



ERM case studies: Employment impact of relocation of multinational companies across the EU

Introduction

Profile of multinational companies

Effects on employment

Factors determining location decisions

Conclusions

List of company case studies

Analysis of individual case studies

References

This report is available in electronic format only.

This report examines shifts in the pattern of production and employment between different countries and regions of Europe. Based on findings from a series of company case studies, it looks at the location of job creation and job destruction in multinational companies across the 25 EU Member States and Norway. A variety of factors, notably the ever-changing patterns of competition on world markets and technological advances, enter into a company's strategic thinking and actions when it comes to location decisions. This has inevitable consequences for employment, as companies expand production in some locations and seek to rationalise production and employment in others. This study aims to summarise and illustrate these processes to allow for a better understanding of multinational companies' location decisions.

Introduction

The present report is a follow-up study to [ERM case studies in Europe: the employment impact](#). The latter was carried out in early 2008 and examined cases of offshoring, or relocation, of production by companies, in particular between the EU15 countries (EU15 – prior to the 2004 enlargement) and the new Member States. The same effect of essentially transferring jobs from one country to another, however, can result from decisions made to expand production in one place while contracting it in another, without there being any overt link between the two decisions even if they might be related in practice as multinational companies determine how to organise their operations, which increasingly they tend to on a European or even global scale.

This study, therefore, examines the shifts in the pattern of production and employment between different parts of Europe which have resulted from these kinds of decision. It adopts a wider perspective than the previous research which focused exclusively on off-shoring, in order to capture the overall picture of relocation.

Multinational companies come in a variety of shapes and sizes and legal and operational configurations. However, by their nature, they share the common characteristic of being directly affected by ever evolving trends and developments in global patterns of production, consumption and trade. Furthermore, and above all, multinationals are affected by ever-changing patterns of competition on world markets and by technological advance, in addition to the pressure both of these exert on their business policies and the way they organise production.

In managing such developments, companies are routinely involved in making changes to their operating arrangements – not least in terms of the location and scale of their various production facilities – in the light of a variety of factors. Such factors notably include:

- changes in the relative costs of labour in alternative locations as new economies enter regional or global markets;
- changes in market conditions for their products or services due to the expansion or contraction of different markets, may these be near or far;
- changes in the company's own competitive position vis-à-vis other companies due to a variety of factors.

All of these factors, and many other more detailed concerns, enter into a company's strategic thinking and actions, with inevitable consequences for employment as companies expand production in some locations and seek to rationalise production and employment in others.

In order to illuminate and illustrate these processes, a case study approach is adopted, based initially on information recorded in the [European Restructuring Monitor \(ERM\)](#), but supplemented by information from the companies themselves and from other published or reported sources. The latter have been collected and collated by national correspondents from each of the EU Member States and Norway. The results of each company case study are outlined in detail in the second part of this report, while the first part presents an overview of the main findings to emerge from the case studies

This report is available in electronic format only.

in terms of the nature and extent of the changes that have taken place in the location of production – and employment – as well as the primary motives of the companies involved.

This is not, and cannot become, a quantitative exercise and there is little or no justification in seeking to add up disparate figures on, for example, employment gains and losses, or relocations from one locality to another, on the basis of a heterogeneous sample of cases. However, in presenting these experiences in all their variety, it is hoped that the decisions of multinational companies can be better understood. In addition, this report may provide useful evidence that can help the European Union (EU) and individual Member States to develop appropriate strategic responses in pursuit of economic, industrial and employment goals – notably as regards the creation of more and better jobs, with rising productivity, within their territory.

Profile of multinational companies

Many multinational companies producing consumer and business products and services for mass markets (such as computers, cars, mobile telephones, and travel and financial services) are well-known and typically very large, employing 100,000 or more people, with production and marketing activities spread across most continents and several countries. However, many equally large multinational companies have less visibility because, for example, they operate as a holding company and promote their brand names rather than the identity of the company itself, or because they mainly supply other companies rather than the general public. Such an example would be [Yazaki](#) in the automotive industry.

There is also a perception, at least among critics, that multinational companies are, in some sense, operating outside of national or European jurisdiction, with little or no attachment or accountability to particular countries or global regions. This may be true in certain formal respects, as well as in some particular cases. Nonetheless, it is equally true that many European companies – notably, but not uniquely, German companies like [Volkswagen](#) (VW) or [Lufthansa](#), or Finnish companies like [Nokia](#), and even smaller companies like originally Luxembourg-based [Villeroy & Boch](#) – maintain strong roots in their countries of origin and often retain a significant part of their workforce there, for a variety of practical and strategic reasons.

In fact, not all companies that operate in global markets are necessarily large in employment terms, especially if company employees work primarily on such aspects as design, development and marketing, and the company subcontracts much of its production to other companies in the supply chain. An example in this regard is the Finnish company [INCAP](#), which employs just 750 people in its sports products businesses, but which has production facilities split between India, Estonia and the home country.

Effects on employment

It is sometimes argued that Europe needs to rely on small and medium-sized enterprises (SMEs) rather than multinationals for its employment growth, in part because of their supposedly greater flexibility and because large companies are coming under increasing global competitive pressure, leading them to progressively reduce employment in high wage areas such as western Europe. The case studies presented in this report suggest, however, that experiences are much more varied. Many multinationals, for example, display in practice a high degree of flexibility in terms of the products and markets that they develop and the business strategies that they pursue. While it is evident that smallness as such may bring advantages, it is equally the case that a great number of SMEs survive and expand by supplying multinationals, thereby relying extensively on them for their market and thus the jobs that they create. Modern economies, therefore, cannot develop on the back of SMEs alone, which is why it matters where multinationals decide to locate their production.

Some companies have lost large numbers of jobs due to market crises, which was the case of [Ericsson](#) in the early years of the decade and is, to some extent, the case of IBM at present. Other companies have recorded significant job loss due to major restructuring of their operations – as was the case with [Unilever](#) over recent years, while some companies – such as Lufthansa and VW – have shown greater

employment stability. However, all companies have, to some extent, been involved in relocating business activities either within Europe – typically from the EU15 to the new Member States – or from the EU to third countries, including more recently from the new Member States to third countries.

Contrasting examples of company experiences

The French transport and energy group, [Alstom](#), has a global workforce of over 75,000 people, 60% of whom are based in Europe, with much of the remainder split between North America and Asia. Employment in all areas has expanded somewhat in recent years, but with considerable restructuring and rationalisation taking place within and between regions. In the energy sector, for example, reorganisation has led to a concentration of design work in Germany and Switzerland and a reduction of jobs in Italy.

In terms of overall employment, VW has maintained employment levels at around 330,000 workers worldwide – half of them in Germany – with around 90,000 employees in the Volkswagen Group (VW AG). However, VW has managed significant employment relocations between countries, with job losses in Belgium, parts of Germany, Poland and Spain, and increases in the Czech Republic, other parts of Germany and Slovakia. Such changes have also been partly associated with the differing performance of national makes and models, such as [Škoda](#) in the Czech Republic and [Seat](#) in Spain.

[Dell](#) is a high-end producer of computer hardware and information technology (IT) systems, employing some 90,000 people worldwide in 2007, including 4,500 workers in Ireland, which is the focus of the case study described in this report. The company, like others in the IT industry, had been under intense market competition and associated cost pressures. Dell made almost 7,000 of its workers around the world redundant in 2007, including 250 people in Ireland, with the closure of plants and call centres in Canada and the United States (US). The biggest concern in Ireland relates to the construction of a production facility in Poland, which looks to be of a similar capacity to that in Ireland, with a potential workforce of 3,000 people, and which could be seen as eventually replacing the Irish site. At the same time, the company is developing assembly plants in Asia with a further big investment in India. Dell believes that India, along with China, has a big market growth potential and is not simply a low-cost location for production.

[IBM](#) is a company with more than 350,000 employees in 170 countries worldwide. Over the past two decades, the company's global workforce has shrunk by 13% with some significant restructuring and relocations along the way. However, IBM's decision to develop its presence in central and eastern Europe after 1990 and in Asia after 2000, in order to access these growing markets as well as low-cost but highly-skilled IT specialists, has brought important employment benefits in the areas concerned. In Poland, for example, the number of employees has grown from less than 100 people a decade and a half ago to some 2,600 workers today.

At the end of 2007, the German-based [Continental](#) tyre company had manufacturing plants in 36 countries in Asia, Europe, North America and other areas of the world, employing over 150,000 people. The number of employees grew over the period 2002–2008, although the number of jobs fell in some 'EU15 countries and increased in some new Member States, as well as in the emerging markets further to the east'. In Romania, which is the focus of the case study in this report, Continental increased its workforce from less than 100 employees in 1999 to over 2,600 employees in 2006, with subsequent growth to 6,000 people by March 2008. While specific details of the activities of the workforce in Romania are difficult to verify, it seems that a significant number of staff are involved in the design and innovation of new products, technologies and management techniques, and not just tyre production.

On the other hand, Villeroy & Boch – a major, originally Luxembourg-based ceramics company, but in multinational terms relatively small – has maintained its total employment levels relatively steady in recent years at around 11,000 workers, despite operating in an increasingly competitive market. Of its total staff, almost 4,000 employees are based in Germany, with a similar number of workers in

other parts of Europe; the remainder of Villeroy & Boch's workforce are located in a variety of countries around the world, including Mexico and Thailand. Nevertheless, restructuring in Luxembourg and Germany has led to some job losses in the company under the relentless pressure to reduce labour costs. Part of the company's strategy has been to develop its market shares in Europe through acquisitions – which provide both production facilities and access to national markets – and to expand distribution in Asia in order to take advantage of this growing market.

The Unilever group, by contrast, which operates in 100 countries, has seen total employment fall from over 245,000 workers in 2002 to some 175,000 workers today, as the company has sought to rationalise production, administration and marketing activities in order to improve its competitiveness. However, little evidence exists of any geographical shift in the company's operations, with reductions in employment being somewhat greater in Asia and Africa than in Europe, although employment in Europe has fallen from 60,000 to 43,000 workers. The changes have been widespread, with some modest job growth in the new Member States – notably in the Czech Republic, Poland and Romania – but likewise job losses elsewhere, especially in the EU15, such as in Ireland and the Netherlands. There have also been job movements between the new Member States, with three sites in Hungary being closed as part of a move to the Czech Republic, eastern Germany and. Moreover, rationalisation has involved some relocation of jobs between regions within countries, such as the transfer of its Italian headquarters from Milan to Rome, with a loss of 450 jobs, and a concentration of support activities from three sites to one in the southern United Kingdom (UK), with announced losses of 350 jobs.

The Dutch [Royal Philips Electronics](#) group has production plants in 32 countries and is a leading producer of consumer electronics, medical systems and lighting. However, over the past decade, its employment has also fallen – from 190,000 to 120,000 workers – as part of a wide-ranging process of rationalisation. However, the relative importance of employment across global regions seems to have remained much the same, albeit with major changes within these, and some overall movement from the EU15 to the new Member States, as well as towards Asia.

The recent employment history of the Swedish telecommunications company [Ericsson](#) illustrates another experience. The company faced a severe crisis between 2001 and 2004, forcing it to reduce its worldwide workforce by over 50%, from 107,000 to 47,000 employees. However, employment levels have subsequently risen to 76,000 people, although much of this employment growth has occurred not only outside Sweden but also outside Europe. While some 20,000 workers are still employed in Sweden, only 15% of them are involved in production, many of them have now moved closer to growing markets in countries outside Europe, such as Brazil, China and India. Research and development (R&D) activities, nevertheless, remain largely within the EU.

Factors determining location decisions

Labour costs

[Head](#), a Netherlands-based sports goods manufacturer, has pursued a dual strategy in the face of the continuing cost pressures that affect many companies in the textiles, shoes and related goods sectors. This has involved concentrating production of high-quality standard goods, along with its headquarters and distribution operations, in a limited number of locations in Europe, while outsourcing large volume and labour-intensive production to low-wage countries, in particular China. As part of this approach, the company has made a series of changes in the location of its operations, including closing part of its production facilities in Austria and Estonia, and moving these to the Czech Republic, as well as moving from Ireland to the US. The overall effects on employment in Europe are not clear, but China has clearly benefited; Bulgaria may also benefit since the company plans to open a new plant to produce diving equipment in the country in 2008.

The German tyre manufacturing company Continental had been gradually relocating production to low labour cost countries, beginning with tyre manufacturing, resulting in the loss of 2,750 jobs between 2002 and 2004 in Austria, Belgium and Germany and gains of approximately 3,000 jobs in Lithuania and Romania. Likewise, the relocation of automotive parts and accessories, electrical equipment and safety devices that took place between 2004 and 2008 resulted in around 1,700 job losses, while just over 2,000 new jobs were created in total in the Czech Republic, Hungary, Romania, and Slovakia. However, according to the company, these decisions have been motivated by other factors as well as cost considerations, notably the availability of relevant skills in the countries concerned and the growing demand for cars and tyres in developing markets.

Moreover, the relative importance of low labour costs as a location factor can change over time. While costs were seen as a particular issue by [Ericsson](#) at the beginning of the decade – the search for cost reductions and for ways of increasing efficiency remain core objectives of company management – a range of other factors are now seen as important in determining the location of jobs. These include:

- the availability of workers with the requisite skills in adequate numbers;
- logistics, notably with regard to transport and shipping;
- labour law issues;
- environmental concerns;
- proximity to faster growth markets in developing countries;
- the general political-economic stability of the countries and areas in which facilities are located.

Availability of skilled labour

According to reports in 2004, Continental tyres chose the site in Sibiu in central Romania not only because of low labour costs and flexible working times, but also because of a good infrastructure and the availability of qualified workers. At the same time, however, a concern to be close to expanding markets has also played a role in determining location decisions: at the end of 2007, the company announced that it intended to build a tyre factory in China – a decision that was not so much related to take advantage of low costs but to growth prospects together with an abundance of skilled workers.

The availability of IT skills was also important in a general reorganisation and redeployment of consultancy and support services staff within the [Siemens](#) group, away from Belgium and Germany to the Czech Republic, but also to Romania and India, where skilled graduates were available.

Such factors were equally significant in the Finnish INCAP company's decision to move production away from its home country to Estonia, as well as to India. INCAP's decision to move to Estonia was

motivated by the supply of skilled workers from a local vocational training school, as well as low production costs and the proximity to the company's customers.

The corollary is that the availability in Europe of highly-skilled management and labour forces, as well as sophisticated and integrated design teams, can also be an important factor in discouraging the offshoring of the development and production of more complex products, particularly capital investment goods. Accordingly, the French transport and energy group [Alstom](#) has moved to focus its design work in centres of excellence, while distributing its manufacturing facilities more widely.

The development of skills can work very much to the advantage of specific localities right across the EU. As part of the company's main restructuring activities, [Lufthansa Technik Malta](#), for example, has recently made a €55 million investment to establish a new maintenance, repair and overhaul facility for wide-bodied aircraft, drawing on the skilled workforce graduating from the Malta College of Arts, Science and Technology. The Malta facility now employs 160 full-time employees, with over 50 apprentices.

Skilled labour considerations, in addition to high productivity and good infrastructure, also played their part in the decision of the Head NV group to locate to the Czech Republic as opposed to other, neighbouring, lower-wage locations, although this policy is threatened by the continuing pressures to reduce costs in the face of strong global competition.

Such pressures have been equally apparent in other industries of the manufacturing sector. The Japanese component supplier Yazaki group, which has locations in 38 countries around the world, acquired its Lithuanian subsidiary, which produces wiring harnesses for motor vehicles, in 2003. The facility had been attracted to Lithuania from Portugal because of the availability of cheap skilled labour; however, much of the production moved to Bulgaria and Turkey when skilled labour in Lithuania became scarce and more expensive. While the number of employees in the Lithuanian plant has been as high as 3,500 people, it now looks set to fall to 800 people.

More lasting results appear to have come from VW's decision to establish a subsidiary in Slovakia in 1991, as part of its plans to expand activities in central and eastern Europe. This subsidiary now employs some 8,000 workers. The availability of a skilled and experienced manufacturing labour force – along with lower labour and operational costs and proximity to future markets – had been a key element in the decision to develop production there. However, the move eventually had a much wider impact, helping to revive the Slovak engineering sector which had been in decline at the time.

The [Trident Components Group](#), previously Austrian, has been owned by a UK private equity company since 2005. It manufactures components for the automotive industry and employs some 3,000 people, almost 50% of whom are in Slovenia. The development of this plant had earlier involved the progressive relocation of several hundred jobs from Austria, but additional employment growth has also been recorded in the new location. In the face of pressure from its main customers for continuous reductions in prices of 2%–5% a year, however, the company has moved some production to cheaper locations in Croatia and Macedonia. Nevertheless, cost is not regarded as the sole determinant of location decisions. Proximity to customers also matters, as do quality control considerations, which are particularly relevant in the case of more distant locations such as China. These factors are seen as becoming increasingly important relative to cost.

Financial incentives to set up in new locations

Financial incentives appear to have been a significant consideration in the establishment of a subsidiary of the Japanese [TRCZ](#) company in the Czech Republic, where a new plant was opened in 2002 providing 1,200 jobs. The company judged the investment incentives available in the Czech Republic as much more generous than those on offer in Hungary or Poland. However, while TRCZ was no doubt influenced by investment incentives, a significant factor in the location decision was also its proximity, as an auto component manufacturer, to a car plant part-owned by Toyota, as well as the presence of three other Japanese car component manufacturers in the area and good road, rail and sea transport links.

While the movement by the [YVTL](#) company of wire harness production work from Lithuania to Bulgaria, as described above, appears to have been influenced by a range of factors, the move is also said to have been influenced by better tax incentives in Bulgaria and Turkey, and lower labour standards, as well as by the fact that Bulgaria is better located for its customers – notably Renault.

Proximity to new markets and suppliers

The policy followed by the [British American Tobacco](#) (BAT) group provides a notable example of the attraction of new markets and the logic of relocation. The company is currently shifting its production away from the EU15, where demand has declined considerably in recent years under the impact of health education and smoking restrictions. The relocation of activities has entailed 3,000 job losses between 2004 and 2007. In general, the company is concentrating on producing in countries with both less regulation and less awareness of health risks. These include much of Asia as well as countries such as Croatia, Russia, Serbia and Turkey. The company has retained some production in Germany and Poland, notably to meet the market demand in Bulgaria where it appears to have difficulties in establishing a local manufacturing plant because of the presence of a competing publicly-owned tobacco company.

The policy of the [Coca-Cola Hellenic](#) group provides another example, but working in a positive way from an EU perspective. In this case, the company's global strategy appears to be to establish a presence in every country in which it sells, so obtaining marketing as well as transport cost advantages. Labour costs are not seen to be a factor in such a policy since the company has expanded in high-cost countries like Ireland, Italy and the UK, as well as in low-cost countries. Market entry is achieved either through the acquisition of existing production facilities or the opening of a new plant (as in Russia, where some 14 new production units have been opened). It also appears that subsidiaries in individual countries do not compete with subsidiaries in other countries, but confine their operations to their own national or regional markets.

Anticipating the potential of a growing local market was also a factor behind the Finnish INCAP company's decision to develop some of its production in India, along with the availability of skilled labour at low cost.

While proximity to markets is an important factor in many industries, this may be less the case for capital goods manufacturers. Accordingly, while the French [Alstom](#) transport and energy group has expanded its China-based production facilities, a large part of Chinese demand for its products is still met from European production plants. Moreover, the European market is still by far the most important for the company, accounting for 50% of its total output as opposed to less than 20% in Asia.

Complex restructuring

The case examples described above illustrate that most changes in the location of production and employment are driven by a mixture of factors, with labour costs generally in the lead, but closeness to the market and a range of other factors are also important decision elements for companies. However, some changes appear to be the result of broader and more complex processes of restructuring within the companies concerned, making it difficult to disentangle the different causes and consequences in many cases.

This is the case for the French group [Schneider Electric](#), which has some 120,000 employees working worldwide in the manufacture of metal products, some 40% of whom are located in Europe. Employment in the group increased from 2004 to 2007 in all areas, but the fastest growth was recorded in Asia and Bulgaria. The group is based in France, where product development still takes place. Nonetheless, employment has been in decline in its home country due to rationalisation and the reorganisation of various activities across different locations, along with subcontracting to low-cost countries – even to the point of replacing automated French production by cheaper manual processes in Bulgaria.

Lufthansa, which operates services in all five continents, employs over 100,000 people in six separate divisions and has undergone a significant and complex restructuring in line with many other airlines in recent years. This has involved cutbacks in catering and administration but increased investment in areas such as aero engine maintenance, call centres, airport expansions and flight staff. The company's overall strategy of pursuing profitable growth rather than growth at all costs has ensured that pressure has been maintained on costs, while continuing to seek profitable opportunities for expansion, especially in growing markets. To this end, the company has increased its presence in India and China, where 7% of its workforce is now located. However, more than 80% of the company's employment remains in Europe, with core hubs in Frankfurt and Munich.

The restructuring process that has been undertaken by Unilever in recent years has been complex and wide-ranging, resulting in a major drop in employment levels not just in Europe but also worldwide. The main objective was to rationalise both operational and administrative facilities. Meanwhile, the company has also taken the opportunity to move production of some products from the EU15 to the new Member States as part of a general cost-cutting effort based on comparisons of costs at different sites. The overall impression is of a company seeking to modernise itself in order to create a leaner, more coherent, 'one company' structure in place of a previously relatively fragmented set of operations. In this process of rationalisation, the company has also outsourced certain functions, including responsibility for human resources (HR).

The process undergone by Philips in recent years, also resulting in major job losses, has perhaps been less complex but equally dramatic. Some of the moves have been undertaken for cost reasons – such as the relocation of light bulb production from the Netherlands to lower-cost countries such as the Czech Republic and Poland – while others have involved expansion into new markets, especially China and India, with a more general reorganisation of worldwide service centres and the shedding of non-core activities (like semiconductors). All of this has come at a cost in terms of jobs; however, it reflects the scale and speed with which large multinational companies may need to act if they find themselves either uncompetitive or falling behind in terms of product and service quality.

Another example of complex restructuring is provided by the German [Freudenberg](#) group, which operates in 53 countries with production facilities throughout Europe, America and Asia. The company mainly produces intermediate products or components for the automotive, engineering and textiles industries. Freudenberg has significant interests in Asia, where some 10% of its own employees are located, in addition to many other workers employed through joint venture companies. The company plans to expand its engagement much further in the Chinese market in particular. However, it has also actively sought to maintain a substantial presence in Europe, especially in Germany, where over 11,000 people of the company's 34,000 employees are located and where employment levels have been maintained for the past five years. This strategy is being pursued through a series of moves – acquiring companies, selling others, and rationalising production of others, together with expansions in other European countries, notably in the East, while at the same time pursuing new ventures in high-tech and R&D related areas in Europe. Concern for employee interests in one case has extended to negotiating a two-year 'no-redundancies' clause with the new owner in the case of a sale by the group of a company with 900-plus employees.

Conclusions

Several points stand out from the above review of the company case studies.

- Some multinational companies – notably Philips and Unilever – have suffered major job losses in recent years. However, these job losses appear to reflect earlier company failures to adjust to changing market conditions, with inevitable consequences as they struggle to ‘catch up’, rather than reflecting some general trend towards employment declining in large companies.
- Other companies – German-based ones being particularly notable – seem to have been reasonably successful in maintaining overall employment levels over time, albeit with much restructuring within countries and some shifts of activities between countries.
- Most of the multinational companies included in the case studies have shifted at least part of their production out of the EU15 into the new Member States in order to contain or reduce production costs.
- Most of the multinationals examined have also been actively seeking to enter Asian markets (notably China and India) and have already located production facilities in these areas.
- Labour costs are an important factor in determining location decisions, although it seems that other factors also play a significant role. Insofar as low labour costs are the main factor underlying location decisions, as they clearly are in the case of some parts of the manufacturing sector, it is possible that production will depart a location just as quickly as it arrives if costs begin to rise or if new, more cost effective possibilities in other places emerge.
- Most companies consider that labour costs and access to markets are both important, but a crucial factor appears to be the availability of suitably skilled labour; it is conceivable that this aspect will increase in importance in the decision-making process in the future.
- Although the degree of mobility of companies is difficult to gauge from the case studies, the extent of the changes taking place suggest that companies are much more willing than in the past to reorganise their operations on an international scale. Companies will do so if external competitive pressures augment and require a reorganisation on an international scale. However, companies’ ability to do so is also greater than it has ever been, given the technological changes which have taken place. At the same time, the globalisation of not only production but also the financial market and the emergence of new players, such as private equity companies, mean that the pressure to maximise the return on capital is probably greater than it has ever been as well.
- ‘European’ multinational companies seem reluctant to make themselves ‘stateless’ and truly ‘global’; most of these companies tend to retain both a strong presence in their ‘mother’ country, in particular in respect of design and development work, and general administration and marketing. This, however, may be equally true of Japanese or US companies, which feature in the case studies from a foreign market perspective rather than from a domestic market one. In other words, a similar study carried out, for example, in the US might come to a similar conclusion about US companies.
- There is no strong evidence of the factors affecting location decisions having changed over time. The enlargement of the EU and the entry of China, India and others into the open market world economy, however, have created new and easier opportunities to pursue alternative possibilities, as has technological advance. In other words, although the factors regarding location decisions may have remained the same, their effect on company decisions has tended to increase.
- The capacity of the new Member States to take advantage of their new competitive advantage appears to vary between them, ranging from the Czech Republic, where labour skills, discipline and the quality of infrastructure seem to be important, to Bulgaria and Romania where low wages are currently the dominant factor. The question is whether companies in these countries, which

have recently undergone a transition from centrally planned to market economies, can also make the transition to locations where their competitive advantage does not reside in low costs alone.

- As far as the EU15 countries are concerned, there have clearly been significant, if fairly widely distributed, job losses in a number of companies. Nonetheless, little evidence exists that workers in Europe as a whole have been affected more than those elsewhere, even if there has undoubtedly been a shift in some industries from the EU15 to the new Member States.
- The popular impression that much of the manufacturing base of Europe is on the move to Asia, notably China, is obviously misleading. Indeed, the case studies show clearly that, while many companies have established production facilities in these countries, a major motivation is to be better able to take advantage of the current and future market growth potential in these areas. Insofar as this is the case, there is no necessary reason why expansion in Asia should be at the expense of jobs in Europe.

List of company case studies

Belgium: Siemens IT solutions and services

Czech Republic: Tehničko Remontni Centar Zagreb s.r.o.

Germany: The Freudenberg Group

Estonia: Incap Corporation

Ireland: Dell

Greece: Coca-Cola Hellenic

France: Schneider Electric

Italy: Alstom Group

Cyprus: British American Tobacco

Lithuania: Yazaki Wiring Technologies

Luxembourg: Villeroy & Boch AG

Malta: Deutsche Lufthansa AG

The Netherlands: Royal Philips Electronics N.V.

Austria: Head N.V.

Poland: IBM

Romania: Continental Corporation

Slovenia: Trident Components Group

Slovakia: Volkswagen AG

Finland: Elcoteq SE

Sweden: Ericsson

UK: Unilever

Norway: Norske Skogindustrier ASA

Analysis of individual case studies

Belgium: Siemens IT solutions and services

[Siemens IT solutions and services](#) (SIS) was created from the reorganisation of the group's information technology (IT) activities and the merger of [Siemens Business Services](#) (SBS) and other departments. SIS currently employs 43,000 people in 42 countries including Austria, Belgium and Germany but also North America and Asia. This reorganisation led to many job losses for central European plants, while new investments were made in countries in the south east of Europe as well as in China and India. However, this offshoring process cannot be explained solely by pressure to reduce payroll costs, as the need to be close to customers and markets also played a role.

Basic facts

SIS is a subsidiary of the German Siemens group which operates in 190 regions spanning over all five continents. Siemens is active in a vast number of economic sectors; examples in this regard include medical solutions for healthcare, and energy production and distribution. SIS offers IT services including consulting, system integration, IT infrastructure management, software engineering and specific industry IT solutions.

In 2007, Siemens employed a total of 398,000 people, of whom 137,800 were in Germany, 114,400 in the rest of Europe, 99,100 in the Americas, 69,400 in Asia-Pacific and 10,000 in Africa and the Middle East. The majority of these individuals were employed in Siemens Financial Services, and some 43,000 people were employed in the SIS subsidiary. According to the 2007 Siemens Annual Report, the majority of SIS employees were located in six main countries: Latvia (35%), Belgium (19%), Germany (11%), India (11%), the UK (11%) and the US (9%).

Changes in the location of employment

According to ERM data, the Belgium branch of SIS (ex SBS) lost around 40% of its employees through relocations and restructuring between 2004 and 2007. In Germany, 23% of jobs were also lost. In terms of absolute numbers, Germany experienced the greatest number of job losses. Meanwhile, Siemens enlarged its workforce in two eastern European countries, in the Czech Republic by 9% and in Romania by 133%.

Changes in employment were followed by a significant reorganisation of the company across all sectors of activity. For Siemens, the objective was to reduce its operating costs by 10% to 20% in order to compensate for the deficit of some of its units, including those operating in the IT and communication fields. The SBS subsidiary was subject to losses amounting to 10.5% of turnover. As a result, the company was globally restructured and its divisions were gathered into three big groups of activities consisting of energy, industry and medical solutions, and then cross-sector activities including IT solutions and services, and financial services.

The activities in the field of IT were entirely restructured. SBS disappeared and was partly reintegrated with other IT departments in SIS. The unit was formally founded in January 2007 and covers activities in IT of the former SBS subsidiary and other software development activities that were part of other business units.

Reorganisation has enabled Siemens to create a 'stand alone' SIS unit, with more control over its subsidiaries and more scope to implement its own international strategy. More than 20% of the staff from the new unit is located in southeastern European countries, China and India, which are all low-wage countries, while before the reorganisation most of the jobs were located in Germany. The reorganisation attempted to resolve three major issues that threatened the development of Siemens' IT activities: too many employees, over-specialised activities and inadequate capacity in terms of international delivery.

Factors underlying location decisions

The relocation of activities took place as part of a major reorganisation of Siemens IT activities. It seems that Siemens rationalised the number of workers employed in IT technologies – basically, too many people were employed in this business area relative to turnover. Simultaneously, the company invested in its human capital, increasing the knowledge base of researchers and engineers in eastern European and Asian countries.

Most of the group's IT activities were located in Europe, particularly in Belgium and Germany. The need for IT activities in Europe declined, while competition in the sector increased. SBS was hit by two loss-reducing market transformations. Since SIS provides consultancy services, geographical proximity to customers is indispensable, and it became necessary for the company to relocate to new markets where multinational companies are situated: Asia and eastern Europe (Eurofound, 2007).

It is highly likely that Romania or India were chosen as countries in which to expand because of the presence of high-skilled labour specialised in IT technologies. In Romania, the company **Forte** was already active in such activities and employed engineers and other technical specialists, and Siemens merged with this company, thereby acquiring its know-how and experience in IT.

In India, young graduates in engineering are plentiful and the skills obtained from Indian universities are on par with western universities, while the wages, although increasing fast, remain lower than in western countries. This is important because the IT sector requires a particular set of labour skills and work environment, with an emphasis on creativity, analytical problem solving, and strategic thinking, while high skilled workers demand a certain quality of life with attractive living conditions and a close access to universities (Karmin, 2007).

In July 2008, Siemens announced another global restructuring plan following the complete reorganisation of the company prompted by the corruption scandals that tarnished the group's image and an excessively complex management structure. This latest plan threatens 17,000 jobs worldwide.

Czech Republic: Tehničko Remontni Centar Zagreb s.r.o.

Tehničko Remontni Centar Zagreb (TRCZ s.r.o.) is based in Lovosice in the Bohemia region in the western Czech Republic and is a fully-owned subsidiary of the Japanese automotive components manufacturer **Tokai Rika Co. Ltd.** TRCZ was established as part of Tokai Rika's plan to set up extensive supply networks in the European automotive market. The facility opened in 2002 and TRCZ now employs over 1,150 workers in the Czech Republic. The company was attracted to the area because of the abundance of skilled labour, good transport links, the presence of other successful Japanese investments and the investment incentives on offer.

Basic facts

TRCZ is a limited liability company, registered and based in Lovosice. Its mother company, the Japanese automotive components manufacturer Tokai Rika Co., has its head office in the Japanese city of Oguchi-cho. In addition to its five Japanese plants, Tokai Rika Co. operates 30 subsidiaries worldwide, creating a global presence in the four major market places in the world – Asia Pacific, Europe, Japan and North America. TRCZ was founded in October 2001 but work on the Czech site was not completed until December 2002. The site in the Czech town of Lovosice is Tokai Rika Co.'s biggest manufacturing site outside Japan. In 2007, the Tokai Rika Co. group employed about 14,800 people, some 1,158 of whom were working for TRCZ.

Changes in the location of employment

The first employees of TRCZ started work in February 2002 and, in October 2002, key Czech managers started training at the parent company in Japan. At the end of 2003, the facility, with 600 employees, began mass production and dispatched its first deliveries to customers. A year later, additional capacity was added to the Lovosice complex. In 2005, TRCZ won a competition organised by the Ústí nad Labem regional authority to find the employer that had created the largest number of

new jobs. TRCZ had created 660 new jobs in the period under review. By 2007, the total workforce had risen to 1,200 people and this number is expected to increase.

The expansion of the facility and the enlargement of the workforce in TRCZ was not at the expense of other branches of Tokai Rika Co. and no reorganisations took place – the company was merely expanding its operating premises in the Lovosice industrial zone. The expansion of the factory started officially during December 2004 and was completed in 2005.

According to the company's Czech representatives, the opening of the factory has had a very positive influence on the region's employment. For example, in 2003 alone, TRCZ recruited 73 jobseekers registered with the labour offices in Lovosice. Employees came from 29 districts in the region, so the reduction in the number of jobseekers has been evenly spread throughout the region. Particularly attractive is the fact that the company offers work for individuals with only basic education, who are generally those with the greatest difficulties in obtaining or regaining employment. On the other hand, it is obvious that the town of Lovosice with its approximately 10,000 inhabitants and its immediate vicinity does not have enough qualified workers to meet the needs of TRCZ. Therefore, the recruitment catchment area for qualified workers and highly qualified specialists is much wider, embracing the relatively accessible agglomerations of Litoměřice, Teplice, Ústí nad Labem, Roudnice nad Labem and Most in the northwestern region of Ústí nad Labem. Despite this, the Japanese company does not see recruitment as a problem.

Factors underlying location decisions

Many factors contributed to the decision to locate TRCZ in Lovosice. According to company representatives, the main reasons for Tokai Rika Co. entering the Czech Republic were its strategic position and the presence of the company's principal business partner, the [Toyota Peugeot Citroën Automobile](#) (TPCA) company, in the nearby town of Kolín. TPCA is a joint venture of [Toyota Motor Corporation](#) and [PSA Peugeot Citroën](#), in which Toyota holds 50% of the ownership and Tokia Rika Co. 33%.

The Lovosice operation is part of Tokai Rika Co.'s strategy to create extensive supply networks in its four major target markets – the Americas, Asia, Europe and Japan. The President of Tokai Rika's Czech subsidiary, Hitoshi Iwata, argues that the operation will make the company more competitive and allow it to increase its sales and market share in the important European market. Lovosice also offers good transport connections as it is the transport hub of the region. There is a port and railway, and it is close to a large motorway.

Additionally, the availability of skilled labour in the Lovosice region was a major factor behind the location decision. The region has a long industrial history, with abundant skilled labour. As a result, the factory could start producing complicated components as soon as it opened, whereas in all previous seventeen branches, companies had had to start with simpler parts. Furthermore, the relatively high level of unemployment in the region meant that attractive investment incentives were available.

TRCZ is not the only Japanese investor, nor is it the only automotive components manufacturer in the Lovosice industrial zone. Three Japanese car parts manufacturers are located there, reflecting the fact that, since 2000, the Czech Republic has successfully gained the majority of all new Japanese investment projects in the sector targeting central Europe. The Director of the government agency [CzechInvest](#), Radomil Novák, argues that the Czech Republic has become the most attractive location for Japanese investors in central and eastern Europe since previous projects of Japanese companies in the country have been very successful, with plants quickly starting to generate profits and able to operate without problems. This has been a major argument when negotiating with potential Japanese investors. When Tokai Rika Co. entered the Czech Republic, 144 Japanese companies were already in the country, of which 61 operated in the manufacturing sector. The Czech Republic has been successful in making use of its reputation as a politically stable country with a developed industry and a functioning market economy in the centre of Europe and, at the time of Tokai Rika Co.'s entry to the Czech Republic, the prospect of EU membership.

Last but not least, in 2000, investors were attracted by a new set of investment incentives. Tokai Rika Co. representatives stated that the Czech Republic offered better terms than Hungary and Poland. The Czech terms included tax breaks, a financial support of CZK 32.4 million (€1.17 million as at 1 February 2009) for the creation of new jobs and of CZK 19.5 million (about €700,000) for employee requalification. In line with the law, the limit set for total state aid in the form of the investment incentive to Tokai Rika Co. from the Czech Republic was 45% of the total value of the investment costs that were eligible for support, amounting to CZK 525.9 million (€18.9 million). In order to obtain the investment incentive, the Czech side stipulated two conditions: first, the investment must be maintained throughout the period during which the aid is drawn, but for no less than five years after building approval for the first construction took effect; and secondly, the jobs created, for which state aid was provided, were to be maintained for at least five years after the employment contracts came into effect.

Germany: The Freudenberg Group

The German [Freudenberg Group](#) is a family-owned company based in Weinheim in western Germany. The business portfolio of the group – which employs more than 34,000 workers – includes components and intermediate products for customers in the automotive, engineering, mechanical engineering and plant engineering industries, as well as businesses relating to the textiles and clothing industry. Despite difficulties in recent years, the Freudenberg Group has grown in terms of employee numbers and sales through a mixture of acquisitions, new ventures, and rationalisation and relocation.

Basic facts

The Freudenberg Group is a family company, which comprises 434 separate companies organised in 14 business groups across and operating in 53 countries. It employs over 34,000 people worldwide. Around 90% of the group's product portfolio comprises intermediate products or components for the automotive industry, mechanical engineering or plant engineering industries, as well as for the textiles and clothing industry. Only 10% of its goods, which are mainly household products, are produced for final consumers.

The business is divided into four major areas:

- seals and vibration equipment for the automotive industry, with over 22,000 employees;
- non-woven materials for filters or other technical applications, with over 5,500 employees;
- household floor-cleaning equipment, household cloths and other household products, with almost 2,350 employees;
- other products, including chemicals and flexible printed circuits, with almost 4,300 employees.

An R&D group and a service support group also operate under the Freudenberg Group.

Employees are spread worldwide. In the seals and vibration technology part of the company, for example, it is reported that some 15,000 people are employed in Europe, 5,900 individuals in North and South America and over 1,500 persons in Asia.

Changes in the location of employment

Between 2002 and 2007, overall employment increased from 27,693 to 34,330 workers, corresponding to an increase in employment of 24%. The number of employees in the seals and vibration control technology business increased most, rising from 15,871 to 22,136 people, representing an employment increase of 40%. At the end of 2007, most workers in the group (11,266 people) were employed in Germany, in addition to 10,182 workers in other EU Member States and 548 individuals in non-EU countries in Europe. Sites in North America employed 7,357 workers and those in South and Central America 1,452 workers. The largest rise in employee numbers occurred at Asian sites, where staff numbers tripled – from 1,086 to 3,170 workers.

The main developments in the different regions over the period are outlined in the following sections.

Germany

In Germany, the number of employees has fluctuated due to closures, relocations and the concentration of business operations, on the one hand, and the acquisition of new businesses, on the other, with difficult business situations in the textiles, building and automotive industries leading to a restructuring at many German sites.

In 2002, the company announced the closure of its tannery, affecting 64 out of 121 employees, 38 of whom found new jobs elsewhere in the group. In 2004, the group acquired part of [Burgmann Dichtungswerke](#), which employed 1,100 workers at its German plants and service centres, with the aim of expanding outside the automotive sector.

The most far-reaching restructuring measures were announced in 2005 when [Freudenberg Nonwovens](#) presented its 'future strategy for the safeguarding of German sites'. At the time, the company employed 2,137 people in Germany, of whom 1,406 were employed in Weinheim, 574 in Kaiserslautern, 97 in Neuenburg and 36 in Bochum. The restructuring scheme – which involved relocating some production to China and eastern Europe – affected 349 workers in Weinheim, 109 in Kaiserslautern and 20 in Bochum. However, 68 jobs were to be redistributed within Germany.

While job cuts were needed to make the German plants more efficient, new high-technology operations were opened by the company. This included a technology centre devoted to high-technology automotive interior filter production in Kaiserslautern, where 58 new jobs were created. Moreover, [Freudenberg Seals and Vibration Control Technology](#) announced the concentration of R&D activities and encoder production, which was previously in France, in Weinheim. In 2007, the group sold its building systems group, with a workforce of over 900 people, to a German consortium, but with an agreement that ruled out redundancies until the end of 2010.

Other European countries

The number of employees in other European countries rose from 7,512 people in 2002 to 10,730 people in 2007, with the opening of new production facilities, such as in Hungary and Romania. In 2003, the household products business had announced a strategic partnership involving the takeover and operation of mechanical laundry care activities. This included the production and marketing of halio products worldwide, such as ironing boards and clothes driers, whose production facilities are located in the Czech Republic. In 2003, the Freudenberg Group also took full control of a previous joint venture with the Italian company [Politex](#), increasing the company payroll by 318 employees.

North, Central and South America

In 2002, the American seals and vibration control technology activities were strengthened by the acquisition of several companies. In 2003, a joint venture was undertaken to move production of high-volume mature products to lower-cost regions, notably in Latin America. In 2004, the group also purchased [Chem-Trend](#), then employing around 410 workers.

China

In 2007, the Freudenberg Group employed about 3,600 workers at 14 production sites and in 26 local offices in China. However, these numbers understate the group's engagement in China since the holdings of the group's partners – the Japanese companies [NOK](#) and [Japan Vilene Company \(JVC\)](#) – are not consolidated in Freudenberg's accounts. The company's partner NOK is reported to be operating another seven production plants employing about 5,200 employees in the region.

In 2004, two plants manufacturing advanced mechanical seals in China were acquired and a new filter plant was opened to manufacture motor and cabin filters in the capital city of the Jilin province, Changchun, in northeastern China. The project was financed by joint investments, with Japanese and local Chinese partners.

The company is actively pursuing an expansion strategy for its seals production in China with a new factory employing around 400 workers in Changchun, and another joint venture with Japanese and Chinese interests to supply car manufacturers in China, employing 300 workers.

In 2007, the Freudenberg Group outlined its future plans regarding China, involving new production facilities, as well as the expansion of existing locations, with investments totalling RMB 250 million (about €28.6 million as at 1 February 2009). The group also announced plans for a new Freudenberg company to produce air springs in Yantai in northeast China by 2008, which will employ up to 200 workers. At the beginning of 2008, [Klüber Lubrication](#) and [Chem-Trend](#) announced plans to produce speciality lubricants and release agents in China to meet increased demand, comprising a €19 million investment.

Factors underlying location decisions

The Freudenberg Group has concentrated its activities in the four main business areas and global acquisitions seem to have been undertaken with a view to strengthening these four business areas, which has generally led to an increase in the number of employees.

Difficult market conditions in the key European automotive and textiles markets, as well as rising material costs, have resulted in the restructuring of many businesses, with the sale or partial closure of unprofitable operations. These were mainly attributed to a downturn in business, especially in the German building industry and the automotive and textiles industries. Where possible, employees have been offered jobs in other parts of the Freudenberg Group.

Other measures that have been taken have included the relocation of production, for example, from North America to Mexico due to lower costs or from France to Germany for reasons of proximity.

Meanwhile, the group is creating new businesses and jobs in the high-technology sector or R&D-related fields, in order to be less dependent on sectors such as the automotive industry.

Close proximity to customers and markets is seen as essential to much of the group's business. Thus, when the group's customers or competitors in the textiles industry moved to Asia, Freudenberg's operations followed suit. Furthermore, with a growing demand for its products in the booming Chinese automotive, textiles and chemicals industries, new plants have been opened in China. Apart from manufacturing its products in China, however, the Freudenberg Group also intends to profit from the growth in markets such as Hungary and Russia.

Estonia: Incap Corporation

[Incap Corporation](#), with its head office in Kempele in northwest Finland, designs and manufactures products for the electronics and electrical industry. The company has production units in Finland, Estonia and India. In 2006, the company built a new plant in Kuressaare on the Saaremaa island in western Estonia, where the number of employees has grown to about 200 workers by 2008. After a successful expansion in Estonia, which has strengthened Incap's position in Europe, the company is mainly concentrating on expanding in Asian regions, especially in India.

Basic facts

Incap Corporation is a Finnish company which specialises in the manufacture of electronic valves and tubes and other electronic components. The company has a head office in Kempele and a factory in Vuokatti in northwest Finland, as well as production facilities in Estonia and India. In June 2008, the company employed about 750 people, of whom 200 worked in India, 200 in Estonia and 350 in Finland. In addition to its own workforce, the company also has 102 workers employed on outside contracts, so-called 'leased' workers.

Some 25% of Incap's workforce is located in Vuokatti, Finland, 21% in Kuressaare, Estonia, and 22% in India. At all three sites, production is specialised in the manufacture of electronics components and subassemblies. The units in Finland's capital city Helsinki and in the western city of Vaasa employ

each 9% of the company's personnel. Both units produce mechanical components, as well as sub-assemblies and box-build products containing electronic and sheet metal components. About 9% of the Incap's staff is engaged in marketing and administration activities. A subsidiary, [Ultraprint Oy](#), in Oulu in western Finland used to employ 5% of the workforce, but the manufacturing plant producing chemically-milled sheet-metal components was divested from the group through a management buyout (MBO) in July 2008.

Changes in the location of employment

2007 saw a growth in the company's workforce with the opening of a new subsidiary in the Estonian town of Kuressaare, where some 22% of company employees are now located. A new plant in India was also opened, which increased the number of workers by about 25%. However, the number of workers located at Vuokatti in Finland decreased by about 33%.

The start-up of the new unit in Kuressaare was the result of a new division of tasks between the electronics factories, with Kuressaare becoming a mass production facility that focuses on electronics and integrated products, while Vuokatti specialised in prototype fabrication, in small-series production and in the improvement of new products. This meant, in effect, that the production volume was shifted from Vuokatti in Finland to Kuressaare in Estonia, with the effect that the company announced to lay-off 130 employees at the Finnish plant as a result of transferring part of the production to Estonia. This was not the case in India, however, where the new production unit was the result of expansion (Incap, *Annual report 2007*).

Incap estimates that, in the years to come, the company's business operations will experience the greatest growth in India. Growth in Europe will be more moderate and, in Finland, business operations are estimated to remain at their current level. India is foreseen to play a central role in the company's global strategy of offering customers a global partnership in regions where the market and demand are growing.

Factors underlying location decisions

In the EU, Incap operates near its European customers, offering low-cost manufacturing within easy reach. Estonia's main advantage is its low manufacturing costs. Other advantages also include the ease of conducting business and smooth-running logistics. As a manufacturing location, the island of Saaremaa has lower costs than the northern parts of Estonia, with no additional logistics or travel costs, despite being at a 200 kilometre distance from Estonia's capital Tallinn. The location also allows the company to benefit from the supply of skilled workers from the Kuressaare Vocational School, which is one of the best in Estonia in terms of training of workers and specialists, according to an [online article](#) (arileht.ee, 25 October 2006).

The President and CEO of the Incap Group, Juhani Hanninen, argued in a [Stock Exchange Release](#) (Huginonline.com, 24 March 2004) that the expansion of the company in Kuressaare will strengthen its reliability of delivery and overall competitive position in the electric components market. Kuressaare is located close enough to the European customers to allow this, and the investment is seen to be part of a larger plan to evaluate the opportunities to expand operations further in the Baltic States. An increase in demand has also given additional momentum to the project to expand production there.

The company aims to strengthen its position in Asia, especially in India, in response to the potential market growth of 30% a year in those regions. In addition, low production costs are seen as a big advantage, although locating production near new fast growing markets is also considered important. The company's goal is to double its global business operations by 2010, according to a 2007 article in the press ([Deccan Herald, 20 September 2007](#)).

Ireland: Dell

This case study examines the decisions made by the US computer manufacturer Dell, focusing on job reductions in Ireland and job expansion in Poland. Dell's location choices are influenced by the fact that the company has faced intense competition from rival computer manufacturers, notably Hewlett Packard (HP), and experienced cost pressures. Its location decisions are also influenced by a desire to tap into new markets for computers in China, eastern Europe (Poland) and India.

Basic facts

Dell was founded in 1984 and has its headquarters in Austin, Texas in the US. The company is a diversified technology provider (primarily computer hardware), which designs, develops, manufactures, markets, sells and supports a range of IT systems and services. Dell offers a variety of products, including desktop computer systems, mobility products, software and peripherals, servers and networking products, enhanced services and storage products. The company is mainly represented in Brazil, China, India, Ireland, Poland and the US.

As of 2007, Dell employed 88,200 people worldwide. The company has a general policy of manufacturing its products close to its customers and markets, implementing just-in-time (JIT) manufacturing. Assembly of desktop computers for the North American market takes place at Dell plants across the US. In Europe, Dell assembles computers for the European market at Limerick in the Republic of Ireland and employs about 4,500 people in Ireland in total. In Asia, Dell's assembly plants in China and Malaysia assemble 95% of Dell notebooks. Dell has invested an estimated USD 60 million (about €47 million as at 1 February 2009) in a new manufacturing unit in Chennai in southern India, to support the sales of its products in the Indian subcontinent. Furthermore, in South America, Dell also has a Brazilian plant in the city of Eldorado do Sul. The company also operates a number of retail and support facilities across the world.

Changes in the location of employment

The European Manufacturing Facility (EMF) 1, which opened in 1990, and EMF3 form part of the Raheen Industrial Estate near Limerick in the west of Ireland. EMF2 was situated in Castletroy in Limerick and was closed as a manufacturing facility in 2002. Dell has consolidated production at EMF3 and EMF1 contains only offices at present. Additionally, Dell has a sales and support site in Ireland's capital Dublin at the east coast, which employs about 1,500 people; however, the number of jobs will be cut by 200 following a redundancy programme. By mid 2008, the Irish manufacturing facilities employed about 3,000 workers. Production has started at a new European manufacturing facility (EMF4) in Łódź in central Poland, which has fuelled uncertainty about the future of the company's Irish operations.

Although Dell's manufacturing operations in Ireland have so far remained unaffected, there have been redundancies in its administrative and support functions in recent years, with the announcement of 250 job losses in April 2008. Simultaneously, Dell has opened a big new manufacturing site in Poland. Sources at Dell have said that, due to the high cost of doing business in Ireland, it is trying to ensure its Irish operations are focused on 'high-value activities'. Expansion has been partly focused in Poland, but also in strongly growing economies such as China and India.

In the summer of 2007, Dell announced plans to cut more than 8,800 jobs worldwide (at least 10% of its workforce) as part of a drive to cut costs by USD 3 billion (about €2.34 billion) a year to 2011. As a result of this broader restructuring, Dell announced in April 2008 that 250 of its 4,500 employees in Ireland would be made redundant. It is expected that the 250 redundancies at Dell in Ireland will attract the same severance terms, as previous redundancies at the computer multinational, corresponding to six weeks' pay per year of service.

In the short term, this round of redundancies is being seen by industry observers as a cost control exercise to deal with darkening economic clouds, rather than a move away from Ireland. Manufacturing capacity in Ireland is not to be reduced and almost all of the 250 redundancies are to be among administrative and support functions, such as finance, IT, marketing, sales and technical

support. Almost 200 of the redundancies are expected to be at the company's sales, marketing and support centre in Dublin which currently employs about 1,500 people, with just over 50 redundancies among the 3,000 employees at the manufacturing site in Limerick. The bulk of job losses will be among less highly-skilled workers or those with less experience. Some managers will also leave. It is envisaged that most job losses will occur through 'natural wastage' or non-renewal of the company's significant numbers of contract staff.

Prior to this year's job cuts in Ireland, there have been a number of other small scale redundancy programmes in Dell's Irish sites over the past few years, which have primarily affected office, managerial, administrative and support staff, rather than those in manufacturing and production. In 2002, 150 managerial and administrative staff were made redundant. However, there is concern that, as the company moves to cut costs, and if the global economic situation continues to be depressed, Dell may look increasingly overseas to more low-cost manufacturing sites. Thus, while manufacturing capacity in Ireland is not being cut this time, capacity at the company's new Polish plant in Łódź is being increased. Fears are growing that once the Łódź plant is fully established, production from Ireland may be transferred to a facility that, according to the ERM database, could eventually employ about 3,000 people when up and running; incidentally, this represents the same number of employees as those employed in the Irish manufacturing facilities. [These fears were confirmed in January 2009, when Dell announced that it was closing its manufacturing plant in Limerick, involving the loss of 1,900 jobs, and moving its production to Poland.]

Factors underlying location decisions

Decisions by Dell about investment locations appear to be motivated by both the need to lower its costs and the desire to expand sales in growing markets, with recent job losses in Ireland being related to rising costs for labour, production and energy in relation to countries like Poland, China and India.

Following a difficult couple of years, which have seen Dell lose its position as the world's largest PC manufacturer to HP, Dell sales have been increasing, but its high cost base means this has not fed through into profits. Results for its fourth quarter 2007 showed that revenues grew by 10% year-on-year to USD 15.9 billion (€12.4 billion), but that net profit decreased by 6% to USD 679 million (about €530 million). In view of its cost position, the company's Founder and Chief Executive Michael Dell announced plans to cut costs by \$3 billion (about €2.34 billion) by 2011. It has shut a manufacturing plant in its home base of Austin in Texas and also closed its Canadian call centre which involved the loss of 1,100 jobs. Overall, Dell is facing increasing competition in the highly competitive PC market. Its own low-cost selling model has driven down the price of PCs. The company is more focused on the US than its main competitors HP and Lenovo. It is also more heavily skewed towards corporate customers, which account for about 85% of its revenues.

Greece: Coca Cola Hellenic

[Coca Cola Hellenic](#) is the biggest Greek multinational company in the foods and refreshments sector. It is also the biggest distiller of the Coca Cola Company products in Europe and one of the biggest worldwide. It has production facilities in 28 countries globally. With its extensive distribution network, it provides a large number of products, mainly non-alcoholic drinks, juices and mineral water. During the past few years it has expanded its operations and increased its workforce.

Basic facts

Coca Cola Hellenic is the largest Greek multinational group in the food and beverages sector, as well as the largest Greek multinational industrial group. The company is the largest producer of [The Coca Cola Company](#) products in Europe and one of the biggest worldwide. Coca Cola Hellenic is active in 28 countries worldwide, including 27 European countries and one African country, and serving more than 550 million consumers. It distributes its products in many types of markets. It operates in developed markets, where its presence is especially high-profile. Such markets constitute countries including Austria, Cyprus, Ireland, Italy and Switzerland. Coca Cola Hellenic is also present in

developing markets in countries, such as the Baltic Sea countries, the Czech Republic, Croatia, Hungary, Poland, Slovakia and Slovenia. Last of all, the group operates in countries with important prospects for growth and economic enlargement in the years to come – emerging markets such as Armenia, Bosnia and Herzegovina, Bulgaria, Montenegro, Moldavia, Nigeria, Ukraine, the former Yugoslavian Republic of Macedonia, Romania, Russia and Serbia.

There has been a continuous increase in the number of Coca Cola Hellenic workers and in the number of markets in which the company is active. In 2004, the total number of workers of the group amounted to 37,667 people; this figure increased to 40,607 people by 2006. Over the period 2004–2006, Coca Cola Hellenic increased its workforce significantly: among the countries with developed markets, the number of workers rose by 7.4% to 9,530 people in 2006; among the countries with developing markets, the number of workers increased by 2.9% to 7,387 people in 2006; and in countries with emerging markets, the number of workers rose by 9.5% to 23,986 people in 2006. Workers are distributed across four different areas of work which make up the production chain. In 2004, around 38% of the workers were employed in production and deposit. Those working in sales and marketing accounted for 37% of the workforce, those in administration for 13% and the ones in the distribution sector for 12%.

Changes in the location of employment

The group has expanded by both purchasing local companies and opening new production facilities; the group is active in purchasing companies that have important local presence in each country. There is a high level of autonomy in the activities of the group in each country, so that developments in one market do not generally have a negative impact on the number of workers employed elsewhere.

The group has put much emphasis on expansion in mainland Europe. The main reason for this is the enlargement of the EU, which has created significant benefits for the group, in savings on supplies, transmission of knowledge and planning investments. Coca Cola Hellenic's strategy of continuous extension in new markets is essentially based on market growth rather than the relocation of production through the reduction of number of workers and the transfer of activities from one country to another. There has been no reduction and transfer of activities from one country to another. Theoretically, this would happen if the group is active in a country where there is an observed increased demand for its products while being hit by a reduction in demand elsewhere. The company's significant presence and large range of products allows it to be more flexible in satisfying consumer needs.

To date, there has been no relocation of activities such as administration and management or production and there has been no concentration of production in a specific part of any single country. The group management expects important economic profits among the new members of the EU as a result of economic expansion of those countries. The group has also powerful presence in countries that wish to enter to the EU, such as Serbia and Montenegro. Additionally, the group is active in Russia where, in the past three years, the group has invested €191.5 million, with 14, mainly new, production facilities.

Factors underlying location decisions

The basic strategy of the group is to expand in countries where a large potential for growth exists. The economic enlargement of these countries and their possible integration into the EU, which would allow a wide legislative framework of common principles and laws, constitute important criteria for the company's entry into a new market.

The group has not withdrawn from markets, nor has it decreased its activities in any specific country, in order to transfer them elsewhere. The autonomy in the group activities in each country covering local needs reduces the likelihood of a reduction of activities in any given country. Consequently, the local characteristics of each market play a very important role in the decision of the group to enter a specific country.

Labour costs have not been stated as a criterion for the group to enter a market. In fact, the group has increased its presence in countries such as England, Ireland and Italy, where labour costs are higher than in other countries. Nevertheless, during the past few years, the group has become more active in countries such as emerging markets, where labour costs are low.

France: Schneider Electric

The French group Schneider Electric employs over 120,000 people, but has seen a shift in the geographical distribution of its employees. Between 2005 and 2007, the company lost 2,000 jobs as a result of restructuring, involving the relocation of production and specialisation of production facilities within France, and the transfer of certain production processes to low-cost eastern European countries. A number of factors have driven this process, such as proximity of production to emerging markets, low labour costs and the use of subcontracting.

Basic facts

Schneider Electric is a French manufacturing group active in a number of different economic sectors, notably in the manufacture of basic alloys, treatment and coating of metals, and manufacture of various electric goods. In 2007, the company employed 120,000 people throughout the world: 41% in Europe, 26% in North America, 26% in Asia Pacific and 7% in the rest of the world, according to the [corporate website](#). The majority of staff, some 41.5%, is directly involved in the manufacture of products; the remaining workforce is distributed as follows: 16.9% in sales, 16.3% in support services, 12% in industrial functions, 4% in marketing, 7.1% in technical functions and 2.2% in services (Schneider Electric, April 2008).

Changes in the location of employment

The number of employees has changed in line with the group's strategy to invest abroad. While the absolute numbers of employees in Europe increased from 46,200 people in 2004 to 51,600 people in 2007, this still represented a reduction in the share of the company's total workforce in Europe from 52% to 43%. This shift in the company's employment level in Europe was due to the expansion in low-cost countries like China, India and southeast Asia, as well as Bulgaria, despite a reduction in the number of its employees in the US.

In recent years, Schneider Electric has executed a number of redundancy plans, involving almost 2,000 job losses. The most recent redundancy plan, implemented between 2005 and 2007, had a major impact on the location of production in France.

This is seen to be part of a general trend, including the relocation of subcontracting work, notably of equipment component parts, to low-cost countries. In order to benefit from the advantages of low-cost countries, however, the company has often had to modify the production process itself. For example, automated production, which was previously undertaken at the sites in Alès in southern France and Chalons sur Saône in western France, and in other parts of Europe, has been abandoned and replaced by more basic, notably manual, processes in countries where labour is cheaper – in this case, in Bulgaria. In general, nevertheless, products are still developed in French factories and then relocated closer to the market.

The main objective of the company's 'industrial ambition' plan – which involved cutting 400 jobs – was to encourage and enable each French site to specialise in a particular activity. In order to achieve this restructuring, some activities were grouped, some were closed and other production sites were made available. In the northern region of Normandy, the Pacy site was closed, and the Beaumont-le-Roger and Le Vaudreuil sites gained 47 and 71 employees, respectively, through a regrouping of staff. Overall, a total of 125 job losses were lost in Normandy. In the Poitou region, in particular in the Limousin and Charente *départements*, the Espagnac site was made available and the staff was regrouped in other production sites at Cognac and Angoulême. In all, some 215 jobs were lost, according to the [ERM](#). The Angoulême and Chasseneuil (close to Poitiers) sites now specialise in assembling products of industrial automatons, while those of Beaumont-le-Roger and Vaudreuil

specialise in industrial equipment. Except for the fact that R&D has been concentrated in Grenoble in the southeast of France, India and the US, there does not seem to be such a trend in the location of the company's activities.

Factors underlying location decisions

It is possible to identify three main factors that have been at the origin of the Schneider Electric group's decisions to expand activities in specific sites. The first such factor is market growth, which encourages the movement of production to locations close to the expanding markets. The second factor is lower production costs, and the third is the possibility of using subcontractors more easily and flexibly.

Italy: Alstom Group

Alstom is a global leader in the supply of equipment and services for power generation and rail transport. In Italy, in the past six to eight years, the group has undergone a reorganisation. In the two sectors in which it operates, the impact has been quite different: in the transport sector the overall number of employees has remained unchanged, whereas the reorganisation of the power sector has significantly reduced the workforce.

Basic facts

Alstom is a French multinational group, operating in 70 countries around the world. The countries, in which the group's main industrial plants are located, are the following: Belgium, China, France, Germany, India, Indonesia, Italy, Switzerland and the US. The Alstom Group operates in the transport – railway engineering – and power sectors; the latter is divided into power systems and power services, with activities in energy production, transport and distribution.

In the railway transport sector, Alstom produces rolling stock and control systems, for which its main plants are located in Belgium, France, Germany, and Italy. In the energy sector, Alstom's Power Systems division designs, produces and distributes equipment for hydroelectric, nuclear, wind and thermal power plants. In this case, the group's main establishments, and research and development centres are located in China, France, Germany, India, Indonesia, Switzerland and the US. The Power Service division furnishes a wide range of services and consultation for energy production and industrial equipment.

In March 2008, almost 60% of the company's workforce was employed in its European plants, accounting for around 45,000 employees out of the group's global workforce of some 76,000 people. The remainder of the company's staff was located in Asia and the Pacific (17%), and in North America (16%). Overall, in 2008, two thirds of Alstom's workforce was employed in the power sector, compared with one third in transport.

Changes in the location of employment

In recent years, Alstom has expanded its workforce in Europe and the US, where the company has been operating for some time, but also in some of the emerging markets, especially China. In European countries, the company has undergone a reorganisation and rationalisation of activities in both the transport and the energy sectors, although this reorganisation does not seem to have resulted in any significant changes in the distribution of the workforce across the various European countries.

In Italy, the Alstom Group has undergone a reorganisation over the past six to eight years. For the transport sector, this process has involved a redistribution of activities and personnel among the group's plants without a reduction in the overall number of employees. On the other hand, the reorganisation of the power sector has significantly reduced the workforce – in 2003, employees in the energy division totalled 1,179 people, but by 2007 their number had fallen to 540 people.

The global activities of the transport sector have been reorganised and the company created a number of 'centres of excellence'. In these centres, the group has concentrated the design work on its various

railway products, while the construction of trains (or parts of them) has been relocated to many countries in the world, essentially following market demand. In Italy, this reorganisation process has led to the concentration of the group's activities in the following plants at: Savigliano in the Piedmont commune in northern Italy which is the 'centre of excellence' for 'tilting trains'; Bologna in the Emilia Romana region in northern Italy which has become the 'centre of excellence' for trackside products and interlocking systems; and Sesto San Giovanni nearby Milan which is an important production site for support equipment on trains, such as, for instance, electrical devices. Besides these three sites, Alstom has also sites in Bari in southern Italy, Colleferro and Guidonia, both in the province of Rome, and Verona.

In recent years, the power and energy sector has also been reorganised by being divided into two subdivisions: power systems and power service. In this case, the concentration of design activities has been less marked than in the transport sector, although it seems that the prevailing tendency is to unify the design of components in Germany and Switzerland. In Italy, the activities of the group's energy sector have been reduced and concentrated at the Sesto San Giovanni plant. Other activities, such as those related to plant engineering, have been relocated to German and Swiss plants, with the Milan and Udine sites in northern Italy being sold to other companies.

The start-up of new manufacturing plants by the group in eastern Europe, in Bulgaria for example, and in other regions of the world, such as in China, has been related to the increased market demand in those regions. In 2008, Europe still represented the most important market for Alstom – accounting for almost half of the group's sales. The growth of the Asian markets is also significant, although they currently represent only 18% of Alstom's sales. Meanwhile, Europe and North America remain the most important areas of production.

Factors underlying location decisions

In recent years, Alstom has reorganised its activities in order to rationalise and reduce the costs of design and production. In the transport sector in particular, this has led to a concentration of design activities in a small number of 'centres of excellence', while manufacturing activities have been distributed and rationalised across the group's many international sites.

As part of this reorganisation – covering both the transport and energy sectors – the factor that seems to have most influenced the expansion or contraction of activities at Alstom's plants is local market demand. In the transport and energy sectors, organisational costs seem to have influenced the company's decisions with regard to the relocation of production sites more than labour costs, reflecting the fact that production in both sectors is highly complex and requires the use of sophisticated technology and skilled labour.

In the transport sector, the recent growth of the Chinese market, for instance, is favouring the growth of the plants already owned by Alstom in that country, even if a large part of the demand on the Chinese market is still met by production from European plants. In Italy, the recent decline in market demand has reduced production at the Savigliano and Colleferro plants, with a consequent loss of 350 jobs.

Cyprus: British American Tobacco PLC

In the past five years, British American Tobacco (BAT) PLC has undergone an extensive restructuring of its production activities. This is driven by the decline in the consumption of tobacco products in western countries and the increase in other countries and regions, hence the need to reduce overcapacity in Europe and establish manufacturing facilities close to the countries where their products are consumed.

Basic facts

BAT has headquarters in London in the UK, but is active on all five continents. It has offices in over 180 countries, where it is involved in the commercial marketing and promotion of its products. In 2007, BAT owned 47 production units in 40 countries. At the end of 2007, the company employed a total of 53,907 workers, of whom 18,913 people were employed in Europe, 15,009 in Latin America, 10,334 in Asia, 7,807 in Africa and the Middle East, and 1,844 in North America and the Pacific.

Changes in the location of employment

Between 2004 and 2007, there have been reductions in the number of employees at BAT facilities across Europe, with total job losses amounting to 2,917 jobs in Cyprus, Germany, Italy, the Netherlands and the UK; the highest number of job losses (1,283), however, was recorded in Germany. Three distinct trends can be seen regarding the geographic restructuring of the company's activities.

First, the number of production units in the EU15 is shrinking, with the activities of some factories being relocated to other EU countries (for example to Germany and Poland) at the expense of others (such as the Netherlands). The same appears to be true of the transfer of production from Romania to the factories in Augustów in northeastern Poland and Bayreuth in southern Germany for the purpose of meeting the increased demand from the Bulgarian market, following Bulgaria's accession to the EU in 2007 and BAT's failure, in 2005, to enter a joint venture with the Bulgarian public enterprise tobacco producer [Bulgatabak](#).

Secondly, new investments are being made in countries outside the EU, such as Croatia, Serbia and Turkey, and BAT also has three factories in Russia, namely BAT-Yava in Moscow, BAT-SPb in St. Petersburg and BAT-STF in Saratov. Russia is the fourth largest cigarette market in the world, of which BAT held a 20%–25% market share in 2007.

Thirdly, investments are being made in low-labour cost countries outside the EU, which are also rapidly developing markets for the tobacco industry, such as Kazakhstan, Nigeria and South Korea. These investments appear to be of major importance for the company. According to a statement by BAT Chief Executive Officer (CEO) Paul N. Adams in the company's 2007 annual report, the group's profitability is expected to increase substantially in the next five years, due to increased consumption of higher-quality products such as premium-priced brands in the developing markets.

Overall, there appears to be a clear trend towards the relocation of BAT's production activities to countries with lower labour costs and to those that are closer to the developing markets. The developing countries meet both these criteria – a fact that explains the investments made in countries such as Nigeria, Russia, Serbia and South Korea. In the industrialised countries, the restructuring and closure of production units take place with the aim of eliminating the overcapacity that has accompanied the decline in smoking. However, jobs involving the marketing and distribution of products in these countries were saved.

Factors underlying location decisions

The changes in employment are directly associated with wider structural factors affecting the tobacco industry.

First, the public anti-smoking campaigns in western societies have contributed to a drastic reduction in smoking over the past two decades. For example, in Australia, estimates forecast that smoking will be eliminated by 2030. By contrast, the developing countries present a major potential for the tobacco industries. Smokers today represent approximately 23% of the world's population, and one out of two smokers live in Asia. This has led the multinational tobacco industries to seek out new markets.

Secondly, market liberalisation under the aegis of the [World Trade Organisation \(WTO\)](#), political changes in the states of central and eastern Europe, as well as the rapid economic growth of developing countries in Asia, have fostered further internationalisation of the global tobacco industry's production and trade activities. The closure of several of BAT's units in Europe, as well as the company's increasing interest in investing in eastern Europe and in developing countries, reflects this trend.

Various factors have converged to cause BAT relocations. First, there is less demand in industrialised countries and overcapacity in European production units, while demand has increased in eastern Europe and developing countries, making the transfer of production attractive. Some of these transfers may also have benefited from financial incentives to create jobs, as well as weak anti-smoking legislation and the short-term income from taxation of smoking, ignoring the long-term effects in terms of public health.

The main reasons for expanding in one location rather than another have been to minimise the company's production costs through low labour costs, be close to customers and deliver products rapidly, and penetrate developing markets. Locating in developing markets allows for the creation of a local centre for exports to developing neighbouring countries, in addition to minimising transport costs, delivery delays and export duties. In contrast, reasons for reductions in specific locations, such as in Europe, were to reduce overcapacity and to offset the decline in demand in western societies, as well as the restrictions set by states regarding the production, sale, advertising and consumption of tobacco products.

Lithuania: Yazaki Wiring Technologies

The Yazaki Group acquired [Yazaki Wiring Technologies Lietuva \(YWTL\)](#) in 2003, together with other producers of wire harnesses for motor vehicles in the Czech Republic, Slovakia and India. Production activities, which successfully developed in Lithuania between 2003 and 2004, started to slow under the impact of stricter working time regulation, shortage of employees and rising labour costs. As a result, some of the company's production activities were relocated to Bulgaria and Turkey.

Basic facts

The Japanese Yazaki Group – with over 100,000 employees worldwide – has locations in 38 countries around the world. In 2003, it acquired YWTL which produces wire harnesses for the car industry.

Changes in the location of employment

In 2003, the rapid growth in the sales of the Renault Megane and the Renault Scenic vehicles, for which YWTL was making the wiring harnesses, led to a substantial increase in demand. This, in turn, resulted in a 40% increase in the company's workforce – from 2,500 to 3,500 employees – over a very short period of time.

However, following Lithuania's accession to the EU in 2004, YWTL was apparently unable to discourage employees from leaving to take up better paid work elsewhere and the company's staff dropped to 1,800 people in 2007. Unable to find alternative labour with the required abilities, YWTL relocated 20% of its Lithuanian production to Turkey in 2006 and a further 20% to Bulgaria in 2007.

In 2008, the number of employees at the company's plant in Klaipėda in western Lithuania shrank to almost 1,000 people, while companies manufacturing YWTL production in other Lithuanian towns went bankrupt.

According to YWTL representatives, the company will not completely move out of Lithuania, but it will switch to smaller volume work, such as the manufacture of wire harnesses for special vehicles. The company intends reducing the number of its employees in the country to some 800 employees by the end of 2008.

The relocation from Lithuania to other countries, notably to Bulgaria and Turkey, was initially determined by the reduced availability of labour after the Lithuania's accession to the EU, followed by rapidly rising labour costs induced by the shortage of employees all over Lithuania, and then by the end of the contract period between Renault and Yazaki. Bulgaria was chosen as being a more favourable location from a logistical point of view. The wiring loom work originally arrived in Lithuania following the closure of a production facility in Portugal.

Factors underlying location decisions

The decision by the Yazaki Group of acquiring the Lithuanian company, as well as the other three producers of wire harnesses in the Czech Republic, Slovakia and India, was determined by the availability of cheap and sufficiently skilled labour at the time (in 2003). Cheaper labour costs led the company to shift its production to Bulgaria and Turkey.

Other reasons for relocating to Bulgaria included more favourable procedures for payment of overtime work, lower taxes applicable to foreign investors and active domestic policy with the aim of attracting foreign investors.

The production relocation to Turkey was facilitated by the availability of relatively cheap labour and a favourable investment environment. The latter was specifically adjusted in 2006 in order to encourage foreign investments in the industry sector, with tax privileges and credits for investors.

Luxembourg: Villeroy & Boch AG

Villeroy & Boch AG is a German ceramics company that has sought to diversify its products and develop on world markets. This strategy has led the company to strengthen the profitability of its production sites in western Europe – in France, Germany and Luxembourg in particular – and develop its market in other European countries. More recently, the company has developed its activities in central America and southeast Asia. Despite these changes, employment levels in Europe have remained stable.

Basic facts

Villeroy & Boch is a German company with 23 production sites, of which 19 plants are located in Europe – Austria, the Czech Republic, France, Germany, Hungary, Italy, Luxembourg, the Netherlands, Romania and Sweden – three in Mexico and one in Thailand. Of the company's three business areas, bathroom and tableware account for 95% of employment and tiles for the remaining 5%. In 2006, Villeroy & Boch employed just over 10,000 people, of whom almost 40% worked in Germany.

Changes in the location of employment

The level of employment was at much the same level in 2006 as it had been in 2000, both overall and within the different geographical locations. This was partly due to a revival in the company's fortunes between 2005 and 2006, with the development of the Scandinavian and eastern European markets, after a steady decline between 2001 and 2005. The proportion of those employed in Germany in relation to those employed elsewhere has also largely remained the same.

The group strategy in the early part of the decade was characterised a series of company acquisitions in Austria, the Czech Republic, Italy and Sweden, which enabled the company to diversify and extend its market, but also by efforts to transfer more of its production to low-wage sites. Other organisational changes – such as the transfer of the management of the bathroom department from the Netherlands to the company head office in Germany – have had an effect on the company's employment level. Overall, however, the fluctuations in employment are more linked to the cost rationalisation strategies for the sites in western Europe and the strengthening of the group at sites outside Europe in order to penetrate new markets.

In 2008, the company announced a concentration of its production in the bathroom and wellness division in Mexico and the US. In addition, distribution in Asia will be expanded and production will be organised in the subsidiaries in eastern Europe. In the tableware division, the company will concentrate on expanding distribution in Asia.

Factors underlying location decisions

One of the reasons for location decisions was the concern to access local markets by acquiring national companies such as the acquisition of the Swedish [Svenska Badkar](#) and the Czech producer [Vagenerplast](#), which was the leader of its market in 2001. It also included the acquisition of the sanitary equipment activities of the Mexican industrial group [Grupo Industrial Saltiloo](#) and a sanitary equipment production site in Thailand in early 2008.

The need to reduce labour costs led to restructuring of the sites in Germany and Luxembourg, which resulted in job losses, and the development of production sites in Hungary and Romania.

Malta: Deutsche Lufthansa AG

This case study focuses on the job creation and job destruction patterns of [Deutsche Lufthansa AG](#). At the end of 2007, Lufthansa employed over 105,000 people in six different subdivisions – namely, passenger transportation, logistics, mechanical maintenance, IT services, catering and financial services. In the aftermath of 11 September 2001, Lufthansa experienced considerable restructuring, although after an initial increase in job destruction, recent years have witnessed substantial job creation.

Basic facts

Deutsche Lufthansa is a group with more than 250 subsidiaries and associated companies. Lufthansa German Airlines operates flights over all five continents with corporate headquarters in Cologne and traffic hubs in Frankfurt am Main and Munich. Lufthansa Technik has nine subsidiaries in Germany, while being present in other countries including Belgium, Bulgaria, China, Hungary, Ireland, Italy, Malaysia, Malta, the Philippines and the US. Lufthansa Cargo operates flights to 39 destinations in 23 countries worldwide. Lufthansa Systems is a leading IT service provider for the airline and aviation industry with several locations in Germany and offices in 16 countries around the world.

At the end of 2007, Lufthansa employed just over 105,000 people in 146 countries, some 60% of whom were employed in Germany.

Changes in the location of employment

Following the events of 11 September 2001, Lufthansa announced that, in response to the crisis in the aviation sector, it would reduce costs, slim down its internal structures and reduce the number of employees. In November 2002, Thomas Cook, which was then partly owned by Lufthansa, announced a restructuring plan affecting 1,200 jobs (amounting to 4% of the workforce) across all its global offices. At the beginning of October 2003, Lufthansa announced new plans to cut 2,000 jobs in Germany, corresponding to a 3.4% reduction of its workforce, in addition to cutting 1,000 jobs at the company's LSG Sky Chefs catering division. In the following year, Lufthansa announced plans to cut 500 to 600 jobs, mainly in administrative areas.

However, jobs were also created during the same period. In November 2004, Rolls Royce and Lufthansa Technik unveiled a site near Erfurt in Thuringia in eastern Germany as the location of an aero engine overhaul joint venture which was planned to create around 500 jobs. In February 2005, Lufthansa announced a new customer call centre in Brno in the southeast of the Czech Republic; the call centre was to employ about 100 people by 2008. In May of the same year, German Wings – a carrier partly owned by Lufthansa – announced the creation of 120 jobs at the Schönefeld airport in Berlin where it planned to expand operations. In December 2005, Lufthansa announced the hiring of almost 4,000 employees and, in the same year, opened its first Asian customer service centre in Shanghai, which is China's largest city. In October 2006, an international recruiting campaign was launched as the company was looking for 2,500 new service professionals and flight attendants and the Munich-based workforce increased by 750.

In November 2006, Lufthansa Technik expanded its operations in Malta by investing in new aircraft maintenance facilities. The facility, which was the first outside of Germany to handle large aircrafts, was planned to start operating in 2008 and will eventually create 550 new jobs. This same subsidiary announced, on February 2007, its plans to create 400 new jobs for engineers and highly qualified technicians up to 2009. In March 2007, the Chair of the Board of Deutsche Lufthansa, Wolfgang Mayrhuber, announced the creation of 3,000 new jobs, which represented an increase equivalent to roughly 3% of the workforce, before the end of 2007. Lufthansa Technik also set up an aeroplane maintenance, repair and overhaul (MRO) facility at Shamshabad in the state of Andhra Pradesh on the east coast of India, which is the site of the forthcoming Hyderabad International Airport. In May 2008, Lufthansa announced its plans to recruit 40 Indian flight attendants to provide 'culture specific' services to its Indian passengers on its seven Indian destinations. The company felt that hiring Indian crew would help the carrier address the cultural specificities of the region.

Job creation has occurred in particular in regions where Lufthansa has been able to enter into agreements with the respective government authorities and where good quality technology schools are in place or can be supported. An example in this respect is the agreement concluded between the company and the Maltese government on April 2007 for a €55 million investment to set up new maintenance, repair and overhaul facilities for wide-body aircraft; such a facility could employ the skilled workforce emerging from the [Malta College of Arts, Science and Technology](#) (MCAST). As a result, Lufthansa Technik Malta currently employs 160 full-time employees and has over 50 apprentices following courses at MCAST.

At the same time, in order to compete with low-cost carriers that were taking advantage of the weak Lufthansa presence in provincial cities, Lufthansa launched an internal cost-cutting programme, a reorganisation of its short-haul operations and an aggressive strategy regarding low-cost competitors to avoid further losses in market share. Moreover, as a result of the economic boom in China, Lufthansa has developed its China routes and, in December 2007, Lufthansa Technik authorised a Shenzhen company to be its first maintenance centre in Asia.

Factors underlying location decisions

The reasons for Lufthansa's decisions to expand and reduce its activities are complex. On the one hand, Lufthansa's corporate strategy is to generate profitable growth, seen as more important than market share or size as such. Consequently, labour and production costs are always part of any decisions to expand or reduce activities in a particular location. At the same time, Lufthansa's expansion and reduction patterns reflect its take on the growth opportunities present in the industry, with Lufthansa Passenger Airlines, for example, constantly developing new markets, especially in the emerging Asian economies. Moreover, the group's expansion and reduction activities in a particular location depend on opportunities for taking equity stakes in other companies.

On the other hand, the company's strategy also depends on the group's belief that all parts of its business rely on the same brand values of quality, reliability and innovation, with each part offering mutual support. For instance, the image of safety and reliability created by Lufthansa Technik is a key factor in the way clients and the public view Lufthansa's passenger and freight businesses.

The concern to produce in, or be close to, expanding markets has also played a key role in the company's decisions of where to locate its subsidiaries. Two noteworthy examples are Lufthansa's expansion in China and India which are currently characterised by a boom in economic enterprise.

The Netherlands: Royal Philips Electronics N.V.

Royal Philips Electronics N.V. is a global leader in consumer electronics, medical systems and lighting, with sales outlets in 150 countries and 140 production facilities in 32 countries. In the past decade, the group's total employment fell from 190,000 people to just over 120,000 people; the distribution over different areas in the world, nonetheless, has remained remarkably constant, with some shift from western to eastern Europe and Asia Pacific.

Basic facts

Philips is a Dutch multinational group with production plants in 32 countries and sales outlets in 150 countries worldwide. The company, which operates in the field of healthcare and medical systems, lighting and consumer lifestyle products, employed about 124,000 people in 2007, with a worldwide distribution as follows: 46,500 people in western Europe, 21,700 in North America, 1,850 in other mature markets, 30,300 in key emerging markets such as Asia Pacific and 18,100 in other emerging markets – Latin America and Africa.

Out of Philip's total employment, lighting employs some 45% of workers, healthcare and medical systems 22% and consumer electronics 11%.

Changes in the location of employment

Employment fell by about 20,000 people, corresponding to 11%, between 2001 and 2002 due to reorganisation and restructuring, with a particular impact on employees in Europe and Asia Pacific. By 2004, employment had decreased by a further 5% overall, but this change was characterised by significant job cuts in Europe as against an increase in the number employed in Asia.

Employment continued to decline somewhat in 2005 (1%). However, the most significant change was in 2006, when the sale of the majority stake in the semiconductor division – basically, the company discontinued its operations in that area – resulted in a reduction in the company's employment levels of more than 35,000 people.

In contrast, a 2% increase in employment was recorded in 2007, following acquisitions made in the lighting, consumer electronics and in innovation and emerging business sectors. Overall, over the period 2002–2007, employment fell by about one third but the company's presence in different locations has remained broadly the same.

The changes in employment reflect, to a large extent, the concentration of the lighting sector in low-cost countries, as well as its relocation to these countries – such as relocating the production of light bulbs from the Netherlands to the Czech Republic and Poland – in addition to the sale of the semiconductor business in the Asia Pacific region. Jobs were also created by penetrating new markets, especially China and India, and establishing worldwide service centres.

Factors underlying location decisions

Philips operates as a global company and wants to maintain its worldwide presence. As part of that strategy, lower labour and production costs are an important factor, but so is closeness to local markets. In 2004, Philips has established its global finance services units in India, Poland and Thailand. According to the 2004 Annual report, 'the Group strategy is to increase profitability through re-allocation of resources towards opportunities offering more consistent and higher returns, in every product division' (p. 39). As already mentioned, there is still a strong presence in both developed and emerging markets.

While for some labour-intensive activities (especially lighting), lower labour and production costs are still the main factor in decision making, for the worldwide service centres (such as finance and IT) lower costs also seem to have gained in importance, given the higher education levels of low-wage employees in many developing countries.

Austria: Head N.V.

Since the mid 2000s, deteriorating trading conditions for the Head N.V. group – a global manufacturer and marketer of branded sporting goods – have accelerated the group's restructuring. The company's strategy is twofold: to concentrate the production of high-quality standard goods, and headquarter and distribution functions in a few locations in Europe, and to outsource large production volumes to low-cost countries, in particular China.

Basic facts

The Head group is based in the capital of the Netherlands in Amsterdam. It manufactures sports goods and is present in the following countries: Austria, the Czech Republic, France, Germany, Italy, the Netherlands, Spain, Switzerland and the UK in Europe; Canada and the US in North America; and China, Hongkong and Japan in Asia. A new production plant is currently being built in Bulgaria.

No exact employment figures are available. Probably, the workforce does not exceed a few hundred employees each in Austria, China, the Czech Republic, Italy and the US, and only a few dozen in the remaining countries. At the end of 2007, some 341 workers were employed at the Head Sport headquarters in Kennelbach in the Vorarlberg region in northwestern Austria, which is a subsidiary of the Head group, and some estimated 100 employees in Schwechat, near by the Austrian capital city Vienna. Some 50%–60% of the group's employees are estimated to work in Europe, about 25% in North America and 15%–20% in Asia.

The company is organised in four business divisions: winter sports, racquet sports, diving and licensing. The products of these business divisions are sold under four different trademarks: Head (tennis, squash, paddle and racquetball racquets, tennis balls, tennis footwear, badminton products, alpine skis, ski bindings and ski boots, snowboards, bindings and boots), Penn (tennis and racquetball balls), Tyrolia (ski bindings) and Mares/Dacor (diving equipment).

In 2007, 43% of the group's gross revenues were achieved in winter sports, 39% in racquet sports, 16% in diving sports and 2% in licensing. No further information is available, in particular none concerning the number of employees in the different sectors in each country.

Changes in the location of employment

In 2003, Head transferred all of its manufacturing operations from the Estonian capital Tallinn, which had manufactured ski boots and certain diving products, to a new plant in Litovel in the east of the Czech Republic. The production facilities in Estonia were completely closed in 2004.

In 2003, the group also relocated some of its ski manufacturing, as well as part of its racquet production, from Austria to the Czech Republic, while the tennis ball production facility in Ireland was closed down and activities were transferred to Phoenix in Arizona in the US.

In the period 2003–2005, the Head group centralised its European distribution organisations for winter and racquet sports products., Its subsidiary, Head International, which headquartered in Austria, now operates as a single European distribution company.

In 2005, the group's tennis racquet production and part of the ski binding manufacturing activities were largely relocated from Europe – that is, from the sites in Austria and the Czech Republic – to China. This relocation affected 120 workers in Austria and 130 workers in the Czech Republic. Research and development, marketing and sales of the tennis division have remained at the Head Sport headquarters in Austria, while the ski production remained in Ceske Budejovice in the south of the Czech Republic. At the latter site, a large-scale ski boots storage facility was opened in 2005.

During 2005–2007, the tennis ball production line based at the plant in Rapallo in Italy was outsourced to China, while the diving production capacity in Italy was planned to be reduced in 2008. The latter will be partially relocated to Asia and partially to a new diving manufacturing plant in Bulgaria.

In 2007–2008, a further part of ski manufacturing was transferred from Austria to the Czech Republic.

Due to lack of information, it is difficult to trace the net employment effects of the delocalisation processes for each of the countries involved, but some approximate employment trends can be identified for the period 2003–2008.

In Austria, the number of employees declined by about 200 to 341 people at the plant in Kennelbach, while the Schwechat plant has not recorded any significant employment changes.

In the Czech Republic, the net employment effect in the period 2003–2008 was probably positive, which was mainly due to the opening of the new production facility in Litovel and the group's concentration of ski manufacturing in the Czech Republic.

In Italy, the net employment effect is clearly negative.

In the US, employment is likely to have increased due to the 2003 concentration of tennis ball production at the Phoenix site.

In China, the net employment effect is clearly positive, since large production lines of the tennis and winter sports divisions have been transferred from Europe to this country.

In Bulgaria, a new diving equipment production plant with an indefinite number of employees was planned to be opened in 2008.

In Estonia and Ireland, due to the 2003 closure of the respective manufacturing plants, employment fell to zero.

The delocalisation was associated with the decision to concentrate the Head group's different activities in different locations or countries. For instance, the tennis sports manufacturing activities have largely been moved to China for cost reasons, while major parts of the ski and ski boots production were transferred to the Czech Republic. Nevertheless, key functions such as research and development, quality control, marketing and sales and logistic functions in both the racquet sports and the ski sports divisions remain at the Kennelbach site in Austria.

Factors underlying location decisions

The main reason for the decision to locate in the Czech Republic was the supply of highly qualified workers and higher labour productivity together with good infrastructure, which seemed to outweigh the advantage of other 'low-wage' locations. This appears to be true, at least for the high-quality segment of the ski and ski boots production.

The 2005 initiative to outsource 90% of the Head group's tennis racquet production to China was a consequence of currency movements (the strength of the euro against the US Dollar), as well as the substantial cost increases in carbon fibre, which is the main raw material used in racquets.

Deteriorated market conditions since 2006, resulting in poor sales and low utilisation of the manufacturing facilities in the winter sports division (due to a lack of snow in 2006), the global economic downturn as well as sharp increases in raw material costs, have increased the need for the group to make further cost savings. Therefore, Head has undergone substantial restructuring in recent years and intends to secure further arrangements to manufacture its products in low-cost regions, including, in particular, China.

Poland: IBM

The [American International Business Machines](#) (IBM) company is a major producer of computers, software and integrated IT services employing over 300,000 people worldwide. Employment cut-backs at the beginning of the 1990s and in 1995 resulted from the need to reorganise the company and cut the red tape within it. Those changes resulted in small, local structures replacing one uniform organisational structure, with market growth and labour costs both becoming important location factors.

Basic facts

IBM is present in 170 countries on the five continents. The company operates software consultancy, and supply and hardware consultancy, irrespective of the country its branch is located in. At the end of 2007, it employed 355,766 employees in 170 countries around the world, including 125,000 people in the US, 73,000 in India and 2,600 in Poland.

Changes in the location of employment

In 1985, IBM employed 406,000 people worldwide. By the end of 2007, this number had been reduced by 13%. However, the total number of employees rose by 9,000 people in 2003 and by 72,000 people in 2007. The increase in employment was mainly due to recruitment in India where IBM employed 9,000 people in 2003 and as many as 72,000 people in 2007. This means that the number of IBM employees in India increased by 40% in relation to 2006.

The company's employment levels in Poland also increased significantly between 1991 and 2008. In 1991, IBM used to employ 98 workers in the country; in 1998, the number of employees had risen to 137 people, in 2003 to 700 people and in 2008 headcount rose to 2,600 people. Employment in Poland has thus increased by 371% since 2003.

Regarding employment in France and Germany, the company reduced its workforce in these countries at the beginning of the 1990s, making 2,000 out of 12,500 employees redundant. This amounts to a reduction in the number of IBM employees in both countries by 16% altogether.

The first redundancy wave in IBM at the beginning of the 1990s was due to the drop in the demand for large computers and to the difficulty of such a large company to compete with smaller, more dynamic companies. This crisis led to a general restructuring of the company, which was sub-divided into a number of smaller branches – each financially independent and competitive with one another. In addition, IBM started to outsource the production of hardware and software. This major restructuring led to a considerable increase in profitability. However, a new wave of redundancy took place in 2005, mainly in its European branches, when 10,000 employees lost their jobs because of poor financial results. The aim of the restructuring was to cut the red tape and decentralise management by creating small, local operational units, which could be more responsive to customers' needs.

Factors underlying location decisions

The factors underlying the decisions to locate in central and eastern Europe after 1990 and in Asia – China, India, and Pakistan – after 2000 were, on the one hand, the intention to gain new markets in these areas and, on the other, the lower labour costs and the high-skilled IT specialists they offered.

Romania: Continental Corporation

As at the end of 2007, Continental Corporation owned plants in 36 countries in Europe, North America, Asia and other areas, with a workforce totalling over 150,000 people. During the period 2002–2008, employment levels were cut in some of the former EU15 Member States, and increased in some new EU Member States and in emerging markets. The motivation behind the latter lies in the lower cost of labour, the good level of skills, and the growing demand for cars and tyres in these developing markets.

Basic facts

Continental Corporation is a German company with plants or factories in 36 countries in Europe, North America, Asia and other countries. The company manufactures tyres and other rubber products for motor vehicles and their engines. At the end of 2007, the Corporation had just over 150,000 employees: about one third in Germany, one third in the rest of Europe, 17% in North America, 12% in Asia and the remaining 5% in other countries.

Changes in the location of employment

The ERM for the period 2002–2008 shows a relocation of jobs away from the former EU15 Member States to the new Member States. The first sector where this change occurred was in tyre manufacturing where, between 2002 and 2004, some 2,750 jobs were cut (1,350 in Austria, 600 in Belgium, and about 800 in Germany) while activities and employment expanded in Lithuania (1,500 new jobs) and Romania (about 1,500 new jobs). For the other products manufactured by Continental (automotive parts and accessories, electrical equipment and safety devices), the relocation started in 2004 and has intensified up to 2008. Overall, in the former EU15 Member States, around 1,700 jobs were lost over the period while just over 2,000 jobs were created in Romania (which accounted for about half of new jobs created), Slovakia, the Czech Republic and Hungary, taken together.

The records of the Ministry of Economy and Finance show that the Continental companies in Romania had 93 employees in 1999 and 2,625 in 2006. The group has since reported to the media that it had over 6,000 employees in March 2008 and planned to expand this number to 7,500 employees by the end of 2008. As a rule, the same products are manufactured in the countries of relocation as in the countries where the jobs were lost while the company also made a series of acquisitions over the past decade, including in eastern European countries, South America and Asia.

No information is available on the organisation of the company's activities. However, in Romania, of the over 6,000 employees in 2008, some 2,300 were engineers, which suggests that a large proportion of staff is involved in the innovation and design of new products, technologies and process management techniques. In 2004, the group moved part of its tyre manufacturing from Hamburg in northern Germany to another German location, affecting 350 jobs. In Romania, the corporation's production of car parts and safety devices is concentrated in two areas of strong economic development (Timișoara in western Romania and Sibiu in the Transylvania region of central Romania), while the tyre production was located in an area where development is weaker (Slatina in Romania's southwest).

Among the eastern European countries, the company has developed four manufacturing units in Romania and the Czech Republic, two in Slovakia and one unit each in Hungary and Lithuania. As wages progressively increase in the new Member States, however, the company tries to locate in countries outside the EU – such as China and Tunisia – and it may well happen that business is relocated to Asia or North Africa in the future.

Factors underlying location decisions

An analysis of the corporation's balance sheets over the past 10 years shows that the average annual personnel cost per employee over the 10-year period has remained relatively constant, and that the share of personnel costs has dropped both in relation to sales and sales costs, which may justify the company's location decisions. However, in November 2004, Continental's representatives stated that the site in Sibiu in central Romania was chosen because of 'not only attractive labour costs and flexible working times', but also because of good infrastructure and availability of qualified workers who can also speak English.

Being close to expanding markets has also played a role in the company's location decisions: at the end of 2007, for example, Continental made it known to the public that it intended to build a tyre factory in China, one of the motivations being to enter 'the world's most dynamic tyre markets'.

Slovenia: Trident Components Group

The [British Trident Components Group](#) (TCG) is composed of six companies in Austria, Croatia, Germany, Macedonia and Slovenia. Each company produces its own types of products for the automotive industry: die-cast products in aluminium, magnesium and zinc, as well as injection moulded plastic parts. Over the last four to five years, there has been a considerable relocation of production from Austria to Slovenia. At the same time, the growth of employment in Slovenia would have been much higher, without the acquisition of new capacity in Croatia and Macedonia. Moreover, in 2008, TCG Unitech Lth, Slovenia, planned to reduce employment.

Basic facts

TCG is an Austrian group, owned since 2005 by a UK private equity company. The group has companies in Austria, Croatia, Germany, Macedonia and Slovenia, and its headquarters in Austria. The companies in the group develop, manufacture, process and assemble highly complex, light metal components and modules for the automotive industry and other economic sectors. They manufacture die-cast products in aluminium, magnesium and zinc, as well as injection moulded plastic parts ready for fitting.

The group employs about 3,000 people, of whom almost 50% are in Slovenia.

Changes in the location of employment

Over the last four to five years, some expansion occurred in the overall numbers employed together with the relocation of a few hundred employees from Austria to Slovenia. For 2008, however, the plant in Slovenia announced job cuts and relocation to Macedonia and Croatia. The reduction of employment in Austria was due to the relocation of production to Slovenia, and the same process is happening again, with finished products becoming increasingly cheaper as the automotive industry – which is TCG's main customer – looks for a price reduction between 2% and 5% each year. As a result, production has to progressively move to cheaper locations.

Since each company in the group produces different products, no reorganisation or concentration of production was observed in any particular country or plant, except for TCG Unitech's relocation from Austria to Slovenia. However, this was not a typical case of relocation and more a case of production expanding in a new location, without loss of production in the existing site.

Factors underlying location decisions

The main factor underlying location decisions by the TCG group is the interrelationship between labour costs and product quality. As mentioned previously, the automotive industry continually seeks cheaper parts with increased quality. Suppliers are expected to reduce prices and work to achieve the so-called '0 PPM' quality target – zero non-adequate parts per one million pieces of production.

The company's acquisitions in Slovenia, Croatia and Macedonia provided an opportunity to relocate and expand at relatively low cost through greenfield investments.

Geographical proximity to the main European car assembly customers is an important location decision-making factor in the case of TCG, but local production also ensures more effective control over the quality of production compared with distant low-cost places such as China. Thus, issues of management styles and cultural proximity are starting to take on increasing importance.

Slovakia: Volkswagen AG

Volkswagen (VW) AG's presence in Slovakia is seen as a good example of effective business expansion. It was not based on a reduction of employment in other VW facilities, but motivated by the fast developing automobile market potential in central and eastern Europe. The availability of qualified workers and low operational costs also played an important role in this greenfield investment. VW Slovakia has seen positive development, with more than 8,000 new jobs created in the past 16 years.

Basic facts

Volkswagen AG is the leading company of the Volkswagen group, the German car manufacturer with head offices in Wolfsburg in the northeast of Germany. The company operates in 11 countries in Europe, including Ukraine, and seven other countries around the world – Argentina, Brazil, China, India, Israel, Mexico and South Africa. Just over 60% of the total production of the group takes place in Europe. The group employs around 330,000 people across the world, with half of the workforce based in Germany, about 90,000 of whom are employed by VW.

Changes in the location of employment

In recent years – and since 2003 in particular – only a slight decline in employment has been recorded by the VW group: from 335,000 workers in 2003 to 329,000 workers in 2006–2007. However, the group has implemented a substantial amount of job relocations. Reductions in employment occurred mainly in Belgium, Germany, Poland and Spain, with expansions in the Czech Republic, Slovakia and parts of Germany. Most of the cutbacks occurred before 2006. Since then, overall employment in the group seems to have expanded, but with further reductions in Spain and Belgium. In other words, the main relocation of employment has effectively been from these two countries to the Czech Republic and Slovakia, although not directly since part of the production in Belgium was moved to Germany, and the expansion in the Czech Republic has been mainly at Škoda. Similarly, in Spain, most cutbacks have been at the Seat plant.

In central and eastern Europe, employment at VW mainly changed during the 1990s. The subsidiary in Slovakia was established in 1991 with the acquisition of 80% of the shares of the Bratislava Automobile Factory. VW became the full owner in 1999, owning 100% of the shares, and the company was renamed Volkswagen Slovakia a.s. (VW Slovakia).

While no changes took place in the allocation of manufacturing and administrative and management functions in VW Slovakia, the volume of production and the number of employees increased significantly. Moreover, it appears that there was even a temporary delocalisation of VW passenger car production from Spain to Bratislava in southwestern Slovakia. Overall, employment increased from 3,000 workers in 1997 to 9,000 workers in 2003, although it declined again to about 8,000 in 2007.

Substantial changes in production took place when a completely new car model – VW Touareg – started being produced there, requiring significant investments in new technology. Similar technological changes were implemented in VW Slovakia for the production of the Audi Q7 in 2005.

During this period, despite relatively higher labour costs and a growing shortage of qualified labour, production remained concentrated in Bratislava.

Factors underlying location decisions

The decision of VW to expand activities in central and eastern Europe at the beginning of the 1990s was based on a long-term strategy aimed at being close to the markets it serves. A rapid increase in the demand for passenger cars was expected, and this led to the acquisition of Czechoslovak Škoda – when Slovakia and the Czech Republic were still known as Czechoslovakia – and the Škoda Car Company in Mladá Boleslav in the north of the present day Czech Republic. In line with this long-term strategy, the company also established operations in Poland, Ukraine and Russia. The availability of a skilled labour force from a long-established engineering industry, and low labour and operational costs, also played an important role in these decisions.

This expansion strategy was challenged in 1992, when the automobile industry faced a significant drop in sales. At that time, one of the options considered was the closure of the VW car assembly plant in Bratislava since, at that time, the company had only a few hundred employees working at this plant, and the job cuts would not have had a dramatic effect on the area. The decision to keep the plant open proved to be the right one, with VW Slovakia being ranked for several years in the top 10 VW group facilities for the quality of its production. VW investment in Slovakia also contributed to the wider revival of the Slovak engineering industry, which had radically declined in the early 1990s. VW Slovakia is now the country's most important exporter, accounting for 15% of Slovakia's export trade.

Finland: Elcoteq SE

In 1984, Lohja Mikroelektronics was founded to support Lohja Corporation's electronics development project. In 1990, the unit was incorporated as 'Elcoteq', and became an independent company. In 1992, the company launched a pilot project in Estonia's capital Tallinn, which is located on the country's north coast. Production premises were rented from a local electronics plant, and operations started with 10 employees. Production expanded outside the EU in 2004 when Elcoteq began manufacturing in both Brazil and India, and announced the building of a new plant in St. Petersburg on Russia's Baltic coast. At the same time, manufacturing was relocated from Finland. By the end of 2007, Elcoteq had become the largest European electronics manufacturing services (EMS) provider with 21,500 employees.

Basic facts

Elcoteq was established as a Finnish company, but became a European Company (*Societas Europaea*, SE) in 2004. In January 2008, Elcoteq moved its headquarters from Finland to Luxembourg. The company, which is represented in Finland, Hungary, Estonia, Romania, Sweden, Switzerland, China, Mexico, Russia, India and Brazil, provides electronics manufacturing services (EMS).

As of December 2007, the company employed just over 20,000 people worldwide. Of these, 2,000 were in Estonia, 7,200 in Hungary, 6,000 in China, 1,000 in India and only 260 in the country of origin, Finland.

Changes in the location of employment

Between 2004 and 2007, the total number of employees increased by almost 5,000 people. However, jobs were cut significantly in Finland – by 60% in 2007 alone – and in Germany where all operations ceased while they were expanded in the new Member States and the rest of the world. During this period, manufacturing activities were transferred from Finland to Estonia, but in 2007 many activities were relocated to Hungary and China.

According to the company's HR manager, the number of employees in different countries varies with market demand. For example, in 2005, Elcoteq acquired a manufacturing company in Mexico, which doubled its capacity there. However, changes in the market led Elcoteq to relocate some of its activities to a site in Brazil in 2006. In 2007, however, the Brazil plant was closed and activities transferred to another location in northeastern Mexico (Monterrey) and to China. Similar changes

have taken place in Europe. For example, the Estonian, Russian and German markets that were growing in 2004–2005 have now changed, and manufacturing has been relocated to Hungary, Romania and China.

Factors underlying location decisions

According to the company's HR manager, the main justification for the location decisions made in the past few years has been the need to maintain competitiveness and cut distance and transportation costs, by being close to the market and clients, as well as labour costs.

Sweden: Ericsson

The Ericsson telecommunications company faced a severe crisis between 2001 and 2004, which forced it to cut its global workforce from 107,000 to 47,000 people. Since 2004, however, the company has started to expand again mainly into the telecommunications services sector. The main relocation actions have involved a shift of production from Sweden to markets outside the EU, such as Brazil, China and India. R&D is mostly, but not entirely, retained within the EU and Sweden. Other factors affecting the localisation of jobs, apart from labour costs, include skills, logistics issues, labour law regulations and the political and economic stability of the country.

Basic facts

Ericsson currently employs almost 76,000 workers in total. Of these, just over 20,000 are employed in Sweden. The Swedish Ericsson group, also known in Sweden as LM Ericsson AB, is represented in more than 175 countries worldwide. The most important markets in terms of the share of total sales are China (7%), India (6%), the US (6%), Spain (5%), Italy (5%) and Sweden (5%).

The distribution of employment by broad geographical area is as follows: 55% in western Europe (including Sweden), 11% in central and eastern Europe, the Middle East and Africa, 18% in Asia (mostly China), 9% in Latin America (mostly Brazil) and 7% in North America. In Sweden, where the company has its headquarters, only 15% of staff are involved in production, with the rest being employed in R&D activities, administration, marketing and sales.

Changes in the location of employment

In the period 2001–2008, the company experienced significant job losses: 30% worldwide and 52% in Sweden. Between 2001 and 2004, Ericsson, along with the telecommunications sector as a whole, was hit by a severe crisis related to major fluctuations in investments. With sales falling from SEK 250 billion (€23 billion) to SEK 100 billion (€9 billion) in 2001, Ericsson was forced to take immediate action. This led to job cuts and, over the period 2001–2004, Ericsson was downsized from 107,000 to 47,000 workers, reflecting more than half of the company's workforce.

After 2004, Ericsson started to expand again, leading to a net increase in jobs. The services sector became increasingly more important, and thus a large proportion of the new jobs were in this sector. In February 2008, however, a new restructuring package was announced, with the loss of 1,000 jobs by 2009.

Cost reduction and rationalisation are the guiding principles of Ericsson's decisions. Production is largely outsourced abroad, although a relatively large part of production remains in Sweden to serve the national market. Whether production is located in a particular country depends essentially on whether the same good or service can be produced there with the same, or better, quality, and at lower costs, with a rapid rate of product development.

Management and administrative functions, including sales and marketing, are concentrated at the company's headquarters in Sweden, with R&D mainly located in Europe. In this respect, new production countries, like China, are informally demanding further investments, not only in production but also in R&D as they want to benefit from this know-how and move up the value chain.

Sales and production are located at the company's sites around the world but, when restructuring has occurred, this has mainly taken the form of a relocation of production away from Europe – and thus Sweden – to the rest of the world, notably China and India. As service activities expand, however, some job expansion has been observed in the EU, including in the new Member States. For example, 200 new jobs were created in Romania in May 2007.

Factors underlying location decisions

The main factors that underlie the company's location decision include not only skills, flexibility of sites and patents, but also political stability, labour law legislation and price stability. Another important factor is the need to reduce transport costs and have production sites close to the market. Furthermore, while labour costs inevitably play an important role in the location decision, the situation of the last few years is different from that in the period 2001–2004 when the crisis required significant cost reductions. Over the last few years, however, factors such as transport and environmental issues have become increasingly important.

UK: Unilever

Over the past five years, employment in Unilever has declined dramatically, both within Europe and worldwide. Restructuring has been characterised by stringent moves to make the group more competitive, which have meant the introduction of many job reduction programmes by the group. These processes have often involved a rationalisation of the group's administrative functions, offshoring and outsourcing arising from cost comparisons between different sites.

Basic facts

Unilever is an Anglo-Dutch company, with separate head offices in London in the UK's southeast and Rotterdam in the west of the Netherlands. However, the same directors oversee operations in both offices and the company operates as a single business. The company operates in about 100 countries worldwide, including in China, India and the US, as well as in many European countries, including France and Germany. The products it manufactures cover mostly food processing, including soft drinks and bottled water, and household cleaning products, perfumes and toilet preparations, as well as basic pharmaceuticals. The company currently employs around 174,000 people worldwide, with some 43,000 of these in Europe, about the same number in North and South America and the rest – about 88,000 workers – in Asia and Africa.

Changes in the location of employment

Since 2002 in particular, employment has declined substantially in the majority of Unilever's operations around the world. In 2002, the company employed some 247,000 workers globally, but it then experienced a fall in employment of some 30%, with job losses affecting 73,000 workers, in the five years up to 2007. In Europe, where some 60,000 people were employed in 2002, the decline was similar – a loss of 17,000 jobs, or 28% of employment.

The ERM records many of these job losses, but it also records examples of job creation over the same five-year period, most of which occurred in the new Member States. For example, in December 2005, 200 new jobs were announced in Poland, while in November 2006, a further 150 new jobs were announced in the same country with the production of a new product. New jobs were also announced in the Czech Republic and Romania.

While it is unclear in many cases how far expansion of operations in these countries was to meet the growing market in the region, and how far it was a response to lower costs of production, a number of instances have occurred where the company chose to relocate operations in order to take advantage of lower costs. For example, some 470 jobs were lost in the Netherlands in October 2007 as production was transferred to other European countries, while 125 jobs were cut in Ireland after a site was closed and production was offshored to other European sites following a strategic review of food processing plants across Europe.

The relocation of production and employment has not all represented a shift from west to east, however. In January, 2006, one out of three sites was closed in Hungary in order to rationalise the location of production, which was shifted to the Czech Republic and Poland as well as to the eastern part of Germany. In addition, changes in the pattern of employment location have been associated with the rationalisation of administrative and marketing operations across Europe, as well as of production, as part of the 'One Unilever' restructuring programme, which sought to improve the competitiveness of the group. For example, 260 job cuts were announced in Austria and Germany in December 2007 as a result of the consolidation of marketing activities in Austria, Germany and Switzerland, and, following announced cuts of 340 jobs in Belgium and the Netherlands in July, administrative and support functions were amalgamated into a single organisation covering the Benelux countries – Belgium, Luxembourg and the Netherlands.

The process of rationalisation was accompanied by some relocation of jobs between different regions within countries, such as the transfer of Unilever's Italian headquarters from Milan in the north of the country to the capital Rome in the centre-west of Italy at the end of 2006 with the loss of 450 jobs, and the shift of support activities from three sites in Surrey, south-west London and west Sussex in the southeast of England in July 2007 to a new site in Leatherhead in Surrey with the loss of 350 jobs. Similarly, in Romania, in March 2006, two food processing factories were closed in different places and production concentrated in a third location with the loss of 130 jobs.

In global terms, little evidence is available of any shift in the pattern of location of Unilever's worldwide operations and, between 2002 and 2007, employment seems to have declined at much the same rate, if not more, in Asia and Africa than in Europe – 34% compared with 28%. The ERM suggests, however, that not much expansion has been carried out by the company in the new Member States since November 2006 when the last cases of job creation were recorded.

Factors underlying location decisions

Although there is no direct information available on the reasons for the relative expansion of the company's operations in the new Member States, it is reasonable to assume that low labour costs played an important role in this regard, although the expanding market in these countries would also have been a pull factor.

More generally, it is evident that the company has sought to rationalise operations, and so reduce costs through the 'One Unilever' restructuring programme. As part of this initiative, it seems that a conscious comparison of costs at different sites has been carried out, in order to decide where production should be centred, as well as a general attempt to rationalise and streamline company operations.

Norway: Norske Skogindustrier ASA

[Norske Skogindustrier ASA](#) (Norske Skog) is currently going through a restructuring phase adjusting to declining demand for paper, increased input factor costs, as well as high debts. Measures taken by the company have involved a general downsizing process through an improvement programme, the partial sell-off of plants and assets and the partial closing down of paper mills. The closures have affected employment both in Norway and the Czech Republic.

Basic facts

Norske Skog is a Norwegian paper and paperboard manufacturer. It is a multinational corporation with plants (paper mills) in a number of countries across the world. In Europe, the company operates in Austria, France, Germany, Norway and the Netherlands. The company's mill in the Czech Republic was closed down in 2008. Outside Europe, it operates in Australia, Brazil, Chile, China, Korea (plant sold in August 2008), New Zealand and Thailand.

In 2007, the company employed just over 7,000 people worldwide, about 4,000 of whom were located in Europe – including almost 1,800 in Norway – and 3,000 in the rest of the world. Most employees

work at the paper mills. Around 150 employees are involved in corporate functions at the company's headquarters in Norway, with an additional 100 employees working at sales offices in other European and US locations.

Changes in the location of employment

The history of Norske Skog over the last 20 years – since 1989 when the present company was established through the merger of several Norwegian paper mills – has been one of international takeovers and co-ownerships, as well as a strategy of concentration on core activities (paper mills) by restructuring its non-core activities through sell-offs and demergers. Norske Skog first invested in Europe in the 1990s, then later in Australia, Canada, New Zealand, South America and Asia. The company has been in financial difficulties for some time. In late 2007 and early 2008, the economic situation of the company was particularly serious, with financial losses increasing and a declining share price. One of the actions taken by the company then involved the closure of several paper machines at different production plants as well as the sale of plants in Korea.

Changes in employment over time have reflected purchases and sales, as well as downsizing and job creation within the core activity. Norske Skog acquired paper mills in Germany and the Netherlands in 2001 (reflecting the increased employment in Europe), restructured its activity in Canada in 2000–2002, and increased its ownership in Pan Asia Paper from 33% in 1999 to 50% in 2000 and finally to 100% in late 2005. Employment figures for Asia – currently about 1,500 workers – also partly reflect changes in the ownership structure, as do changes in North America.

Although employment figures are not available for 2008, the downsizing process almost certainly means that employment will be lower in 2008 compared with 2007. The company's paper mill in the Czech Republic was closed down in 2008, and the company intends to close the paper mill at Follum in the south of Norway on a temporary basis. Production plants in Korea were sold in August 2008, affecting about 700 employees.

A substantial part of the downsizing from 2002–2003 seems to have affected the company's plants in Europe, although no paper mills were closed. In 2006, Norske Skog closed down its mill with two paper machines at Union, located in Skien in southern Norway. In August 2006, the company announced new measures to improve profitability, including cutting 1,000 jobs, in addition to the closure of paper mills and paper machines that were announced earlier. Subsequently, in 2008, the mill in the Czech Republic was closed.

Such changes do not so much reflect the relocation of products between countries as the internationalisation of the company through buyouts and sell-offs. The market for newsprint paper in Europe has been marked by decreasing demand and overproduction, whereas in the Asian markets demand for newsprint and magazine paper has been expanding and is expected to continue to expand. The latest decisions regarding closing down or selling plants and mills are based both on evaluations of the market situation – for example, production capacity in Europe is too high – as well as the need to reduce company debt.

European activities are mainly restricted to the former EU15 Member States and Norway (with the exception of the Czech Republic) and, since 2000, Norske Skog has mainly expanded outside Europe, as part of a business strategy linked to accessing new markets. In this context, decisions on investments, including buyouts, have mainly been linked to internationalisation of the company, expanding new markets and the desire to concentrate on the company's core activity – paper and pulp production. Therefore, closeness to markets – especially in Asia – and productivity appear as more important factors in location decisions than labour costs.

References

arileht.ee, *Kuressaare elektroonikatehasest läheb kaup maailma suurnimedele*, 25 October 2006, available at: <http://www.arileht.ee/?artikkel=360015>.

Deccan Herald, 'Incap to triple capacity at Tumkur', 20 September 2007, available at: <http://www.deccanherald.com/CONTENT/Sep202007/business2007091926172.asp>.

European Foundation for the Improvement of Living and Working Conditions (Eurofound), *Restructuring and employment in the EU: The impact of globalisation*, ERM Annual Report 2007, Luxembourg, Office for Official Publications of the European Communities, 2007, available at: <http://www.eurofound.europa.eu/pubdocs/2007/68/en/1/ef0768en.pdf>.

Huginonline, 'Incap to increase electronics production capacity in Kuressaare, Estonia', *Stock Exchange Release*, 24 March 2004, available at: http://cws.huginonline.com/I/120192/PR/200403/939237_5.html.

Karmin, D., *How the technology sector adapts to offshoring*, Progressive Policy Institute, 4 January 2007, available at: http://www.ppionline.org/ppi_ci.cfm?contentid=254161&knlgAreaID=107&subsecid=175.

Royal Philips Electrics N.V., *Annual report 2004*, Amsterdam, Philips, 2005.

Schneider Electric, *L'essentiel 2007–2008 Activité et développement durable*, Rueil-Malmaison, Schneider Electric, April 2008, available at: <http://www.schneider-electric.com/documents/presentation/fr/local/2008/04/essentiel-2007-2008.pdf>.

John Morley, Applica

EF/09/04/EN