

## **Accelerating from a multinational to a transnational carmaker:**

### **The Volkswagen consortium in the 1990s**

Ludger Pries

#### **1 Volkswagen as a German rooted international player**

At the beginnings of the 1990s Volkswagen was the only German carmaker with a considerable level of international production activities. Although BMW and Daimler-Benz, the other two of the *German Big Three* car assemblers, sold more than half of their overall car production outside Germany in 1990, BMW realised only less than 4% of its production *not* in Germany (mainly CKD-assembly in South Africa), and Daimler-Benz had no passenger car production facilities abroad at all at that time. In the same year (1990), the Volkswagen consortium (consisting of the brands Volkswagen, Audi and SEAT at that time) sold exactly two thirds and produced 40% of all units outside Germany.

The structure of internationalisation of the German carmakers which prevailed until the end of the 1980s was characterised by Ulrich Jürgens as follows: "Daimler-Benz is still exclusively a German company in the area of car production; it only has international production sites in the area of trucks and commercial vehicles. BMW and Porsche, finally, are the firms which are most closely limited to Germany in their production and work force" (1992, p. 67). He described the Volkswagen consortium as "the only German automobile company that pursued an internationalisation strategy with regard to its production system" and as a "European oriented corporation" (dito, p. 68). This definition of Volkswagen as a "European oriented corporation" could be quite adequate for the situation until the beginning of the 1990s – but holds it also for the last decade? In a more recent analysis, Jürgens distinguished three periods of the development of Volkswagen's industrial model which are separated from each other by "periods of internal crisis, indecision, trial-and-error approaches, and accompanying internal controversies and uncertainty, which were of extended length: from around 1968 until 1974 in the first case, and from around 1988 until 1994 in the second" (1998, p. 273). One important question is: What came after the period "of internal crisis, indecision, trial-and-error approaches, and accompanying internal controversies and uncertainty" in the past decade?

This chapter analyses the development of the Volkswagen consortium during the 1990s.<sup>1</sup> The

---

<sup>1</sup> It is based mainly on a research project realized at the Institute of Sociology/University of Erlangen-Nürnberg and sponsored by the German Association for Scientific Research (DFG). Andrea Eckardt, Holm-Detlev Köhler and Ludger Pries formed the core of the research team in its first phase (1997-1999); Ludger Pries and Christian Sandig are responsible for the second phase (1999-2001); Gert Schmidt and Rainer Trinczek co-operated in discussion and

main argument is that Volkswagen changed its business model and production system as well as its internationalization strategy in this decade. After a little of crisis until 1993/94, almost during the second half of the 1990s Volkswagen – as well as BMW and Daimler-Benz – played a very active and successful role in the international automobile industry. The take over of Rover by BMW in 1994 was an attempt of ‘going global’, the Daimler-Chrysler merger in 1998 and the competition between Volkswagen and BMW for buying Rolls Royce at the same time are the most visible expressions and the *tip of the iceberg* for this new dynamic internationalisation of the *German Big Three*.

It is argued that Volkswagen's crisis of 1993/94 reflects only a transition period towards a new and successful *consortium profile* where major changes in the three dimensions of (1) corporate governance and profit strategies, of (2) product structure and market strategies and of (3) production systems at plant and headquarters level coincided with important shifts in the *internationalisation profile*. In short, Volkswagen's *internationalisation profile* changed from that of a multinational to a transnational company. Meanwhile in multinational companies *all three dimensions* are structured *mainly* by a multiplicity of *local* logics of the plants and headquarters, in transnational companies they are modelled increasingly by a global or at least by a pluri-local logic. This differentiation of multinational and transnational companies combines aspects of the spatial structure of co-ordination and control (Porter 1986), of the configuration of values, capacities, knowledge and functions (Bartlett/Ghoshal 1989) and of the overall spatial division of all productive functions of the value chain (Ruigrok/van Tulder 1995).

At the beginning of the 1990s, BMW and Daimler-Benz were completely German-centred companies concerning their corporate governance and profit strategies, their product structure, and their production systems. But as highly internationalised with respect to their market strategies both companies could be described as *distribution oriented multinational company*. Volkswagen on the other hand could be characterised as a *production oriented multinational company*. During the past decade Daimler-Benz began to internationalise mainly its corporate governance structure (merger with Chrysler) and its production system (new production sites in a lot of countries), meanwhile BMW experienced a failure with its engagement in Rover and returned to be a highly German centred and *distribution oriented multinational company*.

Taking into account the different dimensions of corporate governance and profit strategies, of product structure and market strategies and of production systems it is possible to characterise the

---

field work; Thilo Heyder, Matthias Klemm and Sylvia Korell participated as research assistants. I thank Christian

internationalisation dynamics of the companies more adequately. The argument will be put forward that Volkswagen started the 1990s as a *production oriented multinational company* but took significant steps towards becoming a *transnational company* operating globally at the levels of market strategies and production systems, but remaining strongly a German centred company in relations to its corporate governance and profit strategies. First a brief description of the internationalisation history of Volkswagen is given (section 2). Second some important changes of Volkswagen's internationalisation profile during the 1990s are presented (section 3). And finally, some concluding remarks will be made (section 4).

## **2 Volkswagen as a genuine international company**

After World War II and the corresponding debacle of the Volkswagen factory after war production for the Nazi-regime (from 1939 until 1945 Volkswagen produced only about 600 civil cars!) the plant in Wolfsburg was administrated by the Allies until 1947. Since the very beginnings of the after-war-production a considerable share of the total production of *Beetles* and *Bullys* was exported. Even in 1947, 1656 or 20% of the total of 8382 cars were sent abroad. In 1949 the Allies handed over the company to German state ownership (as Volkswagenwerk GmbH). In the same year, the first two *Beetles* were exported to the USA, beginning thereby the success of the *Beetle* in the biggest auto market of the world. Since the 1950s Volkswagen opened overseas plants in a considerable number of countries, mainly in the so called Third World. Therefore, Volkswagen has to be considered an internationally active company from its beginnings.

To understand the characteristics of the new internationalisation period of the 1990s it is worth to summarise briefly the preceding trajectory. The identification of distinctive development phases depends on the interests of study and of the applied criteria – which frequently are not explicitly mentioned. Focusing on economic development, industrial relations and the "regulation mode" some authors differentiate a phase up to the crisis in 1966, a phase of recuperation up to the end of the 1970s, a third phase of decrease from 1980 to 1983, a fourth phase of renewed expansion from 1984 to 1991, a fifth phase of crisis and adjustments in 1993/94 and a sixth phase of dynamic growth (Wellhöner 1996, pp. 99ff; Haipeter 2000, pp. 97ff and 142ff). Analysing the "industrial model" Jürgens distinguished the aforementioned three periods, first up to the crisis and adjustment of 1967/73, second up to the crisis and structural change of 1988/93 and third beginning from the mid 1990s (Jürgens 1998).

As far as this chapter concentrates on the *internationalisation profile* of Volkswagen in the con-

text of the overall *consortium profile*, the main concerns are on the specific structures and strategies of the geographic-spatial distribution of resources, functions, competencies and power between the headquarters and plants. This *spatial configuration of resources, functions, competencies and power between headquarters and plants* refers to the already mentioned three dimensions of (1) corporate governance and profit strategies, of (2) product structure and market strategies and of (3) production systems. Based on these concepts three phases of Volkswagen's internationalisation profile could be distinguished as indicated in *Table 1*.

**Table 1: Three phases of Volkswagen's internationalisation profile**

<b>Phase</b>	<b>Distribution oriented multinational company (1940s to 1967/69)</b>	<b>Production oriented multinational company (1967/69 to 1990/92)</b>	<b>Globally operating transnational company (since 1990/92)</b>
<b>Resources, functions, competencies and power to define ...</b>			
<b>Corporate governance and profit strategies</b>	centre-periphery configuration	centre-periphery configuration with centralisation	globalised centralism and intra-organisational competition
<b>Product structure and market strategies</b>	centre-periphery configuration	centre-periphery configuration	globalised platforms with regionally specified hats
<b>Production systems</b>	centre-periphery configuration	world wide production networking	global learning and transfer of general production principles

During the *first phase* (1940s to 1967/69) Volkswagen operated as a *distribution oriented multinational company*. World-wide distribution was organised with independent general import partners or by direct Volkswagen dependencies like in Canada, the USA and France. Assembly and production facilities were opened in countries like Brazil, Mexico, South Africa and Australia where national regulations hindered free market access. In this context, new and highly integrated production facilities with press shop and stamping, body shop, painting, subassembly and final assembly were constructed in the 1950s in Anchieta/Brazil and in the 1960s in Puebla/Mexico. These plants represented the dominant internationalisation strategy of the consortium during this period: With old and used tools and machines (for example discarded stamps from Germany) the factories produced older models (the old *Beetle* and *Combi*) mainly for the protected national markets, and local plant management had relative high autonomy from the headquarters (Doleschal 1987; Wellhöner 1996; Pries 1999). The main strategic aims of the *distribution ori-*

*ented multinational company* were to secure access to potentially big markets and to use cheap labour in work-intensive fordistic production lines. There was a very clear technological hierarchy of products and production systems and a definitive division of labour between the core plants in the *centre* and the *peripheral* overseas plants. For managers, it was a certain kind of punishment and a career disadvantage to be sent to such an overseas plant for some years.

During the second period (19967/69 to 1990/92) of its internationalisation trajectory Volkswagen can be labelled as a *production oriented multinational company*. The centre-periphery-figure maintained stable regarding the corporate governance and profit strategies and the product structure and market strategies (with some tendencies towards a centralisation of profit strategies), and considerable efforts were made in the field of world wide production networking (the so called 'Verbundproduktion'). Similar cars were assembled in a wide range of world wide distributed plants. In spite of the clear polarisation of old products in the peripheral plants and new ones in the central plants, now all of the company parts were redefined in a transnational division of labour. Nevertheless, a strong hierarchy of products and production technologies between core and peripheral plants remained. Whereas the latter had functioned exclusively for local market access during the first period, they were now increasingly integrated into a global division of production. According mainly to production capacities and *economy of scale*-criteria a growing share of auto parts were produced in other than their locales of assembly. For instance, the Volkswagen plant in Puebla/Mexico produced millions of body parts and rear axles for export to Germany and other Volkswagen plants from 1974 up to 1991; it exported CKDs to the Nigerian assembly plant of Volkswagen in 1984/85; and it produced millions of doors, chassis parts and engines to the Westmoreland/USA plant from 1984 until the closure of that assembly facility in 1988/89.

The world wide production networking ('Verbundproduktion') went along with a vertically highly integrated production in the Volkswagen consortium of more than 50% of added value. Meanwhile during the first phase the peripheral plants were just passive, less productive 'dependencies' serving protected markets and to a great extent were not connected to the production flows in the centre, during the second period the main peripheral plants gained an important role in the overall transnational division of labour inside the company. Concerning the product structure and market strategies the basic centre-periphery figure maintained: the peripheral plants produced and sold out-fashioned models (like the old beetle or the first generation of Golf) or even produced their own locally developed products as e.g. in Brazil with the BX-series models (Gol, Voyage, Parati and Saveiro; see Eckardt et al. 1998 and 2000, pp. 262ff).

In general, the 'modernity gap' of models produced in the periphery compared with those produced in the centre closed slowly during this phase, but it still remained tangible. For instance, the Shanghai plant produced an older Santana-model, when in Germany and Belgium a newer one was already assembled; the Volkswagen de México plant manufactured the Golf A2-model when in Germany the next generation of Golf A3 already was assembled. Peripheral plants like those in Brazil, Mexico and South America became more important; besides the criteria of access to a protected market and to cheap labour, these factories entered more and more into transnational productive networks and macro-regional market strategies (like using Mexico as an export base for the USA and Canada, when the Westmoreland factory of Volkswagen USA was closed in 1988). In terms of the internationalisation profile of the overall consortium, these tendencies were precursors of the third period

### **3 The internationalisation trajectory of Volkswagen in the 1990s**

During the time from the 1980s to the 1990s Volkswagen began to shift more and more from a simple multinational company to a globally operating transnational company. The traditional centre-periphery configuration began to become less significant, although Volkswagen is – as will be shown – far away from turning into a rootless global company. The internationalisation profile changed qualitatively by integrating new foreign companies and brands and by reorganising the overall corporate governance structures. Concerning the product structure and market strategies as well as the production systems there was no longer a fixed and defined hierarchy between a 'centre' and a 'periphery'. On the contrary, the company began to globalise the search for best places and best practices. An important mechanism was diffusing the notion and idea – not necessarily concrete and hard mechanisms – of intra-organisational competition between plants – independently of their former central or peripheral location – for products and production quotas. Core strategic competencies like design, Research & Development or construction remain in the central plants, but diffuse spatially to a greater extent than before. Recently opened new plants or strongly restructured old ones are considered as technical, organisational and social laboratories in the development of new production systems and best practice principles. The strategic function of each plant is to maximise the exploitation of all local idiosyncrasies and to optimise intra-consortium competition and learning processes.

In this overall setting, the 1990s are characterised by fundamental changes in all three dimensions of corporate governance and profit strategies, of product structure and market strategies and of production systems at plant and headquarters level leading to a general shift in the internationali-

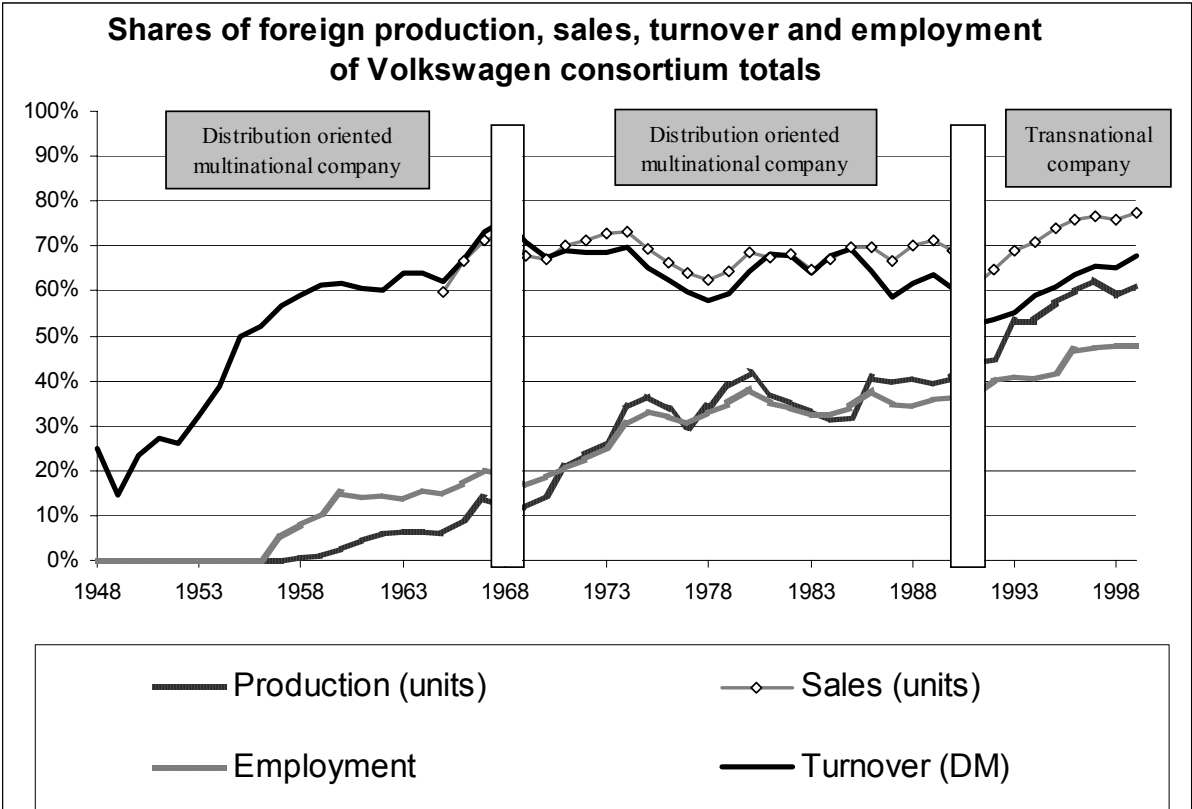
sation profile. The argument is that innovations in all these different dimensions and levels were not only additive but cumulative and reinforcing one another. Therefore, it is adequate to speak of an 'acceleration spiral'. Important elements of these transformations will be described in more detail below. To get a general idea of their scope and quality a comparison with the situation of Japanese automobile companies during the 1980s is useful. The wave of Japanese car transplants that were opened mainly in the USA and the United Kingdom during the 1980s happened mainly due to the highly competitive Japanese production system of *lean production*. High export rates and a corresponding high favourable balance of trade led to political pressure towards the Japanese car makers to bring production facilities and jobs to the regions of sale, namely the two other triad regions USA and EU.

In contrast to this, the transnationalisation push of the German carmakers and especially of Volkswagen in the 1990s started from a situation of fragility and disadvantages. Compared with Japanese and US-companies, the *German Big Three* Volkswagen, Daimler-Benz and BMW had serious productivity problems detected not only by the MIT-study (Womack et al. 1990), but also by international benchmarking realised by the firms themselves (Springer 1999). Although well aware of this situation at the end of the 1980s, German carmakers enjoyed a short and quite artificial recovery period due to the German unification until 1992. Meanwhile and taking advantage of this 'breath-taking period', all three companies initiated a twofold offensive of company restructuring and internationalisation. In sum, the Japanese internationalisation push of the 1980s was based on a position of high international competitiveness, whereas the German internationalisation push of the 1990s started from a disfavoured situation of multifaceted crisis.

But this internationalisation push actually took place during the past decade – and it was not only an increase in car exportation, but a general shift in the internationalisation profile. Important indicators for the changing spatial distribution of productive resources and functions are the shares of units produced and sold, of employment and of turnover in Germany and abroad (*Figure 1*). Taking into account the portion of turnover (in DM) and of sales (in car units) realised outside Germany as share of the total turnover and sales of the Volkswagen consortium (that is: including the different brands existing in each corresponding year Audi, Seat, Skoda, Volkswagen cars and Volkswagen trucks) the *Figure 1* reveals the long tradition and high level of international activities. Since the 1950s more than the half, roughly two thirds of sales and turnover of Volkswagen were realised outside Germany. The two corresponding lines only have one significant peak in 1967/68 (foreign sales compensated the relatively and even absolutely decreasing

sales in Germany due to the first severe post-war economic crisis) and one significant break down in 1991/92 (indicating the enormous demand push due to German unification). Each of these two extremes indicates just the turning point from one period to another.

**Figure 1: Three internationalisation phases of Volkswagen consortium**  
 (Source: Annual Reports Volkswagen AG)



But these shifts from one internationalisation dynamic to another become clearer comparing sales and turnover with production (in car units) and employment (in people employed directly by one of the Volkswagen consortium's companies). Whereas during the first period of Volkswagen as a distribution oriented multinational company foreign production and employment were very low compared to sales and turnover, this relation began to change constantly during the second phase of Volkswagen as a production oriented multinational company: foreign shares of employment and production raised up to 30-40% of total. During the third phase - Volkswagen as a transnational company – this share of cars produced abroad and employment outside Germany went up significantly to 60% and 50%. The growing distance between the two lines indicates the increasing labour productivity of the formerly peripheral plants. At the same time foreign sales and turn-

over showed a new upwards dynamic. The opening gap between sales in units and turnover in DM is considerable but needs careful interpretation. Turnover per sold unit abroad decreases relatively which reflects currency shifts (devaluation of DM in relation to the US \$ and the corresponding US \$ bound currencies, like in Mexico and Brazil) as well as market opening in former peripheral countries (which let prices go down relatively; see also the transnationality index in ILO 2000, pp. 92ff).

The three periods of Volkswagen's internationalisation trajectory coincide with the findings of Jürgens (1998) concerning the industrial model. However, two additional remarks are necessary. First, the internationalisation push of the 1990s is not primarily a Europeanisation as indicated by Jürgens (1992, p. 68) for the beginnings of the past decade. During the 1990s the share of Volkswagen cars produced in Europe fall from 85% to 70,5%, when the production portion of America and Africa raised from 14% to 19%, and Asia expanded from 1% to 10,5%. Taking into account that the European part also includes the dynamic expansion in Eastern Europe, the significant *relative* decrease of production in Western Europe remains even clearer. Although Volkswagen developed a lot of new activities in Eastern Europe (Poland, Slovenian Republic, Czech Republic and Hungary) during the 1990s, the increasing production shares mainly of Latin America and of China (see table A-1 in the annex for details) indicate a qualitative shifts towards a globally operating and transnational company.

The second point to mention concerning Jürgens' analysis deals with the general judgement of the success and stability of Volkswagen's consortium profile in the past decade. Of course, it is easier to assess this question in 2000 than in 1997. But compared with the relatively pessimistic view of Jürgens (1992; 1998) the Volkswagen consortium – and its industrial model – did quite well throughout the past decade. When Jürgens suggested that "the strike of 1995 could turn out to be an early sign of a weakening of the very foundations of this model" (1998, p. 306), viewed from now this insinuation was not verified. Obviously, there are some structural problems in the overall profile of the Volkswagen group – which will be described below – but in general the internationalisation trajectory of the 1990s was successfully combined with qualitative shifts in all three dimensions of corporate governance and profit strategies, of product structure and market strategies and of production systems.

### **Corporate governance and profit strategies**

This is mainly due to Volkswagen's special *corporate governance and profit strategies*. Volks-

wagen kept up to be a strongly Germany rooted consortium which is controlled by shareholders as well as by strong groups of stakeholders. Although the federal state began to sell its 4,8 Mio. shares (only to private buyers and in small packages!) since 1988, the state of Lower Saxonia kept its shares of about one fifth of the corporate capital. The specific 'Volkswagen law' of 1960 which prohibits concentration of shares in the hands of private institutional shareholders maintained in force despite of raising, often neoliberally inspired criticism. This leads to a very original embeddedness of the Volkswagen consortium in national and micro-regional networks of interest and power groups. The corporate governance structure of Volkswagen is traditionally and stayed during the 1990s truly *corporatistic* in the sense that capital, labour and the state played an important role and have if not equal than at least similar weight (Workers Council 2000).

Volkswagen's trajectory during the past decade reveals the importance of this 'corporatistic corporate governance' even for its internationalisation profile. When in 1992 the succession of CEO Karl Hahn was discussed, Daniel Goeudevert as the friendly and communicative 'best-seller' with an ecological marketing approach was at first the favourite candidate in Wolfsburg. But in the face of growing sales and at the same time decreasing profits – as a signal of productivity and efficiency lacks – the supervisory board elected Ferdinand Piëch in April 1992 and designated him as Hahn's successor from January 1993 on. Piëch stood for a relative successful reorganisation of the Audi brand focusing on product innovation and process optimisation. This was an important aspect for the president of the union IG Metall, Franz Steinkühler, and the president of the Workers Council, Klaus Volkert, both powerful members of the supervisory board of Volkswagen. The workers and employees with their representatives were mainly interested in a long-term competitive company with a typically German product approach to technology and quality – and therefore supported Piëch against Goeudevert.

With Piëch as the new strong chairman, raised to power by the triadic support of capital, labour and the state, the Volkswagen consortium maintained the characteristics of its 'corporatistic corporate governance' during the 1990s. In an international perspective, this is probably one of the most interesting aspects of the Volkswagen case. In a decade of strongly growing international competition and a neoliberal 'shareholder value'-bias in general, Volkswagen not only survived, but was quite successful with a completely different corporate governance model. Nevertheless, there were important processes of overall consortium restructuring during the past decade. Product innovation and brand differentiation and development were probably the most important.

## **Product structure and market strategies**

The incorporation of SEAT/Spain in 1986 represents the beginning of brand differentiation and a new type of internationalisation of production for the Volkswagen consortium. The acquisition of Skoda/Czech Republic in 1991 was the second step and then in 1998 the brands Bentley, Bugatti and Lamborghini (additionally Rolls-Royce until 2003) were bought. In 1995 the Volkswagen Nutzfahrzeuge (trucks) already was separated from the Volkswagen Pkw (cars) brand. Especially Audi and Volkswagen Cars were developed as premium brands in their segments. At the end of the 1990s Volkswagen presents itself as a complex consortium focused on the 'core competencies' of car and truck production with a defined brand strategy and a global presence in the most important world automobile regions. There is a certain regional focus of the SEAT brand towards South European countries and of Skoda towards Eastern Europe, but at the same time Skoda for instance aims at price and quality oriented buyers in Germany.

In the international automobile industry as a whole the Volkswagen consortium probably was the most successful in differentiating brands with specific car models and images, on the one hand, and homogenising platforms as the invisible part of the car, on the other hand. Platform strategies are nothing completely new to Volkswagen. The very first and successful models of the old beetle and the Combi were built on the same platform. During the 1970s the new Golf and the Audi 50 were based on the same A1-platform. But for the engineer Piëch platform homogenisation was one of the most important issues during the 1990s. The aim is to reduce the overall scope of car models to only four platforms. At the end of the past decade the body chassis, axles, engines, gear box and power train, gearshift, tank and air condition system were quite the same in the A4-platform models VW-Golf, VW-Bora, VW-New Beetle, Audi-A 3, Audi-TT, Seat-Toledo and Skoda-Octavia (Auto-Zeitung 1/1999, p. 47).

Even if platform unification furthermore remains a complex task – in 1999 there existed still 17 basic platforms in the Volkswagen consortium, and only about 10 to 20% of the overall car parts are homogenous at platform level – it seems that it is the most promising strategy for combining the *economies of scale* with the *economies of scope*. At the same time this strategy pressures towards stronger ties and real global co-operation of all organisational units on regard of product structures and market strategies. Volkswagen of Brazil will no longer develop and produce its own car models but produce a regionally adapted part of the consortium's model range and perhaps adapt new 'hats' to the standardised platforms. Realising platform strategies in the very different plants all over the world requires a certain homogenisation of production technologies, of

organisation and of skill requirements (see below). Therefore, on the one hand platform strategies are a *precondition* for a real transnationalization of consortium structures and strategies, on the other hand, platform strategies *reinforce* transnationalization in all important dimensions of corporate governance and profit strategies, of product structure and market strategies, and of production systems.

Concerning its internationalisation trajectory the Volkswagen consortium followed a 'double strategy' of buying existing foreign brands and internationalising its VW and Audi brands. In regard to the latter Volkswagen Cars has traditionally been an internationally oriented and known brand. After its foundation as an independent brand in 1995 Volkswagen trucks began internationalisation mainly with the Resende plant in Brazil. In this country 52.911 light and heavy trucks were sold in 1999 representing with more than a quarter of total sales of VW Trucks brand the most important foreign market. During the past decade the Audi brand experienced an internationalisation push as well, and the North American region was the most important foreign market for Audi (with 12% or 72.757 sold units of a total of 635.343 units in 1999). The internationalisation of Volkswagen Cars and Audi cannot only be seen in growing shares of foreign sales, but also in qualitative new production activities.

### **Production systems**

Understanding production systems as specific configuration of technologies, organization and work in a given factory, platform strategies do not determine but actually motivate homogenisation of production systems in certain aspects. The traditional centre-periphery-duality (new versus old products and production technologies; high versus low production quality and productivity) could not be sustained. Therefore, the *outcomes* of production systems in terms of productivity, flexibility and quality have to be similar in all plants all over the world that are included in the networks of global production. Concerning the differentiation-homogenisation and the adaptation-application problems of production systems (Pries 2000) our findings suggest a certain hierarchy of local embeddedness of technologies, organization and work. Like in the figure of concentric circles of an onion *production technologies* tend to become similar in all plants of Volkswagen all over the world. At the other extreme *work* (qualification structures, recruitment and employment systems, individual and collective rules and mechanisms for vertical and horizontal mobility, industrial and labor relations) was and remains most influenced and structured by local factors (labor law, labor markets, socio-cultural norms etc.), and *organization* as the specific

way of dividing and integrating the working process holds an inter-medium position.

Based on qualitative case studies and visits in five overseas plants and comparisons with German plants we found substantial elements to conclude that during the 1990s production systems became more similar in the overall consortium concerning their benchmarks and their production technologies, but they remain quite different with respect to their work systems (Eckardt et al. 2000). Some quantitative data indicate the qualitative shift in the international profile of Volkswagen's productive resources. In only the last four years (from 1995 to 1999) the Volkswagen consortium expanded from a total of 35 to 47 production and assembly sites all over the world.<sup>2</sup> The majority of plants are 'one brand plants' (like 2 Skoda, 3 Audi, and 12 Volkswagen plants in 1999), but there are also a lot of mixed plants where cars of more than one brand are produced (like Cheshire/Great Britain, Martorel/Spain, Bruxelles/Belgium, Poznan/Poland, Curitiba/Brazil, Pacheco/Argentina, Uitenhage/South Africa, Kvasiny/Czechia and Changchun/China in 1999, and the Wolfsburg/Germany plant in 1995 as well). Comparing only the changes of models produced by plants between 1995 and 1999 reveals the high international productive flexibility of the Volkswagen consortium. Concerning production, sales and employment the weight of the Volkswagen Cars brand *in relation to* the other car brands (Audi, SEAT, Skoda) went down during the past decade, but it still represented two thirds of production, sales and employment (Haipeter 2000, p. 130ff. and table A-1).

Meanwhile international division of labour between plants during the 1980s concentrated on the North American region (between the Mexican Puebla plant and the U.S. Westmoreland plant) and on the West European region (between plants in Germany, Belgium and Spain). During the 1990s transnationalisation strengthened world wide production networking, and platform strategy is an important element in this. The 25 most important and defining parts of the body chassis of A4-platform are produced exclusively for world wide assembly in the headquarters Wolfsburg plant. This means that about one thousand or more equal pieces a day with completely the same measures and quality are produced. This global platform strategy also means that actually equal quality standards in production, for instance concerning distance measurements in body shop or colours in painting are necessary in all integrated plants. Through this interchangeability of components and assembly of pluri-locally produced parts in one plant are possible. The qualitative shift from a centre-periphery configuration of international division of labour towards a transnational production networking becomes clearer taking the example of the New Beetle product and its

---

<sup>2</sup> Five (in 1995) resp. six (in 1999) of these were independent assembly facilities; see, for this and the following,

production in Puebla/Mexico.

**The qualitative shift from the old *Buggy* to the *New Beetle*: Volkswagen's Puebla plant**

During the decade of the 1980s the Mexican plant in Puebla produced a wide range of Volkswagen cars and different product generations. The old 'buggy' and the different variants of the old Combi – at consortium level and viewed in current international standards completely out-fashioned models – were sold mainly in Mexico, and only a small part of the Golf/Jetta (model A1 and A2) were exported, mainly to the USA. Even in 1991 the old buggy and the Combi-model represented quite half of the overall production of 209.000 units. Contrary to the declared market strategy the export of Golf and Jetta models towards the USA and Canada remained insignificant during the 1980s, and the share of the overall Volkswagen consortium in the U.S. car market was below one percent (see figures in Schreiber 1998, p. 230). Until the end of the 1980s the Puebla plant was very important as components and engines supplier for the assembly plant in Westmoreland/USA (which was closed in 1988/89). In sum, the Mexican Volkswagen factory was part of an international division of labour at consortium level, but this division of labour assigned a clearly subordinated position to the Puebla plant. Volkswagen worked as a production oriented multinational company, but the division of labour in the sense of the geographic-spatial distribution of resources, functions, competencies and power between headquarters and plants followed a centre-periphery scheme.

This situation began to change dramatically during the past decade. In 1991 the headquarters assigned the Mexican plant as the strategic export base of the Golf/Vento A3 for the US market and made efforts to change the failed strategy of the foregoing decade. Facing the liberalisation of car markets in the Mexico-USA-Canada-region by the NAFTA-agreement – which began to work 1<sup>st</sup> of January 1994 – and the internationalisation strategies of BMW (initiating construction of its Spartanburg/South Carolina plant in 1993) and Daimler-Benz (starting construction of its plant in Tuscaloosa/Alabama in 1994) the Volkswagen consortium felt the need of qualitative shifts. During the model change of the Golf and Jetta (from A2 to A3), a one month labour dispute stopped nearly all activities in August 1992 and led to a 'model change' of the work organisation and industrial relations system. In the year 1993 the future of the Puebla plant was between going down to a third level assembly plant and rising up to a top level production facility. Nearly half of the top managers were fired or replaced, working groups were established by force and upside-down.

---

table A-2 in the annex and Eckardt et al. 2000, p. 51).

Productivity and quality of the new A3-models increased.

But the qualitative divide came with the decision to produce the *New Beetle* in Puebla. After strong intra-company competition and campaigns (in 1995 more than one million signatures in favour of *New Beetle* production in Puebla were collected!), in September 1995 the Mexican plant was defined as the world-wide first and tentatively exclusive producer of the *New Beetle*. This car was defined as key stone in Volkswagen's market strategy to recuperate presence in the USA reviving the image and nostalgia of the old *buggy* and combining it with a high tech fun car for a market niche. Based on the A4-platform a completely new 'hat' was designed mainly in Volkswagen's Californian studios and developed in German headquarters in Wolfsburg. In 1996 the *New Beetle* group grew up to more than 30 managers and technicians, a third of them came from Mexico to Wolfsburg to develop the project and prepare production in Puebla. In the Mexican plant more than 200 technicians were prepared in the Vocational Training Centre in 1997. Pre- and Zero-Series-Production began in autumn 1997, in December of the same year normal production began. Average daily output raised up to more than 600 units in 1998, so that more than 107.000 *New Beetles* were produced that year. Destination of 70% of total production was the US- and Canadian market, 20% for the European market and only 10% to satisfy the Mexican demand. In 1999 more than 160.000 *New Beetles* produced in Puebla represented a share of about 40% of Volkswagen's Mexican production, making the Golf- and Jetta-A3 and A4-models for another half and the old *buggy* only for less than a tenth of total production in Puebla.

This marks a qualitative shift in product structure and market strategies during less than ten years. But during the same period the production system changed dramatically as well. After the labour conflict of 1992 from one day to another, a working system of working groups was imposed unilaterally in quite all production areas. The payment system changed to a productivity oriented evaluation each nine months. Management offered higher payment and regular wage raising in change for a strong quality and productivity commitment of the workers. The union politics and structure changed as well from a culture of confrontation and distrust towards a model of productivity consent and commitment. During the last five years, systems of quality management, of visual management and of workers participation in product and process improvement were developed and refined. Hierarchy levels were reduced, information flows were accelerated and new forms of interdisciplinary and inter-hierarchical team working and management were developed. These changes in the production system led to increased productivity and production quality. In 1999, the Puebla plant produced 410.061 cars with less than 16.000 employees. Compared to

1990, this indicates a gross productivity growth from an average of 6.75 cars per employee and year to an average of about 25,6 cars per employee and year. The export share is now higher than two thirds of total production, and only about 36.500 old Beetles (8,9% of total production) were produced in 1999. Of course, these numbers reflect not only productivity gains, but also, for instance, changing structures of procurement, namely a massive outsourcing and subcontracting of productive and service activities (Müller-Neuhof 1994; Kilper/Pries 1999). But they actually also indicate the qualitative and really dramatic changes that occurred in Volkswagen's Puebla plant during the 1990s – in terms of product structure and market strategy as well as concerning the production system. At the same time, the changing plant profile of the Puebla factory indicates the general shifts in Volkswagen's overall consortium profile and internationalisation strategy.

#### **4 Conclusion**

Although Volkswagen has been a highly multinational company during all of the second half of the past century, the decade of the 1990s is crucial for a general shift towards a transnational internationalisation profile. Foreign and especially overseas production gains relative importance. Old brown field factories (like Puebla/Mexico or Anchieta/Brazil) are restructured fundamentally, and new assembly facilities were opened (from the Czech Republic, Poland, Hungary and Portugal to Malaysia, Indonesia, Taiwan, the Philippines and China). But not only the quantity of foreign production activities changed dramatically. Also the quality of the geographic distribution of resources, functions and competencies altered. The consortium began to shift from the traditional division of labour between centre and periphery towards a more homogenised and centralised product structure and more regionalised market strategies. Concerning the production system a certain convergence at the level of production technologies and some elements of organisation could be observed, but there remain strong differences in relation to work and labour relations. Compared with the internationalisation of Japanese automobile companies during the 1980s, the transnationalisation push of the Volkswagen company in the 1990s is a dialectic process of company restructuring and company internationalisation. The search for new production systems and higher productivity, on the one hand, and the expansion to new markets and production sites, on the other hand, are two mutually accelerating processes in the change from a multinational company towards a transnational company (see also ILO 2000, pp. 87f). This transnationalisation process is even going on. Theoretically it could end in a completely globalised company as an economically, culturally and politically 'uprooted' and 'unbound', cosmopolitan business network

acting at least in all of most important world regions. But this option is not very likely due to the particular corporate structure and capital strategy of the company.

Volkswagen is deeply embedded in the economic, political and social structure of the Lower Saxonian State. In the even very particular German system of corporate governance with workers participation at company level (Workers Council) and strong union participation in the supervisory board the Volkswagen case is unique. It is very interesting that despite – or perhaps because! – of these particularities Volkswagen has been quite successful during the past decade. Nevertheless, there remain some structural problems for the future. In the name of equal opportunities the European Union could probably put in question the specific Volkswagen Law. This could challenge the corporate governance fundamentally – if there is no new and now European special arrangement in the case of Volkswagen. A second structural problem deals with the contradiction and combination of platform strategy and brand differentiation. At short term there prevailed the advantages of combining *economies of scale* with the *economies of scope*. But in a long term it could be difficult to maintain brand differences and images if people increasingly get aware that all brands use the same platforms and parts. A third problem relates to the centralisation of strategic decisions and control on the one hand and the need for decentralised, more autonomous and ethnocentric structures. Piëch as a very strong and authoritarian CEO who was able to maintain and control the consortium centrally – but who and what comes after Piëch? The development of Volkswagen during the first decade of the new century will be at least as interesting as during the last one of the past century.

## Bibliography

- Bartlett, C./Ghoshal, S. (1989): *Managing across Borders: The Transnational Solution*. London: Century Business
- Doleschal, R. (1987): *Automobilproduktion und Industriearbeiter in Brasilien*. Saarbrücken/Fort Lauderdale.
- Eckardt, A./Köhler, H.-D./Pries, L. (1998): The internationalization trajectories of the 'german big three'. In: *Sixth International Colloquium of GERPISA* (4-6 June 1998). Paris: GERPISA, pp. 113-124.
- Eckardt, A., Köhler, H.-D. & Pries, L. (2000): *Auf dem Weg zu global operierenden Konzernen? Fallstudien zu den Internationalisierungsverläufen deutscher Automobilkonzerne in den 90er Jahren* (Report to the German Association for Scientific Research). Erlangen: IPRAS.
- ILO (International Labour Organization), (2000): *The social and labour impact of globalization in the manufacture of transport equipment*. Geneva: ILO.
- Jürgens, U. (1992): Internationalization Strategies of Japanese and German automobile companies. In: Shigeyoshi, Tokunaga/Altmann, Norbert/Demes, Helmut (eds.), *New impacts on industrial relations. Monographien aus dem Deutschen Institut für Japanstudien der Philipp-Franz-von-Siebold-Stiftung. München: Deutsches Institut für Japanstudien, p. 63-96.*
- Jürgens, Ulrich (1998): The Development of Volkswagen's Industrial Model 1967-1995. In: Freyssenet, Michel/Mair, Andrew/Shimizu, Koichi/Volpato, Guiseppe (eds.), *One Best Way? Trajectories and Industrial Models of the World's Automobile Producers*. New York: Oxford, p. 273-310
- Kilper, H./Pries, L. (Eds.) (1999): *Die Globalisierung der deutschen Automobilindustrie. Herausforderungen für Wirtschaft und Politik*. München/Mering: Rainer Hampp Verlag
- Müller-Neuhof, K. (1994): *Die Unternehmensstrategie von Volkswagen de México in bezug auf die Nordamerikanische Freihandelszone* (M.A. thesis). Berlin: Free University of Berlin
- Haipeter, T. (2000): *Mitbestimmung bei VW. Neue Chancen für die betriebliche Interessenvertretung?* Münster: Verlag Westfälisches Dampfboot
- Porter, M. A. (1986): Competition in global industrie, a conceptual framework. In: Porter, M.A. (Ed.), *Competition in Global Industries*. Boston: Harvard Business School, pp. 15-60
- Pries, L. (1999): *Auf dem Weg zu global operierenden Konzernen? BMW, Daimler-Benz und Volkswagen - Die Drei Großen der deutschen Automobilindustrie*. München/Mering: Rainer Hampp Verlag
- Pries, L. (2000): Emerging production systems in the transnationalisation of German carmakers: Adaptation, application or innovation? (paper under revision)
- Ruigrok, W./van Tulder, R. (1995): *The logic of international restructuring*. London/New York: Routledge
- Schreiber, G. (1998): *Eine Geschichte ohne Ende. Volkswagen de México*. Puebla: Volkswagen de México
- Springer, R. (1999): The end of new production concepts? Rationalization and Labour Policy in the German Auto Industry. In: *Economic and Industrial Democracy*, vol. 20, pp. 117-145
- Volkswagen (2000): *Ideen, die bewegen*. Volkswagen. Wolfsburg: Volkswagen AG
- Wellhöner, V. (1996): *"Wirtschaftswunder" Weltmarkt. Westdeutscher Fordismus – Der Fall Volkswagen*. Münster: Verlag Westfälisches Dampfboot
- Womack, J.P./Jones, D.T./Ross, D. (1990): *The Machine that changed the world*. New York: Harper

Collins

Workers Council (Gesamt- und Konzernbetriebsrat der Volkswagen AG), (2000): Mitbestimmung bei Volkswagen. Wolfsburg: Volkswagen AG

## Annex

**Table A-1: Volkswagen production and employment by regions 1990 and 2000**

	1990				2000				Growth 1990-2000	
	Production	Share	Employment	Share	Production	Share	Employment	Share	Production	Employment
Europe	2.525.103	82,09	195.755	75,80	3.770.386	73,12	252.653	78,16	49,32	29,06
North America*	192.587	6,26	20.196	7,82	425.703	8,26	16.800	5,20	121,04	-16,82
South Amer./Africa**	339.908	11,05	39.309	15,22	628.235	12,18	36.782	11,38	84,83	-6,43
Asia/Pacific	18.537	0,60	2.994	1,16	332.131	6,44	17.003	5,26	1691,72	467,90
Total	3.076.135	100	258.254	100	5.156.455	100	323.238	100	67,63	25,16

Comments: \* Only Volkswagen de México plant in Puebla

\*\* includes Autolatina, a Ford-Volkswagen joint venture which existed from 1986 until 1995

Source: Annual Reports and other company documents

**Table A-2: World wide production sites Volkswagen Consortium (2001)**

Company name and plants	Em-Ployees	Products
<b>Germany</b>	<b>155749</b>	
Volkswagen AG	111334	
Wolfsburg	50360	Golf, Golf-Variant, Bora, Bora-Variant, Lupo, Lupo 3L, components
Kassel	15.418	gearboxes, aggregates, components, spare parts store, Gießerei, zentrale Ersatzteilversorgung
Hannover	15072	Transporter and Caravelle, Volkswagen LT2, VW T4, Gießerei, components
Emden	9740	Passat, Passat-Variant
Salzgitter	7284	Engines, components, engine assembly
Braunschweig	6691	Tools and machinery, components
Audi AG	40.634	
Ingolstadt	30540	Audi A3, Audi A4, Audi A4 Avant, Audi TT, Audi S3, Audi RS4, Audi S4, bodyshell, engines
Neckarsulm	12875	Audi A6, Audi A6 Avant, Audi A8, Audi S6, Audi S8, Audi A2, allroad quattro
Volkswagen Sachsen GmbH	6.700	
Mosel	5945	Golf A4, Passat
Chemnitz	824	Engines, engine assembly
<b>Belgium</b>		
Volkswagen Bruxelles S.A.	6986	Golf, Seat Toledo S5, Seat Leon
<b>Great Britain</b>	<b>3.052</b>	
Rolls-Royce & Bentley Motor Cars Ltd./Crewe-Cheshire	2.614	Rolls-Royce Silver Seraph, Bentley Arnage, Bentley Arnage Red Lable, Bentley Arnage Green Lable, Bentley Continental R, Bentley Continental T, Bentley Azure, Bentley Continental SC, Rolls-Royce Corniche, Rolls-Royce Parkward
Cosworth Technology Ltd.	738	
Northampton	300	Headquarters, Research & Development engines + power train, Motoren- und Fahrzeugwerkstatt, Motorprüfstände
Wellingborough	160	Produktion von Zylinderköpfen und Motorblöcken
Worcester	278	2 Aluminiumgießereien, Herstellung von Zylinderköpfen und Motorblöcken
<b>Spain</b>	<b>21814</b>	
SEAT S.A.	21814	
Barcelona	3068	Headquarters, Preßwerk
Martorel	11561	Arosa, Cordoba, Cordiba Variant, Ibiza, Inca, Leon, VW Caddy , Polo Classic, Polo Variant, Toledo, engines, central spare parts store
Gearbox del Prat/Prat	1350	Gearboxes for SEAT and Volkswagen, Getriebe, Gießerei, Preßwerk
Volkswagen Navarra S.A./Pamplona	5097	VW Polo, engine assembly
<b>Portugal</b>		
AutoEuropa-Automóveis Lda./Palmela	4.000	Sharan, SEAT Alhambra, Ford Galaxy
<b>Poland</b>	<b>3438</b>	
Volkswagen-Poznan Sp.zo.o.	2614	Audi A6, Audi A6 Variant, Skoda Felicia, Felicia Combi, Felicia Pick-up, Octavia, Octavia Combi, VW Bora, Caddy, Passat, Passat Variant, Polo, LT2, T4
Volkswagen Motor Polska Sp.zo.o./Polkowice	824	Engines
<b>Czech Republic</b>	<b>24549</b>	
SKODA Auto a.s.	24549	
Mladá Boleslav	21848	Fabia, Felicia, Felicia Combi, Octavia, Octavia Combi, engines,

<b>Company name and plants</b>	<b>Em-Ployees</b>	<b>Products</b>
		engine assembly
Vrchlabi	1.388	Skoda Felicia, Skoda Felicia Combi, Skoda Fun, Skoda Octavia 4*4, Skoda Octavia, Skoda Octavia L+K, Skoda Octavia Combi, Skoda Octavia L+K Combi, Pick up
Kvasiny	1313	Skoda Pickup, Skoda Vanplus, VW Caddy Pick-up
<b>Slovenian Republic</b>		
Volkswagen Slovakia, a.s./Bratislava	7390	VW Bora 4Motion, Bora Variant 4Motion, Golf, Golf 4Motion, Golf Variant 4Motion, Polo GP, gearboxes, components
<b>Hungary</b>		
Audi Hungária Motor Kft./Győr	4809	Audi TT coupe, Audi TT Roadster, engines
<b>Italy</b>		
Automobili Lamborghini S.p.A./Sant'Agata Bolognese	414	Diablo GT 2WD, Diablo Roadster 4WD, Diablo SV, Diablo VT 4WD, Diablo GTR 2WD, engine assembly
<b>Bosnia-Herzegovina</b>		
Volkswagen-Sarajevo d.o.o.	108	Skoda Felicia
<b>Peoples Republic of China</b>		
Shanghai Volkswagen Automotive Company Ltd./Shanghai	10387	Santana 2000, Santana, engines, engine components
FAW-Volkswagen Automotive Company Ltd./Changchun	6091	Audi 200, VW Jetta, VW-Jetta-Facelift, engines, engine components, engine assembly
<b>South Africa</b>		
Volkswagen of South Africa (Pty.) Ltd./Uitenhage	5321	Audi A4, Audi A4 Avant, VW Citi-Golf, Golf, Pick-up, Polo Classic, Polo Playa, Kombi T3, Jetta A4, engines
<b>USA</b>		
Cosworth Technology Inc. Novi-Michigan	231	Power train systems; Motorendiagnose
<b>Mexico</b>		
Volkswagen de México S.A./Puebla	15.977	New Beetle, Golf Cabriolet, Jetta A4, Käfer, engines
<b>Brazil</b>		
Volkswagen do Brasil Ltda.	28.621	
Anchieta	17.000	Gol, Saveiro, Santana, Quantum, Kombi T4, engines, Gießerei
Taubaté	6.300	Gol, Parati
Curitiba	3.000	Audi A3, Golf A4
Resende	1.795	VW Bus, VW LKW
Sao Carlos	526	Engines
<b>Argentina</b>		
Volkswagen Argentina S.A.	3.531	
Buenos Aires/Pacheco	2.262	Seat Inca, VW Caddy, Gol, Polo Classic
Cordoba	1.269	Gearboxes, engines, components, engine assembly, Fahrwerkteile, Getriebe
<b>Israel</b>		
Dead Sea Magnesium Ltd./S'dom	404	Magnesium
<b>Independant Assembly Companies</b>		
<b>Germany</b>		
Karmann		Audi Cabriolet, Golf Cabriolet
Westfalia		Multivan, California
<b>Indonesia</b>		
PT Garuda Mataram Motor Company		Audi A4, Volkswagen Caravelle
<b>Malaysia</b>		
Auto Dunja Snd. Bhd.		Audi A4, Audi A6
<b>Philippines</b>		

<b>Company name and plants</b>	<b>Em-Ployees</b>	<b>Products</b>
Proton Philipinas Corporation		VW Polo Classic, Audi A4
<b>Taiwan</b>		
Chinchun Motor Co., Ltd.		VW T4

Source: Elaborated based on Volkswagen 2000, pp. 26f and [www.volkswagen.de](http://www.volkswagen.de), January/2002