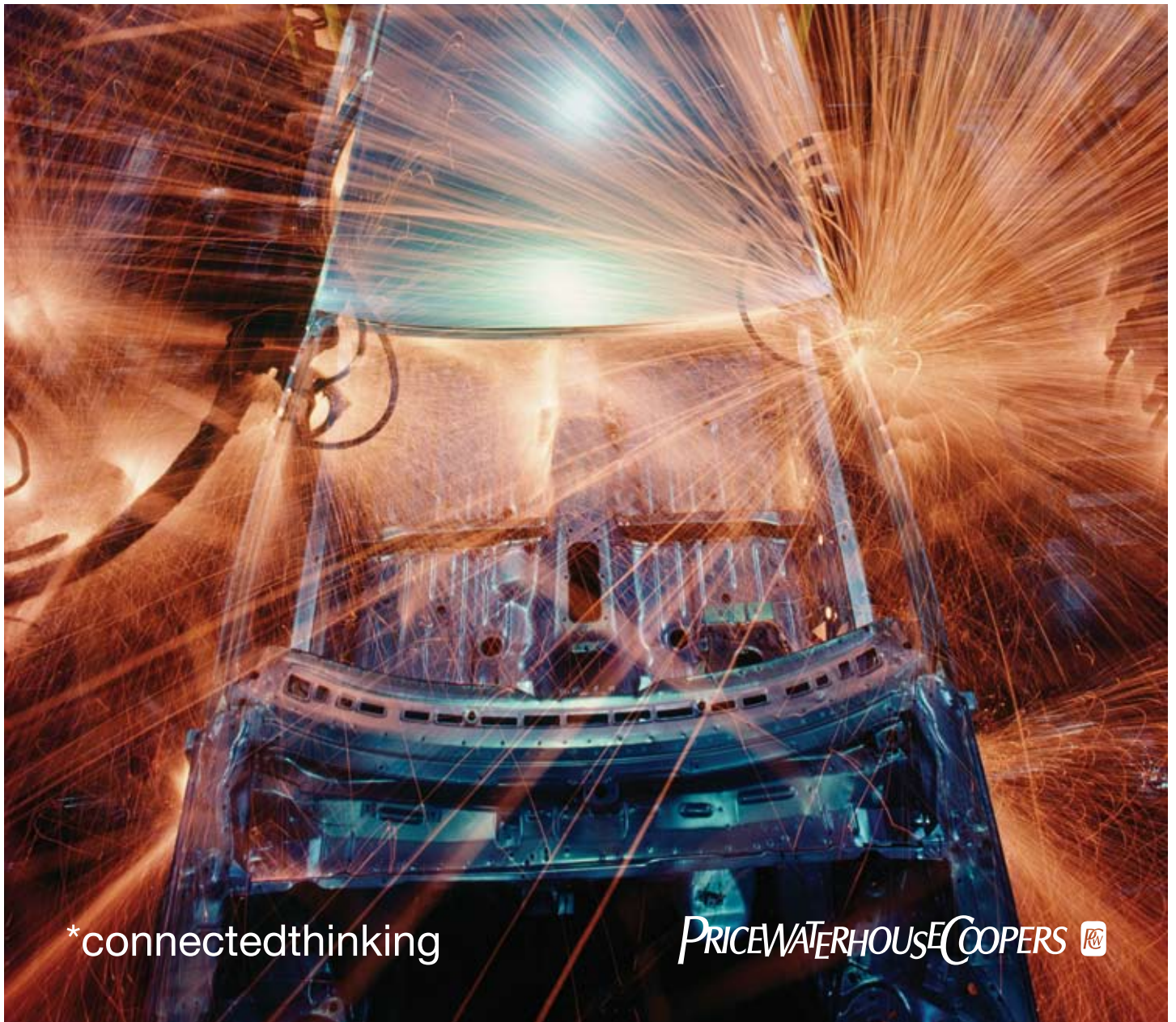


Eastern Influx

Automotive manufacturing in Central and Eastern Europe*

Part 1:

A growing number of automotive manufacturers are migrating to Central and Eastern Europe. But are they doing the right thing?



*connectedthinking

PRICEWATERHOUSECOOPERS 

As the automotive industry comes under ever greater pressure to control costs and the expansion of the European Union (EU) opens up new, more economical manufacturing locations, a growing number of carmakers and components suppliers are moving east. Indeed, research by PricewaterhouseCoopers suggests that about US\$6 billion worth of automotive production will be transferred to Central and Eastern Europe over the next five years. The Czech Republic, Hungary, Poland, Romania, Slovakia and Slovenia will attract the bulk of this investment.

But relocating to another region is neither easy nor is it necessarily right for all companies – and the smaller the firm, the fewer the management resources it can deploy in planning the move. The big carmakers and their largest Tier 1 suppliers have already spread across the globe and can call on past experience. A small manufacturer stepping outside its homeland for the first time is likely to find the prospect much more daunting – and the impact much worse, if something goes wrong.

In our first paper on setting up production facilities in Central and Eastern Europe, we shall discuss the continental drift of the past few years. We shall also look

at the factors any manufacturer should consider before it decides to follow in the tracks of those that have already headed east.

Eastern promise

Flat sales, rising raw materials costs, increasing competition from Asia, overcapacity and falling car prices have all made the outlook for Western carmakers and their suppliers increasingly bleak (see page 3, [Carmakers and their suppliers under pressure](#)). So it is hardly surprising that they have been exploring every opportunity to reduce their costs and – lured by the prospect of cheap labour – many of the industry leaders have moved into Central and Eastern Europe. Between 1991 and 2006, they invested about \$20 billion in the region, boosting its share of global automotive manufacturing from less than 5% to about 6.8%.

The Japanese carmaker Suzuki led the way, when it started building a plant in Hungary in 1990; it now produces about 140,000 vehicles a year and is one of the country's largest employers (see [Table 1](#)). Several Western carmakers rapidly followed suit. Volkswagen moved into

Table 1: Vehicle production capacity in Central and Eastern Europe

Producer	Location	Year	Production capacity (cars)
Suzuki	Esztergom, Hungary	1990	200,000
Renault/Revoz	Novo Mesto, Slovenia	1991	180,000
Fiat	Bielsko-Biala, Poland	1991	250,000
VW/Skoda	M. Boleslav, Czech Republic	1991	450,000
Audi	Gyor, Hungary	1992	40,000
Volkswagen	Poznan, Poland	1993	120,000
Volkswagen	Bratislava, Slovakia	1993	350,000
Renault/Dacia	Pitesti, Romania	1995	100,000
GM/Daewoo	Craiova, Romania	1996	22,000
Daewoo FSO	Warsaw, Poland	1996	150,000
GM/Opel	Gliwice, Poland	1998	120,000
PSA/Toyota	Kolin, Czech Republic	2002	300,000
PSA Peugeot Citroën	Trnava, Slovakia	2003	450,000
Hyundai/KIA	Zilina, Slovakia	2004	300,000
Hyundai	Nosovice, Czech Republic	2006	300,000

Source: PricewaterhouseCoopers Automotive Institute

Carmakers and their suppliers under pressure

At first glance, the automotive industry looks in reasonable shape, with global demand for new vehicles rising about 6% between 2000 and 2005. However, most of this growth came from the emerging markets of Asia Pacific, the Middle East and Latin America. In the developed world, demand was virtually stagnant.

The situation in 2006 was similar. Preliminary figures from the European Automobile Manufacturers Association (ACEA) show, for example, that new car sales in the European Free Trade Association (EFTA) and European Union (excluding Bulgaria and Romania) rose just 0.7% year-on-year. Meanwhile, US car sales fell by 3% to 16.5m units, as high oil prices and slowing economic growth exacted a heavy price. Industry analysts predict that these conditions will continue. The number of US households planning to buy a new car over the next six months recently slumped to the lowest level on record since 1970, and demand for new cars is also expected to decline in Western Europe, as real GDP growth slows to less than 2%, down from 2.6% last year.

The rising cost of raw materials has compounded the industry's difficulties. Rubber prices soared by 50%, and aluminium prices by 30%, between the last quarter of 2004 and the first quarter of 2006, although rubber prices have since dropped back. The cost of steel is also rocketing; in Northern Europe, the price of hot rolled wide coil ranged from €480 to €495 per tonne in December 2006, compared with €385-€405 per tonne in January 2006 (although this steep increase should be weighed against a previous high of €510-€520 in December 2004).

The competition from Asia's carmakers is also getting hotter. In 2006, China exported a record 340,000 vehicles, more than double the number the previous year. Most of these cars went to Russia, the Middle East and Southeast Asia, but the Chinese central government has made no secret of its desire to capture at least 10% of the world's export market over the next 10 years. Meanwhile, the Society of Indian Automobile Manufacturers reports that India's carmakers produced 10.9m vehicles in 2006, a 16.2% increase on their output the previous year. They also exported a record 193,810 passenger cars, 12.9% more than in 2005. And South Korea's Hyundai Kia Automotive Group is already the world's sixth-biggest carmaker.

As Asia's vehicle manufacturers expand, the industry's longstanding problems with excess capacity will be exacerbated, putting yet more pressure on prices. Between mid-1997 and mid-2005, the EU15 consumer price index rose about 16%, but the average price of a new car rose just 4% over the same period. The situation is similar in the US; measured in inflation-free dollars, the prices of new cars have dropped by at least 4% over the past decade. These tough market conditions have already taken their toll of many carmakers and suppliers.

the Czech Republic in 1991, when it acquired Skoda, the national vehicle manufacturer. Renault bought a controlling stake in Slovenian carmaker Revoz the same year, while Opel and Audi also launched manufacturing operations in Hungary in the early 1990s, as did Fiat in Poland. However, so many carmakers and components producers are now flocking to the area that it has been dubbed the “new Detroit”.

Toyota and PSA (Peugeot and Citroën) set up a joint manufacturing plant in Kolin, near Prague, in 2005, and Hyundai is currently building a factory in Ostrava. Similarly, PSA and Kia started manufacturing in Slovakia in 2006, with the construction of factories in Trnava and Zilina, respectively; and when Ford launches the successor to its low-cost Ka in 2008, it will move production from Valencia, Spain, to the Fiat factory in Tychy, Poland. Ford, General Motors, Renault-Nissan, Cherry and Tata have also expressed interest in buying a former Daewoo vehicle manufacturing plant in Craiova, southern Romania, which the Romanian government is now in the process of privatising.

Where the carmakers go, their suppliers often follow. More than 300 components producers, including Bosch, Delphi, Faurecia, Johnson Controls and Magna, have also moved into Central and Eastern Europe over the past decade. In all, the European Association of Automotive Suppliers reports that 33% of Western European parts suppliers now have manufacturing facilities in the region.

Table 2: Areas of specialisation

Country	Exports by Value (2004)	Areas of Specialisation
Hungary	\$6 billion	Engines (spark ignition & diesel), transmissions, clutches, mufflers, safety seat belts
Poland	\$6 billion	Engines (diesel), transmissions, drive axles, road wheels, shock absorbers, brake linings, mufflers, safety seat belts, radiators
Czech Republic	\$4 billion	Body parts, bumpers, non-driving axles, shock absorbers, brake linings, safety seat belts, radiators, lighting equipment

Source: Global-production.com

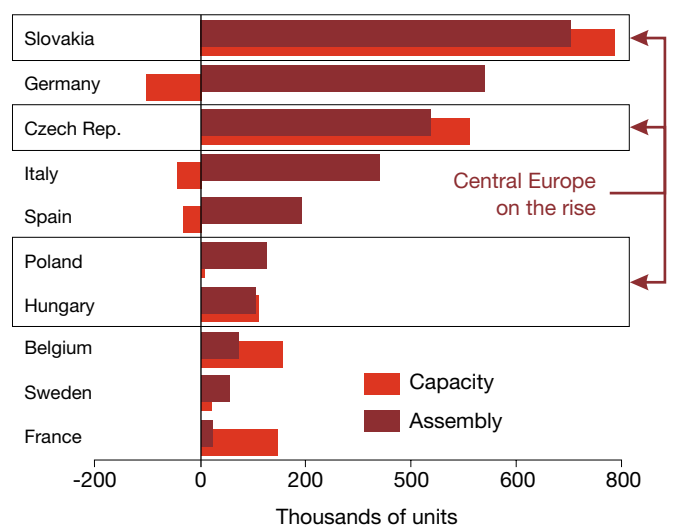
Further evidence of this trend comes from the region’s increasing share of the export market in automotive parts. In 2004, Hungary and Poland each accounted for about 3% of global exports, while the Czech Republic accounted for 2%, Slovakia for 1% and Romania for 0.5% (see Table 2). Lithuania also has a rapidly growing car parts industry; in 2004, automotive components constituted its fourth largest category of exports.

This stampede into Central and Eastern Europe is likely to continue. Our research suggests that the big carmakers will invest another \$3 billion in the region over the next five years, bringing its global share of automotive manufacturing to more than 8%. Total capacity will increase accordingly, to about 4.2m cars a year – up from 3.2m today. But every dollar invested in new assembly lines typically attracts another dollar’s worth of investment in other forms of automotive manufacturing (like parts production). So we estimate that the total investment in automotive manufacturing in the area will amount to at least \$6 billion between now and 2013 (see Figure 1).

Developing the right strategy

Yet relocating to another region is not something that should be undertaken lightly. Nor does it always make economic sense. Some components suppliers, for example, move east because they are under pressure from

Figure 1: Top ten countries by assembly growth, 2005-2010



Source: PricewaterhouseCoopers Automotive Institute

their customers or from institutional shareholders who do not understand the full implications. Alternatively, they try to do things too fast.

There are three key stages involved in any relocation: strategic planning, including investment calculations, the move itself and management of the post-move issues. In our experience, it takes at least two years, sometimes longer, to complete all three stages. Researching the various locations takes six months alone, since it is essential to understand local differences in labour resources, facilities, utilities and the like. It is also imperative to visit each town or city and talk to local government representatives.

So how should any company thinking of relocating to Central and Eastern Europe begin? The first step – developing the right strategy – involves asking some key questions about its aims, and creating a plan that is tailored to its specific needs. What, for example, does it hope to gain, and are these hopes realistic?

In fact, a survey conducted by the Fraunhofer Institute for Systems Innovation and Research shows that the two most common drivers are lower production costs and access to new markets: 65% and 60% of respondents, respectively, cited these as their main reasons for establishing manufacturing facilities abroad. But such general aspirations are merely a starting point.

It is vital both to identify the company's individual goals and to probe beyond the big picture.

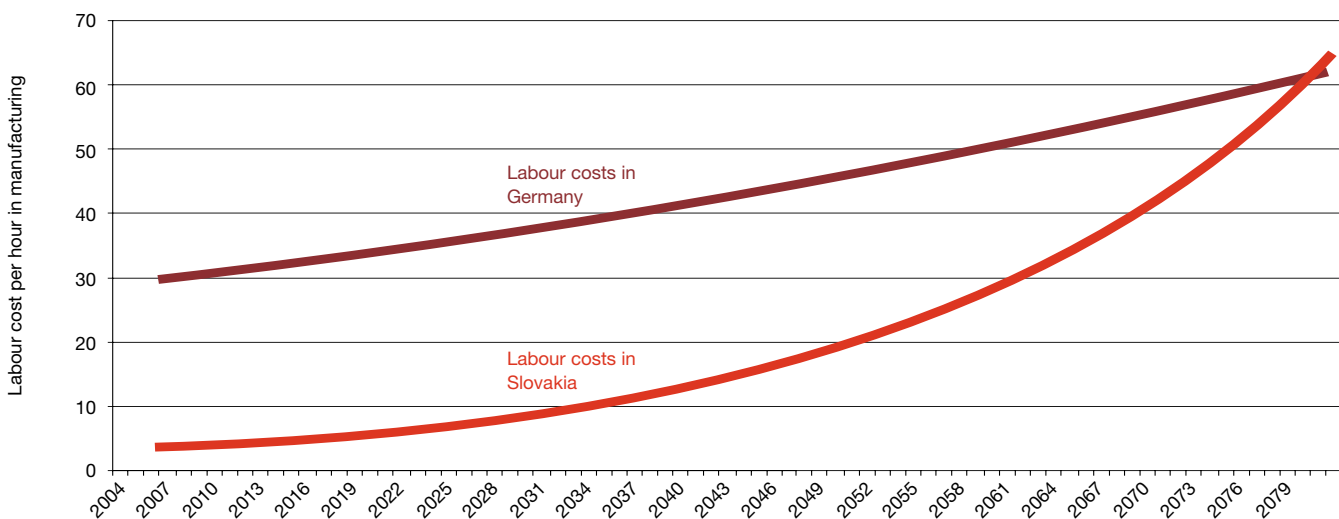
What do I hope to gain?

Superficially, for example, Central and Eastern Europe scores highly when it comes to labour costs. According to the Federation of European Employers, average wages in the region are currently between 16% and 34% of those in Germany. Even Spain, once regarded as a cost-effective manufacturing country, has lost its advantage; Bernd Pischetsrieder, former chairman of Volkswagen, reports that wages at the company's Spanish subsidiary, SEAT, are now twice those of Skoda.

Moreover, although average wages and social security costs are increasing more rapidly in many Central and Eastern European countries than they are in Western Europe, it will be many years before they catch up. Given a real annual wage increase of 4% in Slovakia and 1% in Germany, for example, it would still be more than 70 years before wages in the former matched those in the latter (see Figure 2).

However, the situation is often much more complex than the headline figures might suggest. There is little point in moving to an area where wages are low, if labour is scarce, for example. In some parts of Central and Eastern Europe, the competition – particularly the

Figure 2: Average wages are much lower in Central and Eastern Europe than in Western Europe



Source: PricewaterhouseCoopers Automotive Institute

competition for skilled labour – is increasing rapidly, and wages are rising equally fast. This is especially true of large cities, where the “herd” effect has seen many companies congregate. Such firms are often delighted by the calibre of the workforce, but dismayed to discover that wage rates are much higher than they anticipated. In other words, the statistics on “average” costs can mask some huge local differences.

Similarly, although wages comprise a significant part of total manufacturing costs, the proportion varies considerably; it is generally thought to range from 15% to 25% of the value of a finished car, depending on the particular model, level of plant automation, efficiency of the plant and efficiency of the workers. All these factors have to be taken into account in assessing the economic logic of switching production to a cheaper locale.

Other considerations are also likely to influence the decision. Suppose, for example, that a manufacturer is already producing a small car (where margins are generally very tight) and wants to reduce its costs. Relocating to an area where wages are lower may well make good sense. But if it is launching a new model or component, it must balance the benefits of building a new factory with lower manufacturing costs against the risk that volumes will be smaller than expected.

It must assess the potential impact on its supply chain as well. Any company that manufactures goods in Central and Eastern Europe for consumption in Western Europe will obviously have to pay the cost of transporting the goods there – whether these be cars or parts for the aftermarket. It will also need to maintain a larger inventory to accommodate longer shipping times and, the higher the value of the products it makes, the bigger the capital outlay. Where the volume and value of the goods to be shipped is significant, the additional costs may exceed any anticipated reduction in labour costs.

Baseline wages are by no means the only issue determining the potential savings to be gained from manufacturing in Central and Eastern Europe, then. The situation when it comes to assessing the region's market potential – the second most common motive for relocating – is equally complicated. Between 2003 and 2005, new car sales almost doubled in Bulgaria and Romania, the two countries that joined the EU in January 2007. But new car sales in the eight states that acceded in May 2004 (and that account for about three-quarters of regional demand) slumped by nearly 16.8% over the same period (see Table 3). When the Polish government removed excise duties on imported used cars to harmonise its trade regulations with EU standards in 2004, for example, it sparked a flood of second-hand imports from Germany.

Table 3: New car registrations in the Central and Eastern European accession countries

Country	2003	2004	2005	2006	Percentage change 2005-2006
Bulgaria	17,220	25,786	34,940	45,300	+29.7
Czech Republic	152,981	143,622	127,376	123,987	-2.7
Estonia	15,602	16,436	19,581	25,515	+30.3
Hungary	208,426	207,055	198,982	193,462	-2.8
Latvia	8,713	11,217	16,680	25,626	+53.6
Lithuania	7,543	9,433	10,467	14,044	+34.2
Poland	358,432	318,111	235,504	239,038	+1.5
Romania	135,305	180,927	256,364	N/A	N/A
Slovakia	59,742	57,430	56,916	59,084	+3.8
Slovenia	53,548	62,002	59,324	60,026	+1.2
Total	1,023,512	1,032,079	1,016,134		

Sources: ACEA and Bulgarian Union of Automobile Importers



There are signs that the market is now picking up. In 2006, 740,782 new cars were registered in the eight member states that joined the EU in 2004 – 2.2% more than in the previous year, thanks largely to a strong performance in Slovakia and soaring demand in the Baltic States. New car sales in Poland also rose dramatically at the end of the year, ending the steady decline since 2003. Moreover, the long-term growth potential is considerable. The combined population of the accession states is about 80m, but demand for new cars ranges from 10-15 per 1,000 people, compared with an average of about 30-40 per 1,000 people in the EU15. This suggests that the market could ultimately increase by as many as two million vehicles.

Nevertheless, automotive manufacturers hoping for immediate access to a large pool of potential new customers would have good grounds for feeling disappointed. Although new car sales in the Central and Eastern European member states of the EU may now be recovering, they are unlikely to exceed 1.5m within the next five years. The vast majority of the 4.2m vehicles the region will then be capable of producing will therefore be destined for other markets.

Do I want to expand or shift manufacturing to a new country?

A second key question any company considering a move to one of the new Central and Eastern European member states should ask itself is whether it wants to expand its capacity or close down an existing plant and relocate its manufacturing elsewhere. If it wants to leave one country to set up in another, it will need to evaluate the legal position, potential political fallout and impact on its tax regime – all issues that vary substantially, depending on the country concerned.

It is widely recognised, for example, that Britain's employment laws are less stringent than those of many other European states and, with the closure of Rover's Longbridge plant, it no longer has a national carmaker. In France and Germany, by contrast, the stakes are much higher. The big French and German vehicle manufacturers rely heavily on their home markets and are understandably loath to offend their customers. They also depend on their national image to promote themselves abroad, so closing a domestic plant to set up elsewhere could have dire consequences.

Any company that closes down a factory will not only have to manage negotiations with the unions and the intricacies of a large-scale redundancy programme, though; it will also have to minimise the risks to the revenues involved in making the transition and the liabilities associated with the closure itself. Many firms underestimate the time and effort required to do these things; it typically takes at least a couple of years to complete an exit and remove the assets from the balance sheet.

Should I acquire an existing facility or build from scratch?

Yet another issue is whether to buy an existing facility or build one from scratch. When Fiat entered Poland, it purchased Polish manufacturer FSM and modernised the old manufacturing site. Conversely, Opel's Gliwice plant was a greenfield investment. In fact, very few car factories now remain to be acquired, although a number of commercial vehicle and parts factories are still available. It is also sometimes possible to outsource some manufacturing to a components supplier that has already been in the area for a few years.

However, there is little to be gained from buying a brownfield site that is no longer operational, and any company that buys an existing business should be aware of the risks. In Central and Eastern Europe it is often difficult, for example, to obtain accurate information about a target firm's performance, so the purchaser may end up paying too much. Alternatively, when the business is dependent on a key individual, there may be conflicts of opinion about its value or how it is to be managed after the deal has been completed. Such disagreements can delay a transaction for many months, allowing competitors to enter the market in the meantime. Even worse, they can result in such friction that the former owner leaves to set up a rival operation – and, since the legal system is still immature in some respects, the purchaser may find it very hard to enforce any non-compete agreements.

In addition to such financial and managerial challenges, there are environmental liabilities to be considered. The EU's new Integrated Prevention and Pollution Control (IPPC) legislation is particularly relevant in this context. All manufacturing companies will be required to clarify the risks associated with pollution and agree, in principle, plans for closing facilities that are causing

pollution. Thus any company intending to acquire another business in the EU will need to assess the plans the target company has agreed with the regulators, review its capital expenditure proposals and establish whether it has set aside sufficient financial reserves to meet those proposals.

Whether a company chooses to buy or build, it should also investigate the logistics of getting the materials and components it needs and distributing the finished product. Many Tier 1 suppliers set up satellite operations near the carmakers with which they have close relationships, but smaller firms may have neither the resources nor the will to relocate. It is equally important to find local suppliers and, since experienced local automotive manufacturers are often scarce, it may well be necessary to train companies involved in related activities like metal bending.

Which processes should I move?

Once a company has answered these questions, it must decide which parts of the automotive manufacturing process to move. It clearly makes sense to transfer labour-intensive activities like engineering, sub-assembly and final assembly to a low-cost country. Many companies can also make substantial savings by relocating back-office processes such as IT, finance and administration to cheaper places (see Figure 3). But research and product development are highly skilled activities, as well as the primary source of a company's intellectual capital.

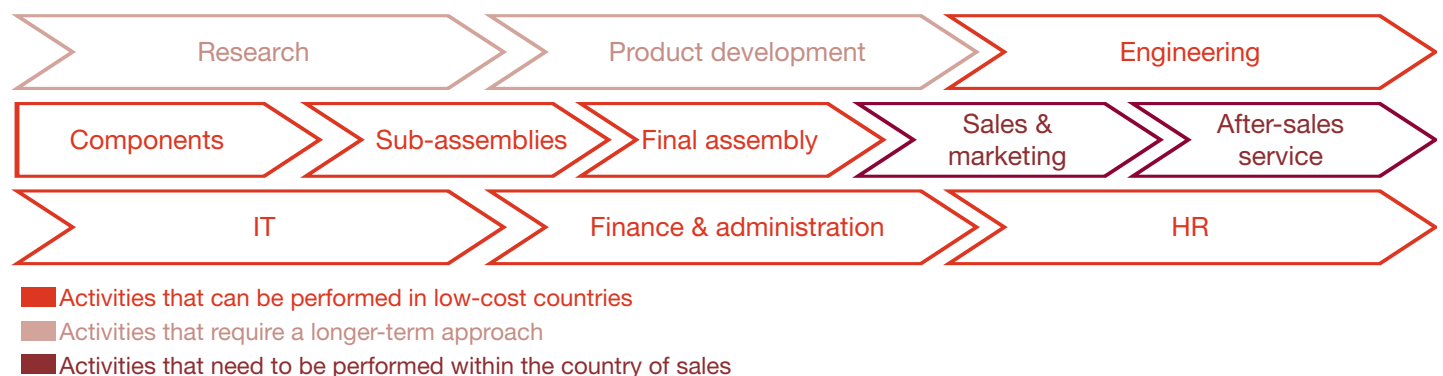
That said, a survey recently conducted by the Center for International Business Education and Research at Duke University, North Carolina, shows that a growing number of companies – driven by the shortage of skilled scientific and engineering workers in the US and Western Europe – are now going offshore for their R&D. However, 48% of respondents expressed fears about losing managerial control. Any company thinking of moving its research and product design functions abroad must therefore weigh the advantages and disadvantages of doing so very carefully.

It should also maintain a sales and marketing and after-sales operation in every country in which it sells its products. Experience in the financial services and utilities industries illustrates how badly the headlong rush to transfer such activities offshore has backfired. Indeed, according to a study conducted in 2004, one in seven UK customers who used an offshore call centre responded by changing his or her supplier. Burnt by the loss of customers and damage to their brands, a number of companies have been forced to bring such customer-facing functions back home.

How much will the move really cost, and how long will it take to recover my investment?

Mistakes of this nature are not uncommon, but many companies also get their arithmetic wrong – and, whether they are going cap in hand to the bank or calling on private

Figure 3: The processes involved in automotive manufacturing



Source: PricewaterhouseCoopers

equity funding, the results can be equally disastrous. They incorrectly assume that they will be eligible for large incentives, misjudge the costs of making the move or underestimate the time it will take to recover their investment.

All the new Central and Eastern European member states offer foreign investors a range of tax breaks, subsidies and other financial incentives, but they are more difficult to obtain than many companies realise. The EU has, for example, allocated €176.6 billion for promoting economic convergence (including cohesion), regional competitiveness and territorial cooperation in all 10 countries between 2007 and 2013 (see Table 4). But strict rules govern the disbursement of these funds.

The percentage of the investment which can be granted as regional aid varies both between countries and between areas within the same country. It also depends on the size of the investment, the size of the company making the investment and, in economically sensitive areas, on the industry sector in which the investment is to be made. Moreover, the application process is quite cumbersome, since any member state intending to grant aid must first get clearance from the European Commission, unless the sum concerned is very small, qualifies as training aid or falls within one of several other narrowly defined exemptions.

In addition to such EU-funded assistance, every country has its own investment incentive

scheme (see sidebar, Czech list). However, the biggest incentives are generally available only in areas that lack the infrastructure and resources automotive manufacturing organisations require (for the good reason that these are the areas which most need economic stimulation). The terms and conditions also vary substantially both within, and between, states – and many companies which initially qualify for a particular incentive subsequently fail to fulfil the conditions on which that assistance hinges. Most experts therefore agree that, while it makes sense to explore the options, incentives should never be the basis on which a manufacturer builds its business case.

Any company planning to manufacture abroad should also perform a comprehensive analysis of the costs it expects to incur, and when it expects to incur them. Many firms rely on simple spread sheets rather than completing detailed projections of their future cash flows, tax liabilities and the like. But the devil lies in the detail – which may well explain why, in one study of manufacturers migrating to low-cost economies, more than a third of the respondents reported that they had gone over budget.

The level of productivity is often lower in Central and Eastern Europe than it is the US and Western Europe, for example – and it is invariably lower when a factory has only just started up than when it is well established. So it is important to allow for efficiency losses. Similarly, most companies have to provide a considerable amount of on-site support, in the form of training, supervision and translation services. And it is easy to forget the cost of

Table 4: European Union Structural Funds, 2007-2013 (millions of euros)

Country	Cohesion	Convergence	Competitiveness	Cooperation	Total
Bulgaria	2,283	4,391	N/A	179	6,853
Czech Republic	8,819	17,064	419	389	26,692
Estonia	1,152	2,252	52	52	3,456
Hungary	8,642	14,248	2,031	386	25,307
Latvia	1,540	2,991	N/A	90	4,621
Lithuania	2,305	4,470	N/A	109	6,885
Poland	22,176	44,377	N/A	731	67,284
Romania	6,552	12,661	N/A	455	19,668
Slovakia	3,899	7,013	449	227	11,588
Slovenia	1,412	2,689	N/A	104	4,205

Source: European Commission

transportation and warehousing. Yet all these factors can have a considerable impact on a company's expenditure and cash flows, as well as the time it takes to generate a return on its investment.

What experience have I got of managing relocations?

Lastly, any company considering a move to Central and Eastern Europe should ask itself whether it has enough management expertise to complete the transfer by itself. Surveys and anecdotal evidence alike suggest that many manufacturers relocating abroad are disappointed by the outcome – and, in our experience, lack of management resources and focus are two of the biggest problems.

It is vital to put robust project management skills in place, including an early warning system for managing risks, and to ensure that any technological changes are managed in tandem with all the other changes taking place. It is equally important to transfer experienced managers to the new site and send key staff from the new site to the company's home site, so that they can learn its original manufacturing processes.

A comprehensive communications plan is also essential. Good communications can help to alleviate disaffection at a site that is due to be closed down, as well as keeping customers and staff at the new site abreast of

developments. However, good communications and good management both depend on the ability to recognise, and understand, cultural differences. The classical Western management paradigm stresses independent action and assertiveness, for example, whereas Communism encouraged collectivism and conformity – and that legacy has inevitably shaped management styles in Central and Eastern Europe. Many companies fail to understand the impact such differences can make, both in communicating with the workforce and in controlling quality and performance.

Conclusion

In short, there are some significant benefits to be gained from building a new manufacturing site in Central and Eastern Europe or moving production there. But realising these benefits and overcoming the various risks requires a strong business case and the right strategy. Only when a company has asked, and answered, all the questions we have detailed above, can it assess whether it should relocate and, if so, progress to the next stage: selecting the best place for its needs. We shall discuss the challenges associated with choosing the right location, including researching national and local variations, in our second article in this series.

Czech list

Most Central and Eastern European member states offer foreign investors corporate tax relief, job-creation grants, training aid and preferentially priced land. They stipulate the minimum sum that must be invested in fixed assets and the creation of new jobs. In the Czech Republic, for example, the Investment Incentives Act, 2004, specifies that an investor must create a new facility, expand an existing facility or modernise a facility for the purpose of a fundamental change in a product or production process; that it must invest a minimum of between CZK100m (€3.6m) and CZK200m (€7.2m), depending on the region in which the investment is to be made, in tangible and intangible assets; that at least 50 % of the investment must be equity; that at least 40% must be in new machinery; and that the plant must be environmentally friendly. The recipient of any incentives must fulfil the conditions pertaining to the incentives it receives for at least five years.

Regional contacts:

Stephen D'Arcy

Global Automotive Leader

Tel: +1 313 394 6755

Email: stephen.darcy@us.pwc.com

Matt Pottle

Central and Eastern Europe Automotive Leader

Tel: +421 2 59 350 502

Email: matt.pottle@sk.pwc.com

Christian Martin

European Automotive Leader

Tel: +33 1 56 57 61 60

Email: christian.martin@fr.pwc.com

Eastern Influx Part 1 Team contacts:

Stephen Booth

Central and Eastern Europe Automotive Tax Leader

Tel: +420 251 152 888

Email: stephen.booth@cz.pwc.com

Rafal Krasnodebski

Central and Eastern Europe Automotive Advisory Partner

Tel: +48 22 523 4498

Email: rafal.krasnodebski@pl.pwc.com

Miroslav Bratrych

Central and Eastern Europe Automotive Advisory

Tel: +420 251 152 084

Email: miroslav.bratrych@cz.pwc.com

Marketing contacts:

Andrea Alter

European Automotive Marketing

Tel: +33 1 56 57 72 68

Email: andrea.alter@fr.pwc.com

Jonathon Iversen

Global Automotive Marketing

Tel: +1 313 394 6779

Email: jonathon.t.iversen@us.pwc.com

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