approximately 40 million tonnes of which was electric steel, produced solely from scrap iron.

Waste recovery from the four main non-ferrous metals (aluminium, copper, zinc, lead) covered between 20 and 50% of the requirements of each of these metals.

Description of the industry

Waste metals Waste metals include all forms of scrap iron: various types of steel, cast iron, tinplate, etc. which are magnetic, i.e. sensitive to magnets (that is why certain types of non-magnetic stainless steel are classed separately, with non-ferrous metals for collection and scrap iron for use).

Non-ferrous waste metals include: Aluminium (Al), Copper (Cu), Zinc (Zn), Lead (Pb), Nickel (Ni), Tin (Sn),... and their alloys such as bronze (Cu + Sn) or brass (Cu + Zn). A number of related activities sometimes play an important role in the economic balance of the various sectors: recovery of traces of precious metals such as Gold, Silver, Palladium, Platinum (elec-

tronics), sale of used parts (automobile demolition).

At an EC level, scrap iron accounts for approximately 50% of the value of recovered metal and over 90% in terms of tonnage.

The main non-ferrous metals are aluminium (15% of the total value of recovered metals), copper (15%), lead (3%) and zinc (5%). Other metals are recovered on a smaller scale, including precious metals (gold, silver, platinum) and other metals such as chrome, nickel, tin, antimony, tungsten, titanium, etc. Each metal's share in terms of value varies considerably from year to year, according to fluctuations in world rates.

Scrap iron There are four main sources of scrap iron and their respective importance varies according to the location, type and stage of economic development.

- ❖ internal scrap appears during the production and initial processing stages of steel and cast iron. It is normally recycled inside the plant itself (what steel-makers or founders commonly refer to as "internal scrap");
- ❖ new secondary scrap which appears in a large number of metal industries: carmaking, mechanical engineering, metal working;
- ❖ demolition scrap iron is derived from the discarding or destruction of equipment (ships, fixed and rolling railway stock), industrial plant and various constructions (assembly bays, refineries, oil platforms, thermal stations). By its very nature, such iron tends to be of a high quality, thanks to its known, stable composition, guaranteed high iron content and sound physical performance. Demolition scrap iron is much sought-after and classed according to various categories: "naval", "railway", "industrial demolition";

❖ consumer scrap iron is derived from the various items for which society has no further use: car bodies, domestic appliances, metal furniture, hardware, metal packing. It is a mixed, dispersed material made up of thin sheets which are often plasticised, galvanised, varnished, combined with other components (plastic, rubber, glass, wood, synthetic foam, concrete); it can include traces of precious metals (e.g. in telephone exchanges, computers) and, more often, a small percentage of other non-ferrous metals.

The scrap dealing sector only deals with the last three categories: together they make up the domestic market supply, part of which is often exported. Sorting, classification and transport costs account for a large portion of the total sale price.

Non-ferrous metals The recovery rate of non-ferrous waste metals is relatively high. Secondary aluminium currently accounts for nearly 30% of total consumption of such metal within the EC, while secondary copper accounts for nearly 35%. Non-ferrous waste is mainly used to produce secondary metals or used directly in the manufacture of semi-finished goods; it can also be combined with primary metal.

There are two main categories of non-ferrous waste metals derived from pure metals or alloys:

- ❖ manufacturing waste "produced" by customers of the metalworking industry (such waste can be salvaged directly by metalworkers and used as a substitute for new raw materials, otherwise it goes through the collection and salvage network);
- ❖ consumer waste (wires and electric cables, domestic appliances, cars). This type of waste metal invariably passes through the salvage network. As in the

case of scrap iron, this study does not take into account manufacturing waste from the metalworking industries (producing raw metal or semi-finished goods) which recycle their by-products directly and do not therefore form part of the commercial salvage network;

Stainless steel and special alloys

One of the most sophisticated areas of metal recycling is that of high-temperature, high-performance, corrosion-proof alloys.

Such alloys are often based on nickel, chrome, tungsten, cobalt, titanium or a large number of other materials which, when combined, meet clearly defined physical and chemical requirements.

Such metals are heavy and occur in limited quantities in only a few parts of the world. There are therefore certain strategic advantages to be gained from recycling them.

The salvager's skill lies in his ability to separate, prepare and isolate each type of alloy for smelting. This identification process often involves the use of highly accurate scientific instruments such as X-ray spectrometers.

Production and consumption trends

Ferrous metals Scrap iron (excluding internal scrap iron) today forms the basis of 35% of EC steel production. The iron and steel industry is the primary user, in the case of both electric furnaces, for which scrap iron is the only raw material (1050 to 1100 kg of scrap iron per tonne of electric steel) and blast furnaces, where they provide a more or less economical supplement depending on the purchase price (150 to 300 kg of scrap iron per tonne of oxygen blown converter steel). Among the other users of scrap iron, are iron foundries, steel foundries, re-rollers

Table 1
Scrap iron
Main indicators, 1980-94 ⁽¹⁾ ⁽²⁾ ⁽⁴⁾

(million tonnes)	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991/90 %	1994/92 %
Apparent consumption	35.9	32.0	31.3	30.5	33.5	32.5	41.6	44.3	47.0	48.5	50.0	4.0	4.0
Net exports	0.4	3.2	2.6	4.5	4.4	4.7	0.0	-0.6	0.5	0.0	0.0	0.0	N/A
Resources used ⁽³⁾	36.3	35.2	33.9	35.0	37.9	37.2	41.6	43.7	47.5	48.5	50.0	4.0	4.0

⁽¹⁾ 1980-85 EC9; 1986-87 EC12 (excluding Greece)

⁽²⁾ Excluding internal scrap from iron and steelworks recycled directly

⁽³⁾ In iron and steelworks and cast iron foundries

⁽⁴⁾ Forecasts 1990/1994 : scrap iron or substitutes

Scrap iron collected by dealers, not including scrap produced by steel plants

Source: International Iron and Steel Institute (IISI) and Eurostat (Sidr)

and electrometallurgy.

The collection of scrap iron in EC markets has always reflected the needs of the iron and steel industry, showing a marked decline in 1982 and 1983, and, more recently, an increase of between 2 and 4%.

Scrap iron derived from non-factory sources accounts for an ever increasing share of steel production. From 29% in 1980, the figure rose to 33% in 1986 and approximately 35% in 1989.

This situation can be attributed to the quite different patterns observed in the two main sources of scrap iron.

In steelworks, the improvement in the materials balance and the development of continuous casting has gradually brought about a reduction in the amount of scrap iron produced. Scrap iron derived from new scrap now accounts for a smaller share: in 1980 it accounted for 44% of the EC's scrap iron resources compared with just 30% in 1988.

Scrap iron derived from car demolition, naval demolition and miscellaneous pro-

ducts still pass through the scrap yards where they are stored, sorted, graded, prepared and transported before being sold to European or foreign iron and steel plants.

In general, scrap iron resources vary relatively slowly and depend more on the past than the present.

The present, however, affects scrap iron prices according to market conditions. Low prices can lead to a reduction in resources or speculative stockpiling. Such was the case in 1986, when scrap iron resources slumped by 15% following a sharp cut in prices. Technological progress (in crushing machines, for example) can also increase the scrap iron recovery rate. For cost-related reasons, scrap iron is processed near collection points or along routes leading to major consumption centres, where prices are fixed.

Furthermore, demand, which, by its very nature, is concentrated on the side of heavy industry, can vary much more

sharply. It depends on the quantity of melting equipment in operation or idle at any one time, as well as the economic climate in the iron and steel industry. It is also a determining factor as regards pricing mechanisms.

The main difficulties encountered by scrap dealers are fluctuations in demand and variations in price. The iron and steel industry plays a vital role in the fixing of prices, given that the suppliers are less concentrated and less organised. Market prices are highly unstable, and this lack of stability has direct repercussions on the number of dealers and the tonnage of scrap iron recovered.

Prices tend to be fairly uniform throughout the EC, even though the levels may vary considerably. Spain is the sole exception: prices here are sustained by buoyant demand and more strongly influenced by U.S. prices.

Non-ferrous metals The growth in the recovery of non-ferrous metals and their

Table 2
Activity in the scrap iron sector, 1989

(thousand tonnes)	(¹) B/L	DK	D	E	F	I	NL	UK	Total CE-9
Purchases of scrap iron by mills	2 769	543	10 078	7 921	6 412	13 750	487	6 635	48 595
Net exports	-1 079	-74	3 478	-4106	3 385	-6 000	1 630	3 163	397
Scrap collected on national. market	1 690	469	13 556	3 815	9 797	7 750	2 117	9 798	48 992

⁽¹⁾ 1988

Source: BIR

Table 3
Total scrap consumption (1)

(thousand metric tonnes)	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Belgique/België	4 052	3 688	3 749	4 142	3 157	3 520	3 112	2 581	2 502	3 049
Danmark	906	811	688	626	584	651	595	704	648	650 (2)
BR Deutschland	21 766	20 322	19 624	17 544	17 864	18 606	18 613	17 051	16 160	18 547
Hellas (2)	900	900	900	900	900	956	1 064	1 107	1 012	1 078
España	7 222	9 048	9 011	9 111	9 793	9 898	10 693	8 737	8 326	8 749
France	10 517	10 254	9 495	8 549	8 614	8 660	8 509	8 550	8 639	9 312
Ireland	N/A	N/A	37	69	158	189	230	233	250	250 (2)
Italia	17 177	18 847	16 929	15 958	15 153	16 405	16 480	15 699	15 721	16 417
Luxembourg	1 785	1 577	1 323	1 315	1 368	1 685	1 598	1 491	1 325	1 200
Nederland	1 965	1 837	1 779	1 446	1 458	1 630	1 504	1 454	1 308	1 363
Portugal	492	512	435	466	553	565	550	375	393	400 (2)
United Kingdom	15 368	9 296	10 363	9 557	9 635	9 619	8 369	7 826	8 203	8 859
EC total	82 150	77 092	74 333	69 683	69 237	72 384	71 317	65 808	64 487	69 874
United States	89 722	75 926	77 202	51 152	56 048	59 604	62 978	59 105	62 643	70 433
Japan	45 624	43 809	39 592	38 857	40 160	43 485	44 170	40 260	40 622	42 976
world total	351 823	332 774	321 955	287 550	299 575	313 378	317 648	309 751	314 557	331 528

(1) Total scrap consumption, including scrap non produced and recycled inside steel plants

(2) Estimates

Totals are of available data only

Source: IISI

high recycling rate is justified by the high price of such metals, the relative scarcity of the minerals and also the major energy savings associated with secondary metal processes. In the case of aluminium, whose energy cost constitutes the main production factor, it takes only 550 Kwhr to produce 1 tonne of secondary metal, compared with the 15 000 Kwhr required to produce 1 tonne of primary aluminium.

Overall, the recycling rates (proportion of waste in relation to producers' total raw material supplies) and recovery rates (proportion of waste collected compared with the total amount of waste produced) appear to be higher in the EC than in the rest of the Western world.

Non-ferrous waste metals are generally used for secondary metal production which provides the main outlet, but they are also used in the manufacture of primary metal and directly in the manufacture of semi-finished goods.

Aluminium The use of aluminium waste within the EC (excluding internal waste) rep-

resented approximately 1.7 million tonnes in 1989, compared with 1.3 million tonnes in 1983. Production of secondary aluminium increased by 8% in 1988, whereas over the same period, production of primary aluminium remained stable.

The EC has a recycling rate of around 35% compared with 30% in the USA and 32% in Japan. The highest recycling rates are found in West Germany (36.9%) and Italy (35.6%).

Approximately 65% of aluminium waste from the carmaking, electrical appliances and construction industries are collected.

As regards the collection of drinks cans, however, EC countries have only just

begun to take an interest and are well behind the USA. West Germany recycles over 700 000 tonnes of aluminum waste per year, Italy - nearly 400 000 tonnes and France - 250 000 tonnes. In 1988, aluminium waste in West Germany was used as follows: 570 000 tonnes for the production of secondary metal, 150 000 tonnes for direct use in the manufacture of semi-finished goods and 75 000 tonnes for primary metal production.

Copper With nearly 1.5 million tonnes per year, secondary copper accounts for nearly 40% of total consumption within the EC. Since 1985, both demand and the quantity of waste metal recovered have tended to level

Table 4
Recycling of non ferrous scrap metals

(%)	Aluminium	Zinc	Lead	Copper
Rate of recycling in the EC (1)	35	25-30	51	35-40
in western Europe (2)	24	23	47	36
Energy savings induced by the use of recycled metals (2)	96	63	60	87

(1) Estimation

(2) Source: BIFR (Bureau International de la Récupération), Sema Group, Eurostat

Table 5
Scrap iron
External trade

(million tonnes)	1980	1981	1982	1983	1984	1985	1986	1987	1988
Exports									
EC ⁽¹⁾	3.1	4.4	4.2	5.7	6.3	6.7	3.3	3.4	4.0
Other Western Europe	0.2	0.3	0.2	0.3	0.4	0.4	0.3	0.6	0.2
USA	10.1	5.8	6.2	6.8	8.6	8.9	10.6	9.6	9.2
Japan	0.2	0.2	0.2	0.1	0.2	0.2	0.5	0.4	0.4
Imports									
EC ⁽¹⁾	2.7	1.2	1.6	1.3	1.9	2.0	3.3	4.0	3.5
Other Western Europe	1.3	1.6	2.3	2.7	3.3	3.4	3.4	4.7	4.7
USA	0.5	0.6	0.4	0.6	0.5	0.6	0.7	0.8	0.9
Japan	3.0	1.8	2.0	3.9	4.0	3.3	3.2	2.4	1.8

⁽¹⁾ 1980-85 EC9; 1986-87 EC12 (excluding Greece)
Source: International Iron and Steel Institute (IISI) and Eurostat (Sidr)

off. The main producers of secondary copper are West Germany (over 150 000 tonnes) and Belgium (100 000 tonnes). The main users of waste copper for the purposes of primary production or the manufacture of semi-finished goods are West Germany (250 000 tonnes) and Italy (nearly 200 000 tonnes).

Zinc Recovered zinc is derived from the waste produced by finishing workshops which perform electroplating operations, new processing scrap, used products based on zinc powder and roof demolitions. The construction and carmaking industries provide the main sources of scrap zinc, accounting for around 20% of the demand for this metal within the EC. The amount of

secondary zinc produced is now on the decrease, as a result of technical advances in roofing materials.

Lead Secondary lead, derived mainly from old batteries, accounts for approximately 50% of EC requirements, although fluctuations in international rates inevitably affect the profitability threshold of lead recovery operations. Production of secondary lead is slightly on the increase whereas primary lead has entered a decline.

The leading EC producers of secondary lead are West Germany and the United Kingdom, which each produce approximately 130,000 tonnes per year.

External trade

The international scrap iron market is largely dominated by the United States, which is still the main exporter with 11.1 million tonnes in 1989.

In spite of this dominant US presence, EC external trade plays an important role, although the trade position is balanced.

Since 1986, EC exports have stabilised between 3.5 and 4 million tonnes, the main exporting countries being the Netherlands and the United Kingdom.

EC imports are at the same level but look set to rise, the main importing countries being Italy and, to a lesser extent, Spain.

Intra-EC trade represents 11 million

Table 6
Scrap iron
External trade between main EC countries and non EC countries

(thousand tonnes)	F	B/L	D	I	E	DK	NL	UK	Total EC-
1987									
Import	13	18	207	1 596	1 088	17	26	54	3 019
Export	254	138	478	0	0	32	1 157	1 091	3 150
1988									
Import	26	20	290	1 429	890		10	41	2 778
Export	325	242	752	0	0	25	1 297	1 130	3 771
1989									
Import	19	44	193	2 100	999	0	45	31	3 431
Export	375	357	364	0	0	0	1 299	1 032	3 427

Source: BIR

Table 7
Quotations of old metals, nov. 1990

(Ecu per tonne)	London	Paris	Milan	Dusseldorf	Brussels
Copper (wire)	1 605	1 595	1 572	1 700	1 725 ⁽¹⁾
Brass (mixed)	1 045	1 130	970	N/A	1 086
Aluminium (old laminated)	725	615	815	N/A	640
Zinc	670 ⁽²⁾	615 ⁽³⁾	655 ⁽⁴⁾	600 ⁽⁵⁾	580 ⁽⁶⁾
Lead	425 ⁽⁶⁾	440 ⁽⁷⁾	390 ⁽⁸⁾	440 ⁽⁹⁾	470 ⁽⁹⁾

- (1) first choice
- (2) old
- (3) cover
- (4) wastes material
- (5) scrap metals
- (6) mixed
- (7) tubes
- (8) soft first category
- (9) old soft

Source: Lettre d'information métaux 11/90

tonnes, i.e. roughly one quarter of supplies derived from scrap dealers.

In conclusion, within the scrap iron trade, 49 million tonnes go to EC plants with a further 4 million tonnes for export.

On the basis of an average rate of 110 US\$ per tonne in 1989, the value of the products handled by the sector can be estimated at 6 billion ECU. Prices are established on the basis of, among other things, the USA price known as the "composite price". They fluctuate widely, varying by between 18 and 20% from one month to the next.

Structure of the industry and employment

Scrap dealers and dealers in other forms of waste metal can be divided up into three categories: collection firms, small wholesalers and dealers. Small-scale collection firms represent the largest category and collect waste metal which is mainly derived from household refuse. Small-scale wholesalers constitute the first stage in the recovery of industrial waste metal. Their suppliers are primarily industries, collection firms, demolition companies and sometimes even public authorities. Large wholesalers,

meanwhile, perform salvage operations on an industrial scale and buy and sell their waste metal at an international level. Car demolition firms are playing a growing role thanks to the use of large crushers entailing large-scale investment. The exact number of jobs provided by the sector is not known, owing to the large number of tradesmen and occasional jobs. As a rough guide, the number of jobs recorded for the entire waste recovery sector (NACE 62), of which waste metal forms the bulk, is in the region of 120 000 jobs. The number of people employed by the sector is now on the decline, as sorting operations become more concentrated and more highly industrialised.

Outlook

Ferrous metals Technological developments in the iron and steel industry and the growth of the steel markets will cause certain tensions on the scrap iron market over the next few years, not only in terms of quantity but also the quality of the waste collected.

Over the past ten years, technological developments in the iron and steel industry (improved yields, continuous casting) have

reduced the amount of internal process scrap, coupled with a steady increase in the proportion of steel produced by electric arc furnaces based on scrap iron and pre-reduced products. In years to come, scrap iron is expected to account for between 70 and 75% of scrap supplies from the iron and steel industry; 15 to 20% will come from internal scrap from the iron and steel industry (down 10%) and 10% from internal foundry scrap (no change).

At the same time, the development of new iron and steel products such as coated sheets and high-resistance national emergency steel have brought about a reduction in the quality of the scrap iron purchased.

New technologies such as thin slab casting will enable mini-plants to tackle higher-value-added steel markets (flat products) and will consequently require a higher quality of scrap. Demand for high-grade scrap iron and scrap iron substitutes is therefore expected to increase greatly over the next ten years. Production of pre-reduced products, which are the main substitute for scrap iron in electric steel-making, should virtually double over the same period.

In the short-term, the amount of scrap iron required by the EC's iron and steel industry is expected to reach 54 million tonnes by 1992.

Steelworks' requirements: 64 million tonnes, which can be broken down as follows:

- ❖ internal scrap: 15 million tonnes;
- ❖ scrap iron: 49 million tonnes;
- ❖ Foundries' requirements;
- ❖ scrap iron: 5 million tonnes.

In terms of quantity, EC supplies should easily suffice to cover scrap iron requirements in 1992, without having to resort to

large quantities of substitute products. In terms of quality however, efforts will have to be made in order to ensure that the scrap iron sector becomes an industrial structure, rather than remaining a predominantly commercial sector.

Such a move should lead to more efficient use of new resources:

- organisation of the "vehicle crushing" sector with pre-dismantling of parts and upgrading of non-metal parts which are currently a major source of inconvenience for crushing units,
- development of tin can recycling, either via incineration clinker from domestic waste or directly via selective household collections,

- improvement of upgrading techniques for mixed and alloyed metals.

Non-ferrous metals Apart from aluminium, the outlook for common non-ferrous metals is fairly bleak.

Secondary metal production and the associated dealing activities will fare better than average and major efforts will be made to improve the percentage of available waste collected:

- larger-scale recovery of old batteries (Pb), more effective upgrading of finishing waste (Zn);
- improvement of separation techniques by magnetic sorting or hydrometallurgy (any rare metals);

Aluminium, meanwhile, offers considerable

potential with the recycling of drinks cans. The latter will have to be carried out on an industrial scale, as aluminium begins to take over as a substitute for tin cans. In order to meet these various challenges, scrap dealers and the associated industries are keen that the products in which they deal should be regarded not as waste but rather as secondary raw material, fully integrated into the industrial networks and free from all constraints.

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