The British and their Works

The Volkswagenwerk and the occupying power
1945 – 1949

MARKUS LUPA
The author

Markus Lupa,
(born in 1961) historian and publicist, lives in Dortmund.
Recent publications: Volkswagen Chronicle (2002);
Von der "Nachwuchsschmiede" zum Bildungszentrum (2003);
co-author of "Timescapes": manifesto supporting the City of
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>THE LUCK OF THE VANQUISHED</td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td>FROM ARMAMENTS PRODUCER TO &quot;REGIEBETRIEB&quot;</td>
<td>6</td>
</tr>
<tr>
<td>1.2</td>
<td>TWO KINDS OF DENAZIFICATION</td>
<td>16</td>
</tr>
<tr>
<td>1.3</td>
<td>THE IMPROVISED UPSWING</td>
<td>24</td>
</tr>
<tr>
<td>2</td>
<td>UNSETTLED PRODUCTION</td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>SHORTAGES OF RESSOURCES</td>
<td>32</td>
</tr>
<tr>
<td>2.2</td>
<td>WORKFORCE TURNOVER</td>
<td>40</td>
</tr>
<tr>
<td>2.3</td>
<td>WORKS COUNCIL IN THE DEFICIT ECONOMY</td>
<td>49</td>
</tr>
<tr>
<td>3</td>
<td>IMPORTANT DECISIONS FOR THE FUTURE</td>
<td></td>
</tr>
<tr>
<td>3.1</td>
<td>SERVICE AND SALES</td>
<td>56</td>
</tr>
<tr>
<td>3.2</td>
<td>STRIVING FOR QUALITY</td>
<td>64</td>
</tr>
<tr>
<td>3.3</td>
<td>THE EXPORT QUESTION</td>
<td>72</td>
</tr>
<tr>
<td>4</td>
<td>STEPS TO NORMALITY</td>
<td></td>
</tr>
<tr>
<td>4.1</td>
<td>THE NEW MAN</td>
<td>78</td>
</tr>
<tr>
<td>4.2</td>
<td>THE DM BOOM</td>
<td>84</td>
</tr>
<tr>
<td>4.3</td>
<td>THE TRANSFER TO GERMAN OWNERSHIP</td>
<td>90</td>
</tr>
<tr>
<td>Notes</td>
<td></td>
<td>94</td>
</tr>
</tbody>
</table>
"The British and their Works" owes its inception to an official ceremony when Volkswagen recorded recollections of its time under British occupation in the corporate memory. On 8th October 1999, 50 years after the Volkswagen plant was transferred to the German federal government, Volkswagen acknowledged the merits of the British trustees by presenting this publication, which was adapted for the Anglo-German 55th anniversary celebrations. The very title hints at the variety of topics to be found in the individual chapters. It tells of the British achievements in setting up a non-military automotive production plant in Wolfsburg and precipitating the Volkswagenwerk’s meteoric economic rise, which company folklore had previously attributed to the efforts of general manager Heinrich Nordhoff alone. In actual fact, the British management played an extremely significant part in the company’s transformation from a ruined Nazi arms factory into a leading European vehicle manufacturer, and in no uncertain terms set the wheels in motion for its subsequent success. Thus in many respects, the four-year British intermezzo had a more significant influence on the company’s present form than its well-researched National Socialist past.
This applies as much to the service department set up under British rule as to the quality policy pursued by Senior Resident Officer Major Ivan Hirst. These were the two major trump cards held by Volkswagen as it entered the competitive international market of the 1950s. Furthermore, exports of the saloon, cranked up due to the currency shortage, soon created a market presence and reputation for Volkswagen in Europe, thereby fostering the company’s focus on the world market. And finally Hirst, with his co-operative style of leadership oriented towards industrial harmony, instituted the democratisation of industrial relations by welcoming the election of the first democratically authorised employee representation at the Volkswagenwerk, and gave the workforce an opportunity for candid dialogue via open-door arrangements. This reconciliation of interests initially reverted to a kind of “industrial feudalism” under the aegis of patriarch Heinrich Nordhoff, while in 1949 a considerable potential for extreme right-wing allegiances in the workforce saw like-minded candidates voted on to the works council for the first time. Ultimately the establishment of a democratic corporate culture proved to be a lengthy, chaotic learning process plagued by conflict. Similarly, setting up series production in the post-war economy of scarcity was accompanied by tremendous problems and setbacks. Despite the chronic shortages of material and labour, on 8th October 1949 the British trustees were able to hand over a well-established automotive firm that had achieved pole position, ready to leave its German rivals standing when the international race for markets and customers began.

For the second edition of this book it seemed sensible to rework some sections, in order to include knowledge that had come to light in publications released since the first edition, in particular the Hirst biography. Furthermore, I wanted to make the style more fluent, clarify ambiguities and remove errors that had crept in at the time, as a result of the extremely limited editing time available. Apart from that, the new text is fundamentally the same as the old.

February 2005 Markus Lupa
On the evening of 10th April 1945, in the "Stadt des KdF-Wagens", tank alert sirens heralded the dawning of a democratic age. At the Volkswagen factory the lines ground to a halt; a harrowing period of waiting began. At daybreak, American troops passed through the colony of hutments and crossed the Mittellandkanal, leaving a small tank detachment in Fallersleben to secure supply lines. There had been no resistance. The SS were long since gone; the "Volkssturm" was on its way to Tangermünde. In the power vacuum that ensued, the forced labourers at Volkswagen plant gave vent to their bitterness, exploding in rage at their one-time oppressors. Some cases of looting, and threatening attacks on the population, caused some citizens having a grasp of English to approach the US troops nearby for help. On 11th April 1945 the Volkswagen factory, and the town which was later to take the name of Wolfsburg, were occupied. Order was restored.

Even before the capitulation of the German Reich on 8th/9th May 1945, the Americans began setting up a repair shop for their own vehicles in the Volkswagen plant. The occupying troops found that a committee had been appointed, consisting of ex-heads of department, and designated the former inspection manager, Rudolf Brörmann, as factory manager. His appointment had been given whole-hearted support by the city council selected by the Americans, in particular by trade unionist and city councillor Wilhelm Kiesel, himself one of the chosen few, who had joined the factory management in early May 1945, assuming responsibility for social welfare. However, Brörmann expressed his gratitude by campaigning for Kiesel’s removal from the management team, a plan that came to fruition in August 1945. Thanks to the factory manager’s powers of persuasion, the US troops soon began assembling the jeep-like "Kübelwagen" for army requirements, making use of the components that were still in stock. The order to re-start motor vehicle production was perhaps the most significant decision the Americans took. Otherwise it seems likely that the Volkswagen factory would have been treated as ownerless property, and more or less cannibalised, by the Germans as well. As it was, however, at the end of April 1945 production started up again after its brief shut-down, and in the next two months the Volkswagenwerk built, under makeshift conditions, 133 "Kübelwagens" for the US Army.

The brief but vitally significant intermezzo under American occupation ended when Lower Saxony was assigned to the British zone of occupation. In mid-June 1945 responsibility for the Volkswagen plant passed to the Control Commission for Germany, British Element (CCG). In accordance with Allied Control Commission Act No. 52, the enterprise formerly run by the "Deutsche Arbeitsfront" (German Labour Front) was confiscated by the CCG and held in trust by the British until the Allies could finally come to a decision regarding ownership of previous Nazi organisations. In charge of the company’s financial and property matters was economist Leslie E. D. Barber of the Property Control Branch (Finance Division) in Berlin, which dispatched its representative Alisdair McInnes to the Volkswagen plant in December 1945. In January 1946, responsibility for technical matters was assigned to Colonel Charles
Radclyffe, head of the Mechanical Engineering Branch (Industry Division) at the Minden Headquarters for the British zone. The British provincial headquarters in Hanover appointed the 29-year-old British engineer and businessman Major Ivan Hirst as Senior Resident Officer at the Volkswagen plant. The deputy commanding officer for the "22nd Advanced Base Workshop" of the Royal Electrical and Mechanical Engineers (REME) had previously been in charge of the central tank repair workshop construction project in Brussels, which gave him extensive practical experience dealing with the local workforce and coping with labour and material shortages. The plant’s Senior Resident Officer started his job at the Volkswagenwerk at the beginning of August 1945, and in January 1946 he was put in charge of the Trade and Industry Division in Minden.\textsuperscript{6}

Hirst was assisted by control officer Richard Berryman, who had been in charge of production since February 1946 and whose previous employment with General Motors marked him out as an automotive expert, and by Karl Schmücker, a civilian Allied Control Commission employee. During the First World War, Schmücker had spent four years in an English prisoner-of-war camp and now acted as a bilingual intermediary between the German factory management and the British officers. Because the increasing complexity of the business called for a higher-level inspection committee, Hirst and Barber agreed to form a kind of supervisory board. This "Board of Control", in which all the departments of the British military government involved with the Volkswagen plant were represented, held its first meeting on 21\textsuperscript{st} January 1946. The Board generally convened each month to discuss fundamental company matters. This committee was of immense value to the Volkswagenwerk as it enabled
a rapid, direct exchange of ideas concerning any problems that occurred, without the need to wade through acres of red tape. The Board of Control was chaired alternately by Colonel Charles Radclyffe and Leslie Barber, whose role as Senior Property Control Officer was taken over by Alexander Goff in 1948. At the end of February 1946, the Property Control Branch appointed the chief trustee of the Volkswagen plant: lawyer Dr. Hermann Münch, who had opposed the Nazi regime and had maintained contact with the Czech resistance movement.7

The British era began for the Volkswagenwerk with the arrival of the REME units in June 1945. Acting on the orders of Colonel Michael A. McEvoy from the REME headquarters in Bad Oeynhausen, the Royal Engineers built a large workshop with an adjoining spare parts warehouse in the former armaments factory. In October 1945, approximately eight per cent of the German workforce was employed in this workshop, which was used for repairing British army vehicles, overhauling engines and restoring Wehrmacht trucks to be used by German haulage companies.8 In June 1945 the REME made an exact survey of the war damage, the production possibilities and the evacuated facilities of the Volkswagen factory, since at first glance it appeared that the Allied bombing had wrought considerable damage to the factory buildings. However the report requested by the factory management revealed an encouraging picture. The bombing had not significantly impaired the factory’s capacity. Of the four assembly halls, only Hall 3 was largely destroyed; of the other buildings a total of 20 per cent were destroyed and a further 20 per cent badly damaged. The machine inventory, which had in part been evacuated, had
survived the attacks practically unscathed. 92 per cent of the machinery was intact so that by 23rd June 1945, the REME officers were already in a position to draw up the initial plans for production as discussed with the factory management.

Some 500 Kübelwagens could still be manufactured from existing parts stores. 86 vehicles of this type were ready for delivery, although they still had no tyres or inner tubes. The Royal Engineers decided that a further 30 Kübelwagens should be built, as their bodies were already almost complete. After this, production was to be transferred to half-tonne delivery vans. The factory management proposed that 250 units per month should be delivered in the months of July and August 1945, which meant a daily production of 10 delivery vans. Meanwhile, in-house production of fuel pumps and carburettors had to be started up.

It was also planned to produce a half-tonne trailer and a "road tractor", for which purpose the design office set about developing a tractor vehicle from the Kübelwagen chassis. On account of the critical food supply situation, the "Volkspflug" (people’s tractor), designed by Ferdinand Porsche, also aroused the interest of the British. During the war, 50 trial examples of this tractor had been built. Although in the view of the factory management the "Volkspflug" had been tested "on all types of soil in Germany" and was "absolutely ready for production", this project could only be pursued with difficulty, since the components were manufactured by an Italian firm in Brescia and all design drawings were at Porsche KG in Stuttgart. Thus the most pressing task for the Volkswagenwerk remained the production of Kübelwagens and delivery vans, and the overhaul of jeep engines for the British army. In addition the press shop was to start up mass production of urgently needed utility goods, provided this did not affect vehicle manufacture. For the first time the factory management was considering the idea of manufacturing body parts for the Ford plant.9

It was a requirement of the British production plans that the evacuated facilities should be returned as quickly as possible to the main factory. In this matter the Military Government had taken the initiative at an early stage. On 18th June 1945 it issued the requisite directives protecting the evacuated facilities from further looting, and especially from requisitioning. British and American troops were informed that the facilities concerned were the property of the Allies, and nothing could be taken without permission from the British factory management. At the same time a directive was issued that contact should immediately be made with the mayors of the evacuation towns and stolen material secured. Any refusal to return material would be severely punished by the military authority. Thus in retrospect the system of short-distance evacuation proved an inestimable benefit. Orders from the British meant that equipment, machinery and raw materials could be returned to the main factory and the previous production process restored, albeit after a fashion. Nevertheless, a quarter of the displaced plant, located in the Soviet zone of occupation or in other regions, was lost.10
In any case, it was a stroke of luck that the trusteeship had fallen to the British. Although the declaration passed by the victorious Allies on 2nd August 1945, at the end of the Potsdam Conference, stipulated that Germany’s arms industry should be crushed and its industrial capacities restricted by dismantling factories, the relevant authorities at the Foreign Office in London were convinced that there was a close connection between the recovery of England’s economy and the revival of Germany’s. The British opposed the punitive approach of the American occupation directive JCS 1,067, which prohibited the military government from undertaking any measures for economic reconstruction beyond the guarantee of a moderate standard of living. On the contrary, they were prepared to avoid jeopardising the reconstruction of Western Europe by offering considerable support to those industrial sectors that were important for the peacetime economy. Evidence of this is provided by the directive, adopted by the Economic and Industrial Planning Staff in July 1945, but not issued on account of the forthcoming Potsdam Agreement, concerning the treatment to be accorded to German industry. This instruction was not dictated in the spirit of the Morgenthau Plan, quite the contrary. It left to the Military Government the decision as to which economic measures should be regarded as essential, thus opening up a wide room for manoeuvre. In practice this took the form of a "constructive pragmatism" on the part of the occupying power.

And what could be more obvious than to meet the enormous transportation requirements of the occupying power from a functioning Volkswagen production plant, especially when this opportunity was legalised by a clause in the Potsdam Agreement? The course of the war had led the Allies from Normandy to Germany, resulting in extensive wear to their military vehicles. Replacements were not forthcoming. The new two-seater all-terrain vehicle could not be produced before 1947; the model used during the war was liable to breakdowns, and in any case the manufacturer now preferred to build more profitable vehicles. For a while the confiscation of German civilian vehicles provided some relief, without being anything like sufficient to meet the growing transportation requirements. One way out of the transportation crisis could be a swift re-start of Volkswagen production.

One of the most enthusiastic advocates of this solution was Colonel Michael McEvoy, whose responsibility for the REME workshops in the British zone made him aware of the urgent need for extra transportation capacities. Furthermore, the qualified automotive engineer had seen the Volkswagen at the International Motor Show in Berlin in early 1939 and had fond memories of it. It is thought that McEvoy approached the REME officers at the Volkswagen plant at the end of July 1945, instructing them to discuss a possible project with the factory management concerning the production of 20,000 Volkswagens for the British military government and German consumers. The plan was that production should be increased from an initial 500 vehicles in September 1945 to 2,000 in January 1946, and should remain at this level until September of the same year. The REME had been instructed to submit a report by 6th August 1945, setting out the requirements for materials and labour, stipulating the urgently needed supplies and offering specific suggestions for completion of the project. This project was actively supported by Major Ivan Hirst, who was just as keen to produce the saloon as factory manager Rudolf Brörmann. Instead of stating his case in words, Hirst had an unused saloon found on the factory premises painted khaki at Colonel McEvoy’s
request, and sent it to headquarters in Bad Oeynhausen for demonstration purposes. When McEvoy presented the vehicle, the decision-makers gave him the green light to set up series production. The fact that the Volkswagen production was financed by occupation costs made the decision much easier for a London government practically ruined by the expenditures of war.  

On 22nd August 1945 the official order was issued by Lieutenant Colonel G. L. Lock, who represented the British military government in Hanover. 20,000 Volkswagens, 500 special-purpose vehicles with trailers for the postal service and 200 trailers painted khaki for military purposes were to be supplied to the Allies by July 1946. In early September Major Ivan Hirst informed the factory manager of a "new programme" for the manufacture of 40,000 saloons, with a monthly production rate of 4,000 vehicles. A few days later, the military government declared the programme invalid because the production
attempts were not running to their satisfaction. Saloon production was now to start with 1,000 vehicles in November 1945 and to increase to 4,000 vehicles per month from January 1946 onwards. In fact the order for 20,000 Volkswagens in the immediate post-war period was a well-nigh hopeless venture, because the shortage of labour, food, living space and materials made setting up series production impossible. Nevertheless, the production commitments for the British enabled the Volkswagenwerk to take its first faltering steps into an uncertain future.

The British military government’s decision to meet its transport requirements by producing saloons was by no means a foregone conclusion because the assembly jigs, machinery and tooling were set to manufacture the Kübelwagen, which was after all an extremely useful mode of transport. However, production of a military vehicle was not at all consistent with the British military government’s perception of itself as a civilian administration rather than a military occupying power. Furthermore, the manufacture of saloon cars was reconcilable with the bans on production stipulated in Potsdam, and provided a much better argument to set against the calls for the dismantling of German industry. At the beginning of October 1948 Hirst reacted extremely touchily to a request from the Swedish motor manufacturer Scania, who wanted to borrow an amphibious vehicle for exhibition purposes. To his rejection of this request, the senior resident officer appended the reasoning that exhibiting the amphibious vehicle might lead certain persons to immediately assume that the Volkswagenwerk was once again producing armaments. In this respect, the Volkswagen represented the start of peacetime production under a democratic aegis, before it developed into the symbol of the economic miracle in the 1950s.

The Volkswagenwerk became a British "Regiebetrieb" – with all the benefits associated with this status. The Military Government arranged for the necessary credits for starting up production, and by force of command removed many obstacles of the "Kommandowirtschaft" (command economy). Because the Volkswagenwerk was producing for the Allies, it was given priority in the supply of scarce raw materials. This privilege loosened the fetters of enforced government control since, like most raw materials, the steel which was indispensable for motor vehicle production was subject to a quota system, and could only be obtained in exchange for "iron tickets" which Hirst fetched from the Minden headquarters once a month. So, while the living was from hand to mouth, the company did not starve as other companies did.

These benefits of being a publicly operated undertaking were supplemented by those inherent in the company itself. In the course of the post-war plans, the Volkswagenwerk management of the time had constructed a warehouse that was well stocked and did not start running low until July 1946. Having its own power station meant that production was largely immune to the frequent power cuts of the post-war era, provided there was sufficient coal available. For this reason, at the end of May 1945 the power station manager had applied to feed electricity into the national grid, initially without success. Finally the Military Government lent its weight, and it was agreed with the "Braunschweiger Elektrizitätsgesellschaft" (Braunschweig electricity company) that a high-tension cable should be laid. This secured a better utilisation of capacities and more regular fuel supplies for the power station.
The Volkswagenwerk also had its own press shop, since after the destruction of the Berlin Ambi-Budd works in the late summer of 1944 it had become necessary to manufacture the Kübelwagen bodies in-house. Its capacities were large enough to enable it to press sheet-metal components for other companies too. In June 1947 this resulted in a supply contract with the Ford works, which needed large panels initially for the cab of its three-tonne truck and subsequently for the Taunus. The chief trustee Hermann Münch promised his assistance, commenting that Germany's current situation made it inappropriate to adopt a competitive stance.20

Up until the middle of 1946, all the endeavours to restart production at Volkswagen had the sword of Damocles hanging over them in the form of the dismantling programme. The Control Commission for Germany itself initially assumed that, after a transitional phase, the Volkswagenwerk would be cleared for dismantling or be designated for reparations. However, in view of the desolate economic situation of Germany, the British military government increasingly distanced itself from the resolution passed at the Potsdam Conference to use the dismantling policy to effect considerable reductions to the German level of industry as part of the reparations to be made by Germany. Concrete figures for the individual sectors were given in the Level of Industry Plan published by the Allied Control Council on 26th March 1946. This decreased Germany's economic capacity and production by at least half compared to 1938, and restricted annual vehicle production in the British zone to 20,000 cars and 21,000 trucks. The British had identified the Ford plant in Cologne as having sufficient capacities for non-military vehicle production. The Volkswagen plant was earmarked for dismantling almost automatically, especially since it had made no peacetime contribution to the German economy.21

The driving force behind these dismantling policies was the British motor manufacturing industry, which sought in this way to rid itself of an unwelcome rival. It recognised at an early stage the potential threat embodied in the Volkswagenwerk, even though the experts of the Society of Motor Manufacturers and Traders (SMMT) came up with widely differing findings in respect of the possibilities for commercial exploitation of the Volkswagen. In the view of SMMT President Sir William Rootes, the Volkswagen failed to meet the fundamental technological requirements of an automobile. Its design and execution did not meet the needs of the British customer. Series production would therefore be a completely uneconomic proposition. By contrast, an SMMT expert’s report carried out for the Ministry of Supply came to the conclusion that the Volkswagen, with certain modifications, offered a possible solution for a cheap utility car which would be acceptable in Britain and its overseas markets. Fortunately for the Volkswagen works, the poor-quality, defect-ridden examples of the earlier saloon car production provided rather an indistinct picture of the possibilities inherent in the vehicle.

On the other hand, the officers familiar with the factory procedures quickly realised the car’s enormous potential. Colonel Guy Boas, a member of the Mechanical Engineering Branch of the CCG, recommended the government in London and the
SMMT to acquire the factory lock stock and barrel. His suggestion was discussed at the highest ministerial level, provoking a heated altercation with the automotive industry. The main focus of their interest was not the Volkswagen itself, which at its current development stage was less advanced than the top British models and did not meet current British standards with respect to comfort and quality. The factory was a different matter altogether since, under normal economic conditions, its modern production lines would enable mass production with a level of efficiency that could not be equalled by any British motor manufacturer. Ultimately, however, this was the factor that stood in the way of an outright takeover of the Volkswagen plant. Because its production capacity dwarfed that of the English manufacturers, there was no way of acquiring it without severely restricting the domestic automotive industry. Repeated speculations about dividing the Volkswagenwerk between France and Great Britain were refuted by the simple observation that dismantling the plant would eliminate the economic advantages offered by its size. And so the British motor industry was banking on the dismantling programme to hand it the choicest bits on a plate.22

In the Ministry of Trade and the Ministry of Supply it found two influential allies who shared its fear of the re-emergence of a direct competitor. There was also a need for action because France had indicated an interest in the Volkswagenwerk. A united front against the call for dismantling was put up by the Foreign Office, the Treasury and the Control Commission for Germany, the latter with the argument that the Military Government’s responsibility was to Germany, and it was not their remit to support the objectives of British industry. The Treasury was primarily concerned with securing additional income in order to relieve the budget of occupation costs. And export of the Volkswagen promised currency earnings.

The battle of the ministries was ultimately decided by the start of negotiations for the setting up of the Bizone in the summer of 1946. Whilst the British lost authority, the Americans regained their dominant role. But their occupation policy was now directed at a swift reconstruction of the German economy. In September 1946, the British military government suspended reparations for the Volkswagen plant for four years. One month later the Level of Industry Plan was suspended.23 For the time being, the survival of the Volkswagenwerk was assured.
Workers remove the roof of a saloon car from the press.
In its handling of denazification measures at the Volkswagenwerk, the British military government proceeded initially with the same pragmatism with which it had lost no time in taking the company under its wing in the first place. Possibly the one led directly to the other. It was clear enough that an overzealous weeding-out of management and workforce would jeopardise the British plans for production. Thus between political necessities and economic necessities, Major Ivan Hirst was faced with a dilemma. The execution of the denazification measures was based initially on the "instructions to Financial institutions, and Government Financial Agencies No. 3", which, in the absence of an appropriate directive for the British Zone, served as a temporary expedient. In these instructions a distinction was drawn between two modes of procedure. Immediate dismissal faced all those who for example had been a member of the NSDAP (National Socialist Party) prior to 1933, had held an office in certain Nazi organisations, or had worked with the Gestapo. The second, more flexible procedure was intended to remove active Nazis and adherents of the regime. In this case the person concerned was suspended from his work during the ongoing investigations and up to the final decision. The Military Government obtained the necessary information with the aid of a questionnaire which, in accordance with the "Instructions", had to be distributed to the entire management staff from supervisors upwards. The fact that the Military Government in Hanover issued supplementary guidelines for denazification in late August 1945, in which the distinction between suspension and dismissal was ignored, only added to the confusion. Instead, the "Nazis" were to be identified on the basis of a series of sometimes ill-defined criteria, such as whether a person had derived advantages from the Nazi government or distributed propaganda. This mish-mash of directives and instructions hindered the implementation of denazification measures on the spot.24

Ivan Hirst endeavoured to conduct the denazification process decreed by the British military government in the autumn of 1945 as quickly and quietly as possible. His prime interest was the setting up of saloon car production, and for this a functioning management had to be appointed and the demoralising effect on the workforce limited. The British officer used his position to accelerate the proceedings. Bypassing the district office in Gifhorn, he took the completed questionnaires of the workforce directly to the headquarters in Lüneburg, where they were processed by Public Safety. The first denazification wave left only a few splashes on the Volkswagenwerk; it applied only to the management team, and even here personnel changes were very limited. Major Hirst declared the denazification process essentially concluded in January 1946, and in February notified the Board of Control of the satisfactory outcome.25

Two kinds of denazification

In its handling of denazification measures at the Volkswagenwerk, the British military government proceeded initially with the same pragmatism with which it had lost no time in taking the company under its wing in the first place. Possibly the one led directly to the other. It was clear enough that an overzealous weeding-out of management and workforce would jeopardise the British plans for production. Thus between political necessities and economic necessities, Major Ivan Hirst was faced with a dilemma. The execution of the denazification measures was based initially on the "instructions to Financial institutions, and Government Financial Agencies No. 3", which, in the absence of an appropriate directive for the British Zone, served as a temporary expedient. In these instructions a distinction was drawn between two modes of procedure. Immediate dismissal faced all those who for example had been a member of the NSDAP (National Socialist Party) prior to 1933, had held an office in certain Nazi organisations, or had worked with the Gestapo. The second, more flexible procedure was intended to remove active Nazis and adherents of the regime. In this case the person concerned was suspended from his work during the ongoing investigations and up to the final decision. The Military Government obtained the necessary information with the aid of a questionnaire which, in accordance with the "Instructions", had to be distributed to the entire management staff from supervisors upwards. The fact that the Military Government in Hanover issued supplementary guidelines for denazification in late August 1945, in which the distinction between suspension and dismissal was ignored, only added to the confusion. Instead, the "Nazis" were to be identified on the basis of a series of sometimes ill-defined criteria, such as whether a person had derived advantages from the Nazi government or distributed propaganda. This mish-mash of directives and instructions hindered the implementation of denazification measures on the spot.24

Ivan Hirst endeavoured to conduct the denazification process decreed by the British military government in the autumn of 1945 as quickly and quietly as possible. His prime interest was the setting up of saloon car production, and for this a functioning management had to be appointed and the demoralising effect on the workforce limited. The British officer used his position to accelerate the proceedings. Bypassing the district office in Gifhorn, he took the completed questionnaires of the workforce directly to the headquarters in Lüneburg, where they were processed by Public Safety. The first denazification wave left only a few splashes on the Volkswagenwerk; it applied only to the management team, and even here personnel changes were very limited. Major Hirst declared the denazification process essentially concluded in January 1946, and in February notified the Board of Control of the satisfactory outcome.25
The laxity of this procedure outraged the General Union and the works council, which had not been involved in the denazification process. Even at the Berlin headquarters of the Control Commission of Germany, disquiet reigned concerning the status of denazification at the Volkswagen plant. As the Finance Division noted in its report of March 1946, it regarded the measures implemented there as being "not adequate". Enquiries at the responsible department in Lüneburg had revealed that there were "obstacles" to the scrutiny of the questionnaires. There were probably a number of factors at work here: there was insufficient qualified personnel available, knowledge of local conditions was inadequate, and time was pressing. According to Hirst, the British factory management had exerted no influence of any kind on the decisions of the Public Safety Branch. However, simply the pressure that he brought to bear to accelerate the investigations may well have contributed to the failure of the system. The local security officer issued a statement claiming that some of his instructions regarding the dismissal of people from the plant had not been carried out. This implies that specialists deemed essential for setting up production were kept on, contrary to official orders. Indeed, an investigation of the situation at the Volkswagenwerk conducted by the Finance Division indicated the dubious results of the British denazification policy. One third of the lower and middle management staff came into the category of "automatic dismissal". To avoid a similar fiasco, and to relieve the in many ways overstretched personnel of the Military Government, assistance was procured from German organisations, which for their part were demanding participation in the denazification process. It was in any case clear that, in the long term, responsibility for denazification would have to be placed in German hands.26

For investigation of the factory workforce, two denazification committees were formed with German members which started work at the beginning of May 1946. At the same time an appointments and dismissals commission set up in the Volkswagenwerk had the task of monitoring the denazification and examining the reinstatement of rehabilitated persons. On 21st June 1946 Major Hirst issued the instruction that employees in management positions who had been dismissed on political grounds should not be reinstated. Exceptional cases could be submitted to the British factory management for examination. Anybody who applied for a management position or a job with factory security had to submit a twelve-page questionnaire to the personnel department. If the personnel management gave its approval, such persons could be taken on provisionally until such time as the official notification was received from the Military Government.27

The second denazification wave hit the middle and lower management staff with full force. On the basis of Control Council directive No. 24, the denazification committees processed more than 1,000 cases. In mid-June 1946 Ivan Hirst received the confirmed decisions from Lüneburg. Altogether, 228 employees were designated for dismissal (179 of these in three phases between 17th and 19th June) on account of activities for the Nazi party, including the factory manager Rudolf Brörmann, the technical manager, one works manager and four heads of department.28 Appeals had to be submitted via the personnel department, to be in the hands of the Senior Resident Officer by 1st July 1946. Major Hirst made it clear however that neither the Military Government nor the factory would support the appeals. They must be drawn up in one’s own hand and
contain sufficient evidence to refute the accusations. On 17th June 1946 the British appointed Brörmann’s successor: Hermann Münch, who now held the combined position of chief trustee and general manager.29

The reports requested by Hirst on 20th June 1946 gave a dismal picture of the effects of denazification on both production and workforce. The dismissals had left some serious gaps in the already thin personnel deployment in individual departments. Particularly badly hit were the toolmaking division, the mechanical workshop and bodywork assembly, welding machine construction and the planning department. The latter lost 11 people, including "three persons whom it would be difficult to replace even in normal times".30 The production manager Karl Huland expected a heavy fall in production because the workers who had been employed in the factory for years could not be replaced in a few months. In order to forestall even worse effects on production, Hirst approved the continued employment of certain key staff while their cases were being examined. Even so, this measure could not prevent the production slump to 422 vehicles in June 1946. In the view of the factory manager, the July target could only be achieved if the 10 or 12 denazified top staff could be reinstated.31

The psychological effect of denazification on the workforce also gave cause for concern. Rudolf Brörmann suspected that the numerous breakdowns of machine tools were the result of acts of sabotage with which the workers were making their distaste felt for the way in which denazification was being handled.32 The chief trustee Dr. Münch registered a growing unrest in the workforce, engendered by an "absolute insecurity regarding their future".33 It was feared that the entire substance of the Volkswagenwerk was being undermined. According to the heads of department reports, the willingness to work had in the months of March and April "given way to a very profound lassitude and depression".34 For this reason it was doubtful whether the performance of recent months, based as it was on the commitment of the entire workforce, could now be achieved again.

In many quarters the denazification measures at the factory were regarded as unjust. Some departmental heads complained that not only "real Nazis", had been dismissed, but also people who "had never played an active part" or who had been "decisively on the anti-Nazi side".35 These allegations must be viewed with caution, since after all both arguments were, after 1945, a familiar component of German protestations of innocence, marking the inception of a process of repression, both in social and personal terms. An equivocal, indeed almost satirical example of German "resistance" under National Socialism was provided by a man called Bruno Joachim, a farmer by profession, who in March 1946 applied to the Volkswagenwerk for an administrative post at the Wolfsburg or Mörse estates. The former SA man sought to substantiate his opposition to the Nazi regime by pointing out that he had only been promoted once, and then only to the rank of "Oberscharführer".36 In its report the works council came to the conclusion that "the majority of the workforce" regarded as justified the dismissals which had been effected. It did however concede that the treatment of certain persons, especially young people, was considered to be too hard. This was the trigger for a generalised criticism of the denazification process. The fact that
Major Hirst (right) in discussion with Karl Schmücker.
the military government had dismissed relatively blameless persons while more culpable individuals had remained in office, the report noted, was also something which the workforce found difficult to accept. The Rudolf Brörmann case marked the boundary between a pragmatic and a consistent denazification practice, in which decisions could occasionally also be influenced by personal motives. Indeed, looking back on the denazification committees’ work, Major Hirst remarked that the German authorities were swayed by local politics. The factory manager, whom he held in high regard for his technical expertise, was unaffected by the first wave of denazification measures, but was selected for dismissal in June 1946. Brörmann protested against this decision in vain; the tribunal in Lüneburg rejected his appeal. Brörmann then approached Hermann Münch, requesting him to find out the grounds for his dismissal. He said that he had been unable to deduce from the appeal proceedings which of the accusations had not been refuted. The general manager intervened with Ivan Hirst, and on 2nd October 1946 was informed that "precise grounds" for the failure of the appeal were "not available".

Brörmann himself suspected a "left-wing conspiracy" organised by Wilhelm Kiesel and directed against himself. Münch reported in June 1946 concerning a "motor vehicle belonging to the municipal administration" with "persons unknown to him" who had instituted enquiries concerning Brörmann in Rüsselsheim. However, suppositions of this kind went unheeded by the British factory management. For the rest, Major Hirst does not seem to have embraced the cause of Brörmann’s reinstatement. He had made himself unpopular throughout the workforce with his autocratic and disparaging attitude towards employees, which cast doubt upon his suitability as factory manager. Hans Hiemenz, the finance director at the time, recalled a dispute between Hirst and Brörmann in this respect, because a car being specially produced for Colonel Radclyffe was taking a long time. The Senior Resident Officer pressed the matter, whereupon Brörmann insulted him. It certainly seems likely that Brörmann’s political past may not have been the actual reason for his dismissal.

The second denazification wave in June 1946 also stimulated developments towards government control of housing. For some considerable time, the German factory management and the relevant British authorities had been discussing a project which, under the subsequent codename "Operation Wolfgang", clarified both the fundamental features and the plight of the British denazification policy. This was motivated primarily by a need for security, and was directed against persons who represented a threat to Allied policies in Germany. The enthusiasm with which the Americans pursued denazification as an "artificial revolution" was not shared by the British, because it was very soon realised that the problem could not be solved simply by replacing the elites, and that the economic necessities set limits to denazification. From the British point of view, "Operation Wolfgang" was an attempt to increase both public security in Wolfsburg and the industrial production of the Volkswagenwerk. The latter was only possible if housing was provided for the urgently-needed workers.
However, accommodation in Wolfsburg was as scarce as water in the desert, and this was the real reason for the factory management’s interest in the planned resettlement of ex-Nazis and their families. Whether it was Ivan Hirst or Leslie Barber who initiated this campaign is not known. In any case, at the end of June 1946 the Public Safety took action in the matter and informed the Hanover headquarters that a group of about 1,000 Nazis was living in Wolfsburg. It was made up of the recently-dismissed employees of the Volkswagenwerk and those who had been employed there prior to 1945 and who had not been reinstated for political reasons. This “potentially dangerous Nazi clique” was occupying some of the best housing, and blocking the desired movement of politically blameless workers to Wolfsburg. The responsible officer requested permission to break up this hard core of Nazis, demanding that the people should be moved to other areas “at least 50 miles” from Wolfsburg.43

At the end of July 1946, the general manager Hermann Münch undertook a similar initiative. But already the first inconsistencies were appearing. Münch made an application to the district housing office in Gifhorn for “the resettlement of persons unwilling to work”. This related to some 200 families and 349 individuals who worked neither for the factory nor for the town council. A prior verbal enquiry at the district housing office had revealed that this measure could not be implemented on the basis of currently applicable occupation law. The housing act permitted changes of accommodation only if this resulted in additional accommodation becoming free. Münch therefore contacted Major Hirst and Property Control Officer Alisdair McInnes, requesting them to intervene with the Military Government in Gifhorn, “so that the district housing office can be instructed to approve our application if necessary”. In this connection he again emphasised the necessity of getting the “loafers” out of the town, otherwise “you could say goodbye to work discipline in the factory”.44

The next day a meeting took place with mayor Siegfried Zaayenga and the representatives of the district housing office. It was agreed that 200 families and 349 individuals could be resettled in the district of Gifhorn “without excessive hardship”.45 Because the support of the Military Government was required for this, the chief trustee approached Major McInnes. In his letter of 19th August 1946 he declared the matter of housing accommodation in the town of Wolfsburg a key problem. In order to recruit the specialists so urgently needed from outside, suitable housing had to be provided. To this end, the “housing control measure” had been envisaged for “over six months”, which was intended to remove from the town “primarily Nazis and persons hostile to the factory, but also people who are of no use to the factory”. The workforce was growing incensed about the fact “that persons who do absolutely nothing for the factory (...) should have good housing, whereas diligent workers who give their all had to make do with inferior quarters”.46
Münch claimed the highest priority, and his claims were welcomed at the Board. This latter had already, some days previously, instructed Hanover to execute the measure with all despatch. At the beginning of September 1946 mayor Zaayenga was given the order to make preparations for evacuation of 189 families, who would be resettled in other districts of the government sector of Lüneburg. Because the list he was given contained irregularities, Zaayenga called an immediate meeting of the town council. Over 1,000 citizens were present. The council made sharp criticism of the way in which the operation had been managed, and revealed serious shortcomings in the list. A civic deputation consisting of Kiesel for the General Union, Kunze for the SPD (German Social Democratic Party) and Schoefer for the CDU (Christian Democratic Party) travelled to the relevant British office in Hanover. They convinced the officer in charge that the list contained errors and did not tally with the factory management’s list. It contained a considerable number of persons whose appeal against dismissal had very real prospects of success.47 There were in fact a number of lists in circulation – at a meeting of the factory management at the beginning of August 1946, mention was made of a “political list”, a “factory opponents list” and a “spongers’ list”.48

After this debacle the British military government suspended the campaign to await first of all the results of the appeals proceedings. By mid-October 1946 the Public Safety had processed less than one half of the 190 appeals. In order to accelerate the remaining cases, a special commission was set up in Wolfsburg. Its verdicts were subject to confirmation by Lüneburg; in cases of dissent, headquarters in Hanover would arbitrate. For both the German denazification committees and the responsible British department, the result of the appeals proceedings was nothing short of a slap in the face. Of 190 appeals, 138 were upheld, 14 individuals had withdrawn their appeal, and in respect of 30 cases the records give no information. The criticism of the Public Safety officers, that the commission was broadly on the side of the appellants, certainly appeared to hit the nail on the head.49

The works council of the Volkswagenwerk had striven to obtain a place on the Appointments and Dismissals Commission, and was pressing for the right to a say in the reinstatement of denazified personnel. At an extraordinary meeting convened in October 1946 the fundamental decision was taken to no longer employ any “tainted” persons in leading positions or to entrust them with “man-management” posts. This resolution, and a corresponding list of 19 names, was sent to Hermann Münch by internal mail, and he requested the Senior Resident Officer’s comments. Major Hirst made it unequivocally clear how limited the works council’s scope for co-determination was, and not just in this matter. He advised the new general manager to listen to the views of the employee representatives before reinstating
individuals in positions of responsibility. But the Military Government had placed the management in his hands, and "not in those of the works council or the union representatives". For this reason the final decision was his. Every case in which the works council raised objections should be brought to Hirst's attention. In the event, the recommendations of the employee representatives were frequently ignored. At the works council meeting of 5th March 1947 the complaint was voiced that many cases had been settled in defiance of the objections of the works council. This meant that a "definitive democratisation of the factory was called into question".
At the beginning there was no sheet steel to be had in a dimension sufficient for the vehicle roof. Smaller panels were spot-welded together, but the seam was not stable enough. I suggested butt-seam welding, but they told me we did not have the necessary machines, and so I said: Well, make one! And they did.\textsuperscript{52} Anecdotes such as this from Hirst are as numerous as the problems that had to be surmounted in the first year after the war. They demonstrate, better than any production statistic, just how much improvisation was necessary in order to get Volkswagen production going again. By the end of the war the Volkswagen factory had only produced a few hundred examples of the saloon referred to internally as Type 11, and these were practically hand-made, so series production first had to be set up. The jigs and tooling required were not available, but they could be improvised, with certain compromises, in the "Vorwerk" in Braunschweig. For this reason, to begin with in the first months of occupation the civilian version of the Kübelwagen was built. The saloon body was mounted on the chassis of the Kübelwagen which, on account of its high ground clearance, caused the Beetle to stand out somewhat from the competition. By the end of 1945 only 58 saloons had been built, 55 of these in December. Then series production gradually began to get under way.\textsuperscript{55}

In the meantime, the repair of war damage absorbed a considerable proportion of the available workforce and energies. Rubble had to be removed, bomb craters filled and makeshift patching undertaken before the construction department began on the systematic restoration of the damaged factory halls in the course of 1946. The individual workshops were expanded by bringing more than 400 machines back from the former evacuation centres of Soltau, Gifhorn and Fallersleben to the main factory. Serious problems were caused by the closure of the company which had supplied engine and gearbox housing for the Volkswagenwerk. But with Major Hirst’s assistance the moulds could be saved and the foundry building, which stood empty, converted to an alloy foundry.

This was not the only area in which the Volkswagenwerk was compelled to shift to in-house production. Despite British support, some important vehicle components could only be procured with difficulty, if at all. Consequently, the Vorwerk in Braunschweig offset the suppliers’ severely limited production capacities at least partially, manufacturing a whole series of car parts for the main factory, including fuel pumps, clutches, shock absorbers and windscreen wipers.\textsuperscript{54} Sometimes the talent for improvisation was tried to its limits. For example the construction of the carburettor, originally supplied by Solex, turned into an apparently insurmountable obstacle. Major Hirst and factory manager Brörmann together proceeded to take a carburettor apart, and divided the parts into two piles. The castings could be produced in the alloy foundry, and the manufacture of the small components was finally placed with certain photographic companies in Braunschweig.\textsuperscript{55}
The absence of special tools led to hold-ups in manufacturing. That part of the toolmaking division which had been evacuated to France was lost in the wake of zoning, and at the start of 1946 the toolmaking factories were waiting for manufacturing permission. The factory management therefore called upon Richard Berryman to intervene with the Military Government. Colonel Radclyffe was given a list of companies which could be considered as possible suppliers for the Volkswagenwerk. But this intervention did not meet with any great success. The resulting hiatus was filled in only a makeshift fashion through in-house production at the Vorwerk. There were insufficient raw materials available to produce tools in adequate quantities. This resulted in shortages, above all in the case of cutting tools. Forming tools and form cutters were not available as standard tools; the companies declined to manufacture them. The waiting time for a “broach”, for example, was eight months.

Quite apart from the procurement problems, the tool store was in a catastrophic condition. There was no information concerning tool requirements, because the relevant card-index had fallen to the flames. The tools used by the workers, some of which simply lay around in the factory, were not inventoried, which only fostered losses. A lack of supervision and planning also contributed to the fact that the distance between the Vorwerk and the main factory sometimes inhibited the production flow, because damaged tools could not always be replaced from the stores. This chronic state of affairs was the subject of a meeting at the beginning of September 1946. The situation had by now become so bad that most tools could now only be obtained via barter deals or connections. General manager Münch ordered the relevant employees to carry out a stock take, indicating which tools could be procured by the purchasing department and which could be manufactured by the Volkswagen plant itself.56

Under these circumstances, the monthly production of 4,000 cars originally planned by the British looks like a pipe dream. It was based on the maximum capacity of machines and conveyor lines, and in addition the achievement of this figure presupposed ideal conditions: uninterrupted supply of materials and purchased vehicle components, a sufficient number of skilled and unskilled operatives, and normal rations. The Volkswagenwerk was a long way from meeting such conditions. The ultimately revised target scheduled a monthly production of 1,000 Volkswagens for the British military government – and even this programme could not be consistently filled.
In the first half of 1946, production showed a modest increase, from 938 vehicles in February to 1,052 in May. This small upswing may have awakened excessive optimism on the part of the British, coinciding as it did with their endeavours to increase Volkswagen production for export and civilian requirements. In mid-May 1946 the British factory management negotiated with Rudolf Brörmann concerning a possible production increase. As a replacement for the army contract for 5,000 cars, which ran out at the end of June, the Board of control had considered procuring a contract for the same numbers from private industry. Brörmann rejected this, because without British support it would not be possible to exert pressure on the suppliers. Agreement was reached on a monthly production rate of 1,100 vehicles, broken down as follows: from July 1946 to April 1947 500 cars per month for the British, from July to August 1946 a total of 2,000 cars for the French military government, from November 1946 500 cars per month for the Property Control Branch and the civilian sector of the Military Government. Factory manager Brörmann hoped that there would also be a spin-off of a few vehicles for the suppliers, to facilitate barter deals. In addition the British military government envisaged an export quota of 1,500 cars. To this end production was to be gradually increased, in order to achieve a monthly production rate of 2,500 Volkswagens by December 1946.57

This production planning was thoroughly in line with the wishes of the Military Government and the British Chancellor of the Exchequer, but not with the status of debate in London, where the Ministry of Trade and Supply opposed, with initial success, civilian and export sales of the Volkswagen. A pro-
visional compromise permitted sale of the surplus production to members of the British and American military government for 100 pounds per car. This discount price was intended to offset the fact that the Volkswagen could not be resold outside of Germany. But this veto ultimately fell victim to the plans for zonal amalgamation, because the Americans voted for unrestricted sales at a realistic price. Under American pressure it was decided in October 1946 to sell Volkswagens to the personnel of the Military governments, the military missions and the United Nations at the full export price of 160 pounds. Resale was permitted, and in this way, indirectly, the first exports of the Volkswagen had been approved.58

The intended production increase to 2,500 vehicles per month gave rise to more reservations than assent, not only from the German factory management, as became apparent at the discussion on 21st June 1946. Even Richard Berryman, the officer responsible for production matters had his doubts, pointing to the poor condition of the machine tools, many of which needed overhauling. The available workforce, the food situation and normal production problems would, according to Berryman, permit a maximum daily production of 100 vehicles over the next six months. Rudolf Brörmann advanced problems in toolmaking, machine repair and the general maintenance of the factory. In order to shift toolmaking and assembly from the ground floor and to make preparations for the winter, first of all the war damage to the buildings had to be repaired. He estimated that 2,000 extra workers would be required. In the view of the personnel management, even the 1,000-vehicle programme would cause serious problems due to the high turnover rate in the workforce. Neither the Military Government nor the labour offices were able to meet the requirements for labour, because the Volkswagenwerk did not enjoy sufficiently high priority. There was still an acute housing shortage. There was also a shortage of clothing, working overalls and footwear for the existing workforce and especially for new recruits. However, Major Hirst remained optimistic and issued the instruction to draw up plans for a medium-term production target of 2,500 vehicles per month.

A tricky topic for the German management came at the close of the discussion – in April 1946 the price of the saloon had been adjusted to reflect the increased production costs. Hirst’s comments were critical. As he said, the price of the car "could not start and end with the statistical cost accounting".59 The days when you could sell a Volkswagen for 5,000 Reichsmark were long gone. In fact the order had already been received to make a drastic cut to Volkswagen prices. The Property Control officer McInnes therefore announced that as of July 1946 the saloon was to be sold for 4,000 Reichsmark. Since further instructions to reduce prices were to be expected, the unnecessary costs must be eliminated and the necessary costs "reduced to the bare minimum". It was, he said, in the interest of the company if it was managed on a financially sound and economical basis.60

McInnes had touched a nerve. In recent months the Board of Control had repeatedly called for a reduction of production costs. The factory management had set up various investigations – without success. In fact the overheads rose constantly in April, May and June 1946. The Property Control officer therefore
appointed an external "Organiser" to look into the matter, which was a snub to the management, who justifiably viewed it as a criticism of its work. The extremely high production costs had their roots on the one hand in the poor capacity utilisation of the factory and a disproportion between productive and unproductive work. On the other hand there was poor planning and work preparation, as the commercial director Leonhard Kemmler made clear to the British officers at the beginning of August 1946, and not sparing his criticism of the British production policy. As Kemmler said, the best planning will come to grief "if the technical management continues to be forced, by the instructions issuing from British departments, to direct its main attention to the more or less forcible achievement of production targets, in the absence of the indispensable preconditions for this".

This attack was Kemmler’s reaction to Berryman’s instruction to deliver 1,500 vehicles in August. It may well also have been motivated by the obvious disregard with which Kemmler’s suggestions had been treated, but it certainly highlighted a core problem of the production process. If from time to time on one working day 150 parts were either entirely unavailable, or only in insufficient quantities, as Kemmler claimed, then the manufacturing programme of 1,000 vehicles per month could only be met by means of skilful improvisation. Machine utilisation must be altered, employees switched round and material supplies redirected. The consequence was stoppages on the lines, and the transport department frequently delivered the parts to the processing machines individually. The situation was further aggravated by the high level of employee turnover, with workers constantly having to be trained from scratch and integrated into the manufacturing process. Kemmler had added up for July 1946 the losses resulting from this in terms of productive work, and the total was just under 51,900 hours, the target value being 123,700 hours. To remedy this situation Kemmler suggested assigning the planning department a superordinate position, and at the same time organising a system of work preparation that was based on information from the planning department. His plea for organisational reforms was well received, because management and British officers were in any case considering a new organisation plan. However, his suggestion of suspending the production programme for one month was rejected. The purpose of this was to give the planning and work preparation departments a breathing-space in which to carry out necessary preparatory work, and in this way also to build up a stock of at least 14 days’ worth of components and replacement parts.

It was the steel shortage which ultimately foiled the British production quota set for August 1946, which could not be fully met. Even so, the monthly production hit its current year’s peak at 1,223 vehicles, fell in the ensuing months to the average level of around 1,000, and rose again in November to 1,193. This upswing came to an abrupt end in December 1946. In this the Volkswagenwerk shared the fate of all industry situated in the Western zones. After a remarkable economic development, production collapsed in the energy crisis of the winter of 1946/47.
The acute coal shortage was not primarily the consequence of mining problems. An internal Volkswagenwerk report noted that there were considerable coal supplies available. It was rather the consequences of the Allied bombing which were making themselves felt in the form of a delayed reaction, but thus the more acutely. The badly-damaged transportation system collapsed. Paralysing the supply of raw materials and semi-finished products. In the mines there was a shortage of pit-props, the timber workers had no industrial clothing and the textile industry lacking the energy needed to produce it. The number of rail trucks made available monthly in the northern region fell from 620,000 in October 1946 to some 400,000 in February 1947. Despite prioritisation of vital goods, the Allies were largely powerless in the face of the collapse of the transportation system – with disastrous consequences for the food supply situation. In the Ruhr, the daily food ration for normal consumers fell to 750 calories, driving thousands of people on to the streets in "hunger marches". Thanks to its agricultural environs, and cultivation on the estates of Mörse and Wolfsburg, both the Volkswagenwerk and the town were spared the worst effects of the general malnutrition.

There had been forewarnings of this crisis perceptible in the company as early as November 1946. On account of the constant power cuts, the rolling mills could not meet the agreed supply deadlines. The Ohle ironworks and the Bochum iron and steel mills announced the postponement of supply dates by three to four weeks. At Continental rubber works the rationing of the energy supply led to reductions in production, with the result that stocks at the Volkswagenwerk would be used up by December 1946 at the latest. Although the suppliers made...
efforts, the "Reichsbahn" (railways) did not provide sufficient trucks. And frequently trucks containing important materials did not make it to Wolfsburg because they were standing for days in the Reichsbahn repair shops. For this reason the Volkswagenwerk had now transferred from rail transport to road.  

On 6th December 1946 the Board of Control discussed the consequences of the non-receipt of sheet metal supplies. With a monthly production of 1,000 cars, production shutdowns would have been unavoidable in February of the following year. Reluctantly, the board members resolved to suspend manufacture until the New Year, and to start up again in January with 500 cars. This brief shutdown alone resulted in costs of 1,500,000 RM, which further increased because the acute shortage of coal put an end to production before it had really begun. On 6th January 1947 the coal stocks of the Volkswagenwerk had dwindled to 500 tonnes, which would not even meet two days’ energy requirements at the present level of production. New coal for production was not forthcoming. The quantity supplied by the north German coal distribution centre, just under 700 tonnes, was officially designated to be used for upkeep of the factory and securing a minimum of heating and lighting for the town. In some factory halls the temperature had meanwhile sunk to -7° C. From the point of view of the workers’ health, expecting work to continue simply could not be justified. Furthermore, frost was impairing machine capabilities. Some welding machines had already frozen solid. By 10th March 1947, production was finally shut down.
Wing Commander Richard H. Berryman, responsible for production matters.
The production increase to 1,500 vehicles scheduled for August 1946 ran up against the limits of a rigid raw materials and semi-finished products supply system. Whether the Volkswagenwerk would be able to meet the quota imposed by the Military Government depended decisively on the release of the necessary allocations of steel, textiles and glass, because only after this had been effected could orders be placed. The waiting time for sheet steel was two-and-a-half to three months, for textiles and finished assemblies up to five months. The August programme also caused consternation in the purchasing department, because the quotas already submitted for textiles and glass had been based on 1,000 vehicles. The releases for the disc wheels manufactured by the Kronprinz company were only sufficient for a monthly production of 800 vehicles, and the urgently-needed iron tickets for the third quarter had not yet been received. The purchasing manager Julius Paulsen came up with a sobering calculation. Whereas the scarce sheet-metal blanks were sufficient for a monthly production of 1,500 cars to the end of September 1946, no new blanks would be available before mid-October at the earliest. If the programme were implemented, bottlenecks would have to be expected in several areas at the beginning of October 1946.

This episode points up the dilemma of inadequate supplies of raw materials and semi-finished products. It was thus not the fault of the British military government if production remained on a constant rate. In spite of preferential treatment, some allocations to the Volkswagenwerk were delayed, and on account of the shortage of raw materials the suppliers could only patchily cover the requirements. In addition to which the zoning had severed vital connections with the supplier industry. For example most of the light-bulb manufacturers were located in the Soviet zone of occupation, which in November 1946 resulted in a bottleneck for bilux lamps. Stocks were running out, and neither the "Verband der Automobilindustrie" (Motor Industry Association) nor anybody else could say who produced this scarce commodity. Only the Osram company in Berlin had of recent date been manufacturing light bulbs in small quantities for the Volkswagenwerk.

Supplies from the American zone also ran into problems. The potential suppliers for the Volkswagenwerk had in August 1945 as yet received no production permit, or only a limited one, and the bureaucratic procedures of the American controlling authorities proved a hindrance to a straightforward trade in goods. Each order had to be approved by the Military Government in Schweinfurt. For supplies to the British sector the approval of headquarters in Frankfurt was required. An internal report on the situation of the supplier industry in the American-occupied area came to the conclusion that, by comparison with the British zone, the reconstruction of the transportation infrastructure was behindhand. This profoundly inhibited industrial activity. The compiler therefore recommended placing orders in the British zone, "where it is recognised that a far higher degree of order prevails in all matters, and industry receives far greater support in the accomplishment of its tasks".
In August 1945 the Volkswagenwerk opened negotiations with the Bosch company concerning the suggestion that it should transfer its manufacture of dynamos, starters and spark plugs to the British zone. The Bosch management declined, as they did not wish to lose the benefits of a centralised production in Württemberg. However, the company declared itself willing as of February 1946 to supply all electrical equipment on an ongoing basis. This offer swiftly fell victim to the supply control system, and in March 1946 the Bosch director Honold called on the Volkswagenwerk. Honold complained that of the iron quota allocated to Württemberg by the British military government, Bosch had as yet "not received a single kilogram". 80 per cent of the 1,000 tonnes allocated, a small quantity in itself, had been used by the American occupying power. The rest went to agriculture and transport, leaving industry empty-handed. Bosch had therefore resolved to transfer some orders to the British zone, where they were to be processed by the Trilke works in Hildesheim. The VW management promised to take care of the necessary iron tickets and to itself procure the difficult-to-come-by materials such as dynamo armature material, band metal...
and pipes. Similar problems occurred with the rolling bearings supplied from Schweinfurt. In August 1946, company representatives therefore had talks with the Dürkopp works in Bielefeld, which agreed to start up ball-bearing production. However they would need a run-up time in order to procure the machines needed for series production.71

The adverse conditions for production at the Volkswagenwerk worsened after the renewed start-up of operations at the beginning of March 1947, as a result of two opposed developments. While the supply of raw materials and purchased products became worse, the Board of Control set its sights on a maximum vehicle production rate in order to export the Volkswagen. In March 1947 the Industry Division submitted a discussion paper in this regard for the deliberations of the Bizonal Economic Commission, where the securing of maximum vehicle production in the united zone was on the agenda. The negotiations put the still-undecided future of the Volkswagenwerk on a sound material footing. Their outcome unofficially anticipated for the motor industry what was resolved between the Bizone powers at the Moscow Conference of Foreign Ministers in April 1947 but which, out of consideration for the French, was not officially announced until the end of August 1947. The new Level of Industry Plan for the Bizone, which was presumably more or less a fait accompli prior to the fusion of the zones, was based on the economic key figures of 1936. It raised German steel production from 5.8 to 10.7 million tonnes, and the vehicle production permitted to the Germans from 40,000 to 160,000 cars.72

On 23rd July 1947 Major Hirst delivered the good news to the factory management that it "was almost certain that there was no question of dismantling the factory".73 He added, however, that the factory would remain under British control "probably for some years yet", and until such time as a government was established for the whole of Germany. This had by now become less likely than ever. At the foreign ministers' conference in Moscow in spring 1947, it became clear that there were irreconcilable differences between the Western powers and the Soviet Union in their treatment of the German question; the "Cold War" was beginning.74

Following the resumption of production in March 1947, the management of the Volkswagen plant was pressured to increase production not only by the Board of Control, but also by the "Verwaltungsamt für Wirtschaft" (VAW – the Economic Administrative Office). This authority, which had moved its headquarters to Minden after the zonal amalgamation, had been involved in production planning at the plant since the beginning of the year, while the Industry Division had temporarily loosened its grip on the company. The British issued the instruction to manufacture at least 1,000 cars per month for the Allied occupying powers. Production going beyond this was to be made available for the export business and the German market, provided the administration office came up with the additional allocations. But precisely here, with the prevailing scarcity of raw materials, there was a bone of contention which finally led to conflict. At the meeting to discuss production at the beginning of April 1947 Major Hirst voiced reservations about the planned programme.75 On the insistence of Fritz Wenk, the head of the VAW motor vehicle industry department,
A target of 1,250 cars was envisaged for the current month. The British officer pointed out the problems with the procurement of sheet metal, and warned the factory management of the possibility of a production closure due to cessation of material supplies. General manager Münch countered this, saying that they must declare willingness to fulfil this delivery, particularly since Wenk had promised the necessary material. Most tempting of all for the management was the prospect of being able to deliver 50 cars from the first production surplus to the suppliers of the Volkswagenwerk. The VAW had promised to get the approval for this and ensure that a few vehicles from an order for 600 cars placed by the mining industry could be supplied.76

Some considerable way short of this target, in April 1947, 1,055 Volkswagens left the factory’s assembly halls, five of which were delivered ahead of time to the supply headquarters of the German mining industry. However, the production increase was at the expense of the commanded programme. In March 1947
the Volkswagenwerk had received the instruction to eliminate the repair backlog on British vehicles which had accumulated as a result of the imposed break, and to replenish the REME parts store. Because this priority order had clearly been neglected, resident officer F. T. Neal, Alisdair McInnes’ successor, reminded the management of its duties. With his order of 24th April 1947 he made it clear that a production increase going beyond 1,000 cars must impair neither the supply of parts nor the commanded programme. After a discussion between Colonel Radclyffe, Major Hirst and Fritz Wenk, the VAW had meanwhile been informed that the Volkswagen plant would initially have to meet the demands of the military government, before material might be used for surplus production.77

It was precisely this that gave the factory management headaches as they waited anxiously for the quotas promised by Wenk. At the beginning of May 1947, production for civilian requirements had to be helped out with material provided by the British, and for this reason the Economic Administrative Office was informed about the existing danger of a materials stop. A stopgap came up against problems because the stages of appeal took up too much time. Wenk called upon Purchasing to institute a special campaign, promising his full support. By the end of the year he announced quotas for 1,500 vehicles with which firstly the suppliers, then the mining industry and the authorities, and finally the open market were to be supplied.78

The German management’s high-handed approach was severely criticised by Major Hirst. At the meeting at the beginning of June 1947 Ivan Hirst warned that the design of the programme and the release of all vehicles were discussed and decided "at this conference table". No German or British external department was entitled to issue instructions to the management. Furthermore the material in stock was destined exclusively for the vehicles of the British military government. Hirst also stipulated that vehicles for the German economy or for export could not be produced until the allocated quotas had actually been delivered. Anticipatory production was strictly forbidden.79

The surplus production remained the property of the Military Government and was to be provided with the civilian suppliers after receipt of the material. This was so much the more embarrassing since the suppliers had been promised the vehicles in April 1947. Wenk negotiated in this matter with the Bipartite Economic Control Group and submitted, via the director general of the "Hauptverwaltung Straßen und Verkehr" (Central administration for Roads and Transportation), a petition on to the Highways & Highway Transport Branch of the CCG, which was ultimately responsible for the release and distribution of vehicles.80 However, his efforts were unsuccessful, partly because the Industry Division had meanwhile successfully intervened against the intention of entrusting control of the company to the VAW. With its resolution of 16th June 1947 the Board of Control left production under its supervision, but agreed it with the VAW.81
General manager Münch approached the supply headquarters of the German mining industry concerning the supply problems. Its representatives declared their willingness to supply the Volkswagenwerk with the required sheet metal, while reserving proprietary rights. In return the company undertook to deliver an appropriate quantity of vehicles.\textsuperscript{82} The mining industry order was followed by a new order from the "Landeswirtschaftsamt" (State Economic Office) of Lower Saxony in mid-June 1947 for 1,580 cars. This secured for the Volkswagenwerk a firm production of 2,180 cars over and above the commanded production, but far exceeded its capabilities. During the discussion, Wenk requested binding information on monthly production to year end, unsurprisingly since he had had to scrap his original planning and at the end of May 1947 had to decrease the called-in production surplus for the current year from 4,000 to 2,300 vehicles. Meanwhile, general manager Münch did not feel able to give reliable figures for the course of production, referring to among other things the acute labour shortage which had occurred as a result of the sudden withdrawal of 300 Lithuanian workers. In view of the situation as presented, Wenk regarded further orders to the Volkswagenwerk as being "no longer justifiable" and threatened to channel all further fleet allocations to the Daimler-Benz and Opel corporations.\textsuperscript{83} Startled by this warning, Münch held out the prospect of a small number of Volkswagens for export.

In mid-1947 the Volkswagenwerk could not complain about a lack of orders. Regrettably, the boom in demand coincided with a worsening of the material supply situation. Reduced raw materials allocations and power cuts averaging 40 per cent at the rolling mills also made themselves felt at the supplier firms and had a serious effect on material supplies. The situation for the purchasers at the Volkswagenwerk was made more acute by the suppliers’ refusal to deliver their products without recompense. Because the company had not kept its promises, they operated a form of "passive resistance". Some sent almost daily reminders to supply the vehicles promised them. The closer currency reform loomed, the more closely the overvalued Reichsmark resembled worthless paper. The barter economy became widespread, and many materials in short supply could only be had via swap deals.

By a tacit understanding with the "Hauptverwaltung Straßen und Verkehr" in Bielefeld, motor manufacturers such as Daimler-Benz, Opel, Ford and Büssing could normally earmark five per cent of their production for their suppliers. This was a more telling argument than the "mandatory priority" of the Volkswagenwerk, which made less and less of an impression on the suppliers. And the Economic Administrative Office announced that it could not allocate raw materials because there were no more available. For the rest, the priority neither applied to the manufacturing industry, nor was it sufficient to support injunctions on the steel industry. For textile allocations, for example, the degree of urgency was only acknowledged if the military government paid the full value of the raw materials in dollars. This however it refused to do since not all the cars it needed had been produced.\textsuperscript{84}
The Control Commission for Germany did not look kindly on barter deals, although the Volkswagen was a sought-after object and could be exchanged for up to 150 tonnes of cement or 200,000 bricks. The CCG only approved such semi-legal practices with extreme reluctance, the justified suspicion existing that the vehicles destined for exchange were produced from materials for the occupation programme. After several unsuccessful attempts, at the end of July 1947 the factory management renewed its demand to be allowed to divert a certain percentage of production for the suppliers. The utmost speed was dictated by the shortage of building materials for making the factory winterproof. Major Hirst therefore approved the suggestion of quickly building 25 "second-hand" cars from used parts, and giving them to the building suppliers. His reaction was less conciliatory to the demands for the British quota for the third quarter. If this was not received swiftly, and the military government nevertheless insisted on the delivery of 1,000 vehicles, said Julius Paulsen, then the quotas for the mining industry and the German market would have to be used for this. Hirst commented laconically that "things looked serious for the mining industry and the German market". Hermann Münch pointed out the mining industry's right of purchase, which Major Hirst countered with the threat that the vehicles could be requisitioned.

Meanwhile, it was hardly possible any longer to speak of sheet metal "stocks". In July 1947, with a great effort, it had been possible to put 1,025 vehicles through the checkpoint, so that the mining industry could be recompensed with at least 25 vehicles for the allocated quotas. Because for this purpose some sizes of blanks had had to be processed until there were none left at all, various bodywork lines had run out, and at the beginning of August closed down for some days. This gave rise to serious criticism on the part of the Senior Resident Officer and the question as to why production had not been throttled back earlier. In fact the factory management had firmly expected a delivery of new materials. But because there was no material buffer stock, the unexpected and rigorous power cuts of recent weeks made themselves felt with a vengeance. This also affected, among others, the rolling mills of Eichen and Ohle which had also been given orders to supply the Russian and French zones, and which thereupon had to withdraw the promises made to the Volkswagenwerk. Because the development of raw materials and energy supply could not be predicted, Leonhard Kemmler drew the entirely sensible conclusion that "any practical planning of a production increase over the coming months is out of the question". Following his advice, production in August was throttled back to 800 vehicles. Thus the British instruction to increase monthly production to 2,500 vehicles in the coming year was finally done for.
Under the pressure of the material crisis, in early August 1947, Ivan Hirst instructed the factory management to produce 30 second-hand vehicles for the suppliers that month, "as fast as possible and by any means". Although new parts also had to be used for this, he handled the order generously. At the same time, the British had decided to provide the suppliers and the mining industry with 25 vehicles each. Once again, however, the distribution system created complications. Major Hirst made it clear that the quota allocation would be controlled centrally by the Highway and Highways Transport Branch in future and processed by the State Economic Office. The previous direct allocation of the quotas via the mining industry had "not gone to plan", especially since these quotas had been set aside for another purpose. The vehicles intended for the mining industry now had to be allocated via the German Central Administration for Roads and Transportation in accordance with the regulations. This led to further delays.

This tug-of-war was gradually exhausting the patience of the supply headquarters of the German mining industry. At the end of September 1947 general manager Münch paid them a visit in order to prevent the threatened transfer of the orders from the Volkswagenwerk to Opel. It was after all an important sales sector for the future. In order to meet the obligations to the mining industry, he instructed the production manager Wilhelm Steinmeier to exceed the mandatory production, if possible in October 1947. But Münch had clearly "misread the situation", and Major Hirst made it clear to him that all backlogs of the commanded programme must first be cleared before anybody else got a single car. Furthermore he criticised the unauthorised undertakings made to the mining industry, and put the factory management in its place. He pointed out that the Volkswagenwerk’s vehicle output was distributed by the Allied authorities, and the board of management was not authorised to enter into negotiations with other institutions. Despite these complaints, the major fleet purchasers – the mining industry, the post office and the railways – remained customers of the Volkswagenwerk, for the likely reason that there were no real alternatives.

With the production slumps in August, October and November 1947, the Volkswagenwerk now had the worst of the battle behind it. The materials situation eased up. And in December, with the vigorous support of the workforce and the works council, production was increased to 1,020 vehicles. Ultimately, 1948 had brought with it the upswing that everybody had been waiting for.
2.2 Workforce turnover

The instruction of the REME officers to go ahead with the production programme as discussed at the end of June 1945 brought the Volkswagenwerk face to face with the problem of insufficient labour. A few days later, discussions took place with the municipal administration concerning the immediate measures required. Within a week some 1,000 skilled workers would be procured from other towns in the British-occupied zone. This, in the view of the factory representative, would "not be a problem". There was no question of their being housed in Wolfsburg, because the accommodation available here was either occupied by the British army or already filled to bursting. In order to provide accommodation for the new recruits, both factory and town council were convinced of the necessity of "clearing the foreigners" from the hutments camp "Am Hohenstein" and then from the Laagberg camp. If possible, the foreigners should disappear entirely from the environs of Wolfsburg, so that the German employees could "go about their work undisturbed and uninconveniened by the aliens".92

The attack was directed against the "displaced persons" (DPs). Many of these workers, most of whom had been forcibly recruited from the countries once occupied by Nazi Germany, had been housed in the hutments seized on the orders of the US troops. Here they awaited repatriation, or the chance to emigrate overseas. And there were hordes of them: immediately prior to the occupation of Wolfsburg the forced labourers working at the Volkswagenwerk made up approximately 83 per cent of the workforce, which was 9,121 employees strong.93 Because the foreign workers were occupying housing space and were also a financial burden, the Volkswagenwerk management and the local authorities insisted that they be expelled from the city.

Following an agreement between mayor Laurent and factory manager Brörmann, the town had taken on the financial burden for the foreign workers' board and lodging at the end of May 1945. However, the municipal administration hastily withdrew its promise to compensate the Volkswagen plant for maintenance of the hutment camps, including loss of rent. Because the camps and hostels were ultimately only a drain on resources, on 10th July 1945 Brörmann transferred them into the trusteeship of the council for the symbolic consideration of one Reichsmark. In return the council undertook to make the accommodation units available in "perfect condition" by preference to employees of the Volkswagenwerk.94 But the agreement could not be adhered to, because the Allies set up a central DP camp in Wolfsburg and the British military government requisitioned the majority of the camps. The city, located on the border between the British and American zones of occupation, briefly became a transit station for the repatriation of displaced persons. At the beginning of 1946 almost 9,000 DPs of different nationalities were living there, with more arriving every day.95

The initial confidence of the factory management that the labour requirement could easily be met turned out to be just as misplaced. The gap left in the workforce by the return of the foreign workers was something from which the company would not really recover until the early 1950s. Nor could this gap be
Arrival in Wolfsburg of Displaced Persons, whom the United Nations Refugee Agency (UNRA) looked after and transferred back to their native countries.

filled with migrants and refugees from the former German eastern territories. They came of course, in their thousands, to Wolfsburg, enticed by the prospect of housing and provisions, and to find work at the Volkswagen factory. But many of them regarded their employment there as merely a staging-post on their way to West Germany and remained only a short time, with the result that in the first post-war years the town was no more than a gathering place for people with neither means nor roots. The turnover of employees was correspondingly high, and confounded all the company’s efforts to establish a stable work-

force structure. The chronic lack of skilled workers was another factor that made the setting up of a core workforce extremely difficult. Together with the raw materials and semi-finished products bottlenecks, this developed into a substantial obstacle to an expansion of vehicle production.96

To meet the labour requirements for setting up series production, the British military government initially used the recently released German prisoners of war from its zone of occupation. In autumn 1945, Major Hirst relocated roughly 1,000 of these
prisoners to Wolfsburg. Besides refugees, the POWs formed the bulk of the 3,000-odd workers recruited to the Volkswagenwerk between August and the end of 1945, increasing the plant’s workforce to more than 6,000 people. Most of the prisoners of war were used for more urgent tasks, however, such as bringing in the harvest, repairing the badly damaged transport facilities and increasing coal production. With compulsory labour duty for displaced persons having been made official in October 1946, the DPs offered a satisfactory alternative when the gaps in the workforce could no longer be filled with prisoners of war, especially since they were housed in separate camps so were not a burden on the local housing market. However, the labour shortage and the high employee turnover rate remained serious, practically unsurpassable problems.

In the first year after the war, of 8,251 employees 4,750 left again, even though the Volkswagen plant paid reasonable wages and offered enticing social fringe benefits. In 1947 the workforce increased slightly, from 8,261 in January to 8,383 in December. In this period the company took on 4,252 new recruits, while 4,131 employees left. The number of skilled workers fell from 2,905 to 2,731. The main problem with the already high turnover rate was that most of the workers gave no notice of leaving. Consequently their leaving found the Volkswagenwerk in a state of unpreparedness, which made a mockery of any personnel planning. At the beginning of June 1946 the factory management put the "unapproved departures" since the start of the year at 1,431. To meet current staff requirements, which had risen as a result of denazification, the company needed 600 employees, who would first of all have to be trained on the job. At a management meeting one month later, Rudolf Brörmann complained of the "untenable" condition of the Laagberg camp which, he felt, was responsible for the fact that the workers assigned to the Volkswagenwerk from the Friedland camp had, after being paid their advances, promptly disappeared again. The equipment, consisting of beds, tables and chairs which the Volkswagenwerk had provided only eight weeks previously, had again been misappropriated. To date, on account of looting and damage, some 140,000 Reichsmark had been paid additionally by the company for the camps which had been passed to the town council. Major McInnes and the factor management both agreed that the council must pay for this damage.

In the meantime the British had issued their new production programme in June 1946, which caused the labour requirement to rocket. In order to build 2,500 vehicles per month, the workforce would have to be increased by 1,173 employees, 80 per cent of whom would be assigned to the production sector. In fact, for the current 1,000-car programme there was already a shortfall of 300 employees. In this connection the production manager, Karl Huland, complained that too many new recruits were being assigned to non-producing departments. For example, Richard Berryman had instructed personnel management to send 100 men to the factory construction department, although 3 men were needed as a matter of urgency in the press shop. In future, if the requirements of technical management were not consistent with the demands of the British factory officers, general manager Münch said he would resolve the matter. If even the procurement of the labour required for the production increase was extremely difficult, because the Volkswagenwerk only had priority number two in the allocation of labour, the most pressing problem was still the accommodation of these employees in Wolfsburg.
The factory management deliberated on possible solutions at the beginning of July 1946. At the Laagberg camp, 12 hutments could be converted, providing accommodation for 1,200 men, albeit this was pure mass-housing. The head of the construction department held out the prospect of accommodation for 1,800 with the construction of 18 further hutments. Both of these projects, which would cost 547,000 Reichsmark, had to be approved by Major McInnes. In addition to these medium-term plans, there was the short-term possibility of providing accommodation for 300 workers within one month. However, recent experience militated against the further construction of mass accommodation. The factory management had attempted to house the single workers from the district of Helmstedt in Wolfsburg, because the shuttle service which had been set up for them had come to a standstill for lack of new tyres. However, these employees showed little inclination to give up their accommodation in order to live in hutments. The resettlement of workers from Soltau had also turned out to be impracticable, because there was no vacant accommodation for their families.102

It was thus that the suggestion of the personnel manager Karl Huhold, to make the "very nice" Reislingen camp available for families, met with general approval. It was in line with the necessity of settling the families of new recruits, who were currently very badly housed, in Wolfsburg. A plan was to be worked out for exchanging the people currently resident in the Reislingen camp – in part construction workers belonging to external companies – for the families housed in the hutments. The plans to convert the accommodation units provoked the objection that the construction materials required for the project had been carefully put aside for winterproofing. Hermann Münch countered this by insisting that housing construction had absolute priority. In addition to the "accommodation exchange measures" the factory management declared the conversion of the Laagberg camp and the "youth camp" a priority task. What had been considered to be the ideal solution to the housing problem was not available. This was the former "SS camp", where 400 people could have been housed immediately at minimal cost. Münch said that he would concern himself with getting these hutments released.

A further housing possibility was blocked by the declared intention of the town council to accommodate the hospital, which it had taken over in the previous year, in the single persons’ hostel. To date however it had done nothing to implement this project. After several unsuccessful attempts to get a decision on this, Münch now gave the municipal administration a period of grace to 8th August 1946. Under this pressure the council finally agreed that the single persons’ hostel should be used to accommodate factory employees. It was reserved for a later decision whether the hostel should subsequently be used for setting up a hospital for the town of Wolfsburg. This modest success in the procurement of housing was almost simultaneously overshadowed by a confiscation order of the British town quartermaster. This applied to the Hohenstein camp, the municipal construction office hutments, the camp to the east of Rottehofstraße, the camp to the south of the fire brigade as far as the Ernst-Toller-Straße, five hutments to the west of the municipal utilities building and the camp between the Fallerslebener Straße and the railway.103
The chronic housing shortage represented a massive obstacle to the building up of a core workforce at the Volkswagenwerk until the early 1950s. In the first post-war years, a comprehensive new housing project was out of question for lack of the necessary construction materials. Most employees had to make do with provisional accommodation in a camp, separated from their families. This only reinforced the general migratory tendency, whereas highly qualified specialists who were in demand elsewhere too, and management staff, were difficult to recruit under the prevailing housing conditions.

Of necessity, in order to alleviate this problem the company turned to renovating and extending the emergency accommodation units. The "Gemeinschaftslager" (general camp) on Fallerslebener Straße was completely refurbished in 1947, with the big dormitories being subdivided into rooms for six to eight people, which also made them a bit homelier. In the Reislingen camp, two canteen hutments were turned into eight new accommodation units. For the apprentices and younger employees, for whom the Volkswagenwerk had once again made training courses available in November 1946, the "youth camp" was renovated, which attracted the special commendation of the district commandant Colonel Dollard. With the conversion of the Laagberg camp the factory management had taken a small step towards the achievement of its goal to build up a core of skilled workers. By the end of 1947, 140 families took up residence here, the attractiveness of the accommodation being enhanced by the neighbouring allotments, the opening of a general store and the formation of a school class. Despite the fullest support of the British resident officers, up until 1949 the company was unsuccessful in its attempts to secure release of the Hohenstein camp. This was the more regrettable since it was, in Hermann Münch’s view, admirably suited for conversion into a family colony, and would have marked a turning-point in the setting-up of a core workforce. For this reason the general manager constantly pressed for the return of the factory-owned accommodation, seeing in this the "key to relieving the deplorable housing situation in Wolfsburg."

The labour shortage was further aggravated by a high level of absenteeism which rose in the production sector to an average of 25 per cent in the first half of 1947. The fact that a quarter of the workforce failed to turn up for work was on the one hand to be accounted for by the necessity of securing personal survival by means of scavenging sorties and black-market activities. On the other, poor nutrition and the general exhaustion led to large-scale indisposition, and the official sickness rate in June 1947 was at nine per cent. The health of the Volkswagen workforce was in any case below average, made up as it was from a majority of refugees and former soldiers. To what extent the bad work morale played a part, as the British factory officers suspected, is difficult to assess. It was a fact that in the years prior to currency reform there was a total absence of material incentive, with the Reichsmark visibly crumbling as a means of payment. Many people only took on regular employment in order to get a residence permit, housing and ration cards. In March 1947 general manager Münch learnt that all the workers from one department repeatedly left their workplaces before the bell at 4.40 p.m. The head of the department insisted that he had been powerless to stop this. This incident led to closer examination of the managers’ suitability for the job. Münch therefore ordered the heads of department to draft a report...
Owing to the chronic lack of living space in Wolfsburg, the majority of the workforce of Volkswagen was living in hardly inviting camps.

about the proficiency of the managerial staff, including foremen and supervisors, and warned that reshuffles or dismissals would ensue if a similar incident occurred.107

Under these conditions it was simply impossible to fulfil the production programme issued at the beginning of June 1947, which called for an increase to 2,500 vehicles per month by June 1948. Even maintaining the commanded production rate of 1,000 cars, plus the spare parts for the Military Governments and the main distributors, meant that an additional 400 workers were needed. An increase to 1,350 cars per month required a further 700 people, though this figure was reduced to 500 as a result of the transfer of manufacturing work to the Vorwerk. To achieve the target of 2,500 cars, the company needed this number of employees.108 From April 1947 the labour office was no longer able to cover these labour requirements from the Wolfsburg area or by inter-area swaps. In collaboration with the labour offices of Wolfsburg and Uelzen, the State Labour Office in Hanover and the refugee camps, the company had shifted to recruiting workers from the Soviet-occupied zone.
However, because there had been "bad experiences" with these people, the requirement made necessary by the production increase was to be met with Yugoslav and Lithuanian labour from the ranks of the DPs.¹⁰⁹

On account of the high levels of turnover and absenteeism, the productivity of the Volkswagenwerk stuck at an unusually low level, especially since the already marked disproportion between productive and unproductive employees was still in evidence. With the production process hampered by badly worn machinery and a shortage of materials, the employees had their hands full merely keeping it going, so were kept busy mending machines, manufacturing tools or making repairs to the plant. These jobs occupied more workers than production of the saloon. This meant that production costs were high, and this depressed the profitability of the company. The British factory management had repeatedly drawn attention to this point and pressed for cost reductions. As Fritz Wenk told general manager Münch off the record in mid-June 1947, the British were only interested in keeping the factory going "if it paid off".¹¹⁰ It was therefore in Münch’s view absolutely essential for the survival of the company to put the factory on a sound economic basis as a private enterprise through increased production.

To increase productivity, the factory officers at the end of July 1946 proposed a competition via the factory PA system. In the lunch-hour it was to be reported "in a humorous fashion" how many cars had been produced, which departments had worked particularly well and which were in arrears. The extent to which this measure spurred the workforce to increase their performance is unknown, although in mid-1947 the factory management did record a growth in productivity compared to the previous year. Whereas in the autumn of 1946 some 1,800 employees were needed to produce 1,000 vehicles, now 1,470 employees achieved the same result.¹¹¹

Concerning the frequently criticised disproportion between productive and unproductive work, the general management’s technical adviser Striebig produced a counter-proposition in mid-June 1947. To start with he corrected the comparative figures by subtracting from the workforce of 8,100 employees 850 external staff – British administrative departments, power station, gardeners – together with 1,050 office workers and 310 apprentices. The office worker proportion had in the meantime reduced to 14 per cent as against 17 per cent in the previous year, the "ideal figure" being 12 per cent. Striebig then entered a portion of the workers at the Vorwerk and in army repair work as productive, because they produced parts that other companies had to procure via purchasing. The bottom line was a relationship of 3,020 productive workers to 2,860 unproductive. The latter were to a large extent occupied with repair of war damage.¹¹² Nevertheless, even the revised picture presented by Striebig revealed a high proportion of unproductive employees, which ultimately caused production costs to rise and allowed little leeway in the calculation of Volkswagen prices.

This left the management in a fix, because since April 1947 the Economic Administrative Office had also been calling for a price reduction. In this connection Fritz Wenk formulated the critical question of "why the German people should pay" for what the factory "produced too dearly".¹¹³ Even production manager Wilhelm Steinmeier admitted that at 5,000 Reichsmark the
Volkswagen was too dear in comparison with the Opel, and should cost a maximum of 3,500 Reichsmark. Following negotiations about these arbitrary guidelines in November 1947, the factory management and the relevant authorities finally agreed on a vehicle price of 3,910 Reichsmark ex works, plus a fifteen per cent margin for wholesalers.114

Meanwhile, in collaboration with the works council, the management had arranged for unproductive staff to be transferred to the productive sector. At the end of 1947 Münch ordered a precise investigation into the requirements of the unproductive departments, especially the construction department. This he regarded as a precondition for on the one hand making all possible employees available for a production increase, and on the other for reconciling the necessary unproductive activities with the financial possibilities. Because the general manager was expecting further price reductions, if the worst came to the worst the unproductive departments should be able to be reduced in size at a stroke: "Otherwise we shall inevitably get into financial difficulties, with no way out of them".115 The numerous endeavours, promoted by Münch, to procure the profitability of the factory drew the comment from Major Ivan Hirst, in hind-sight, that by the end of 1947 the Volkswagenwerk had begun "to transform itself from a local Party headquarters into a proper, profit-oriented enterprise".116
Election posters to the introduction of the candidates for the works council, December 1946.
At the instigation of Social Democrats and Communists a provisional works council for the Volkswagen plant was formed in July 1945, expressly referred to until December 1946 as the "Betriebsvertretung" (factory representation). The head of this body was the future mayor of Wolfsburg, Karl Hieber, who had chaired the works committee of a company in Mannheim for several years before the war and who now assumed an advisory role for the first VW works council. Although the British military government in Hanover had authorised the founding of the provisional employee representation, it did not grant the committee any rights of co-determination. The works council was permitted to concern itself with the care of former political prisoners, but could not exert any influence on personnel decisions or the distribution of heavy workers’ cards. Nevertheless, the British officers on site soon realised the value of an institution like this for settling differences between factory management and workers and reducing the potential for conflict among a diverse, amorphous workforce. An employee representation also appealed to Ivan Hirst’s sense of democracy and co-operative style of leadership, which fostered direct, candid contact with employees via "open door arrangements" and revealed a marked need for consensus.

Major Ivan Hirst therefore supported the election of a non-party-political, democratically authorised factory representation, and dissolved the old one in October 1945. The candidates were required to maintain silence in regard to their party and union membership, and to refrain from making overtly political statements. Under such restrictions, for example a social-democratic candidate was described for campaign purposes as an "expert of calibre and discrimination" whose concern was for the welfare of all humanity. With the same members, the provisional factory representation became a democratically elected factory representation in November 1945. It adopted a set of internal rules and regulations, which was essentially restricted to the social care of the workforce. The activity of the works council was strictly regulated by the British factory management with an imposed constitution. The agenda for the works council meetings had to be submitted to Hirst for approval, and the British were entitled to be present at the factory meetings. At the council meetings, discussions about politics and the management of the factory were forbidden. The employee representatives were permitted no rights of co-determination at this time; even in internal social matters, initially there were only rights of discussion and information.

In the first two factory representation bodies the disputes between social democrats and communists were not especially noticeable, or at least no major conflicts are on record. By contrast, the election of the works council chairman in December 1946 culminated in ructions. The KPD (Communist Party) felt boosted by the result of the works council elections, as it filled almost half of the seats. It challenged the social democrats’ claim to leadership, and entered its candidate Erwin Blöhm to fight the SPD candidate Otto Peter. The first ballot resulted in a draw, but the second finally saw Peter elected. The communists thereupon disputed the proper conduct of the election, and boycotted the next works council meeting in protest. However,
at the following meeting on 20th December 1946 a more conciliatory atmosphere returned. The adversaries agreed to draw up the election records more carefully in future, and recorded in the minutes that payment of a Christmas gratuity and the distribution of "Christstollen" to the employees had been agreed with the factory management.120

There was in any case no time to be wasted in party-political disputes. The works council was gradually involved in the provision of the employees with foodstuffs, clothing and household items, which initially absorbed almost all the available energy. Food was rationed, although people engaged in physical work could get special allowances. In the case of light work this was not a lot, but for heavy and very heavy work it could be considerable. Because there were no foreign aid supplies, in March 1946 the in any case sparse rations were further cut back, with the result that the average person had only 1,014 calories per day. The chief trustee Hermann Münch complained in a letter to the "Landesernährungsamt" (State Food Office) in Hanover of the first signs of physical deterioration in the VW workforce, as in spring 1946 only 28 per cent of the employees were allocated special rations.

The most important demands of the "Wirtschaftsgruppe Metall" at its foundation meeting in July 1946 were therefore the increase of fat rations and the incorporation of the unions in the control of foodstuffs production and distribution.121 The works council did all it could to see these demands met, with the result that by November of that year, 73 per cent of the factory employees were receiving special allowances.122

Despite this, undernourishment and deficiency symptoms remained a serious problem in the workforce. In Lower Saxony, the daily rations issued were 1,653 calories for ordinary consumers, 1,790 for people partly engaged in heavy work, 2,443 for heavy workers and 3,041 calories for very heavy workers. In November 1947 the Public Health Branch conducted a mass examination of 773 Volkswagen plant workers, almost three quarters of whom were obtaining extra food from the black market or in barter deals, or from their own gardens. Following the examination, the doctors criticised the subjects' insufficient calorific intake. The men's average weight was 58.4 kilograms, while the women's was 49.1 kilograms. The 221 heavy workers examined were not even in the worst shape compared to earlier surveys. The most malnourished employees were the ordinary consumers.123 A perceptible improvement for the workforce was effected by the currency bonus from the export business, which amounted to 44,000 Reichsmark at the end of November 1947. As agreed between the factory management and the works council, half of this was used to provide the workforce with food and clothing, and the other half to rebuild the factory.124

In the matter of working hours policy, the VW works council was in a difficult position. In order to meet the production increase envisaged by the Board of Control in the summer of 1946, the management demanded that the weekly working hours have to be increased from 42.5 to 48 – in other words, introduction of Saturday working. Since the British were threatening to close the factory if production was not increased, the works council was unable to withhold its agreement to this demand. It did however point out that the current programme placed the workforce under extreme strain and that many workers were
suffering from health problems, and that it was therefore doubtful whether they would be physically capable of an increased work quota. In return for the complaisance of the works council in this matter, the factory management granted the workforce an improved provision of foodstuffs, especially fresh vegetables and other products farmed on the estates and the factory gardens.125

Parallel to the extension of working hours, the factory management took work organisation measures designed to increase production. This included the transition to group piecework, which was introduced in the summer of 1946 but dragged on for several years. The management argued that, on average, the people affected would tend to earn more rather than less. Of course, this would only be the case if fewer workers were actually able to produce more on the piecework programme. Due to the prospect of higher pay, the works council did not reject its introduction out of hand and declared itself willing to familiarise the workforce with the principles of group piecework. However, it pointed out that in certain departments, individual piecework would be more likely to lead to an increase in production. Furthermore, the employee representation saw group piecework as a possible source of injustice, in that "if one man worked badly, all the others would have to suffer".126 Rudolf Brörmann saw this as nothing more than a temporary problem, and acclaimed the "weeding-out of bad workers" by the workforce itself as a most welcome side effect of group performance-related pay.127

Due to the works council’s engagement the working and living conditions of the workforce could gradually be improved.
The co-operation of the works council was also indispensable to management for the internal transfer of employees from non-productive to productive departments. "If we have this (co-operation)," said Münch, "then it will not fail through any fault of ours". The works council supported this measure, because it saw it as an opportunity to place qualified people in better wage groups. The management was required as far as possible to employ every person in a position to which they were suited, although the works council urged that implementation should not be allowed to lead to losses in earnings. There was little leeway for general improvements to incomes, as the Allies had imposed a wage and price freeze throughout Germany. Nevertheless, this did not prevent slight progress on the subject of wage policy. The works council was therefore able to negotiate for young people under 21 and women on piecework at the Volkswagen plant to be paid the same wages as adult male pieceworkers.

While in 1947 hunger and economic misery triggered strike movements throughout Germany, Volkswagen weathered this period without significant protest actions from its workforce. Any attempts in this direction were successfully warded off by management and works council jointly, and in this their work was made easier by the composition of the workforce. The refugees and freed prisoners of war relied on social fringe benefits from the company, and in particular on the factory-owned accommodation, a fact which dampened their enthusiasm for strikes. Significantly, the near-strike at the Vorwerk was not about materialistic improvements, but was triggered by the denazification procedure in Braunschweig where, in the view of many union and works council members, an excessively lenient verdict had been issued to two former SA men. In December 1947, therefore, the employee representatives discussed the possibility of a strike in which the Vorwerk should also take part. General manager Münch immediately contacted the works council secretary Fritz Hesse and gave him to understand that a strike "could be extremely disruptive at this time, because we have the special programme for December to cope with." In a veiled threat he reminded Hesse that the Vorwerk had already participated in the strike movement in April of that year, when practically the whole of Germany was out. According to Münch, the works council there had got away with it that time because Münch had personally interceded with the Military Government. Hesse and Münch were agreed that the strike must be prevented. The works council intervened at the Vorwerk, whereupon the workers voted against taking part. On the same day, the general manager gave the Senior Resident Officer the strike all-clear.

In Münch the works council found a kindred spirit who was also striving for agreed solutions and preferred the way of industrial peace. In the debate on the increase of working hours in mid-1946 Münch pressed for the inclusion of the employees' representation, especially since the plans could only be implemented with difficulty if it were to resist them. The works council exploited this favourable situation to make progress in the matter of co-determination in accordance with the Allied Works Councils Act of April 1946. It was precisely this matter that brought the negative aspect of British pragmatism to light, a perfect example of which is the employee representation's
enlistment at a meeting of the production commission. Major Hirst vetoed its subsequent participation in July 1946, on the grounds that it had not been successful. The works council protested against this exclusion, as the Works Councils Act expressly granted it the right to submit suggestions to the employer for the improvement of working methods and production procedures. Its essential agreement to the new arrangements regarding working hours now provided an opportunity to sound out future possibilities for co-determination in a discussion with Major Hirst and the factory management.\textsuperscript{132}

Control Council Act No. 22 contained guidelines concerning works council co-determination, and was implemented at the Volkswagenwerk in 1947. Between February and May, Hermann Münch negotiated a factory agreement with the employee representation which addressed both parties’ longing for cooperation and consensus. This came into force at the same time as the new work regulations on 10\textsuperscript{th} May 1947 and secured full rights of co-determination for the works council under the Allied Works Councils Act. This comprised co-determination in appointments and dismissals, transfers, and wage and salary arrangements, and also supervision of the factory catering and the distribution of the factory’s own foodstuffs. The works council had rights of collaboration in determining the production programme, and was permitted sight of commercial documents.\textsuperscript{133}

However, the "10 principles for work at the Volkswagenwerk" at the beginning of the work regulations indicated the continuing influence of the DAF tradition. Strongly reminiscent of the working community ideology of the Third Reich, the author described "all work at the plant" as "a service to the people for the benefit of the general public", the workers and managers as "a united, democratically led performance community" and finally advised vigorous rejection of "offences against industrial relations and lack of discipline with regard to the working community’s motivation". These principles show how socio-political conflicts of interests were pushed under the carpet when referring to the national importance of the Volkswagen plant.\textsuperscript{134} To the works council, however, the factory agreement represented progress regarding the co-determination policy, especially since it could finally gain recognition for its demand for co-determination in appointments, dismissals and promotions. At the signing ceremony, general manager Dr. Münch, union boss Wilhelm Kiesel and works council chairman Otto Peter all emphasised the good co-operation and their happiness at the agreement which had been reached.\textsuperscript{135}

The introduction of co-determination based on equal representation in the Rhineland-Westfalian iron and steel industry in March 1947 gave rise to similar aspirations at the Volkswagen plant. Acting on the resolution of the factory meeting of November 1947, the works council demanded the appointment of a Director of Human Resources. The British military government rejected this request because, firstly, employee involvement in the management of the company was foreign to the Anglo-Saxon ideal of harmonious industrial interests. This was reflected when they gave their reasons, stating that no individual could represent management and the workforce simultaneously; the works council’s job was to act in the inter-
ests of the workforce, while the Director of Human Resources, as a member of the factory management, was expected to look after company interests. Secondly, the British regarded themselves as temporary trustees and did not want to present a future board of management with a fait accompli in this key issue.136

Even Heinrich Nordhoff, who took over as general manager on 1st January 1948, strenuously opposed the appointment of a Director of Human Resources. In his relations with the works council and the union he was less concerned with conciliation than his predecessor Münch. His paternalistic style of leadership was ruled by his firm conviction that "there is no alliance more natural than that between a factory management and its employees".137 This alliance was doubtless assisted by the fact that the pay scale at the Volkswagenwerk rose far beyond the West German average after the Allied wage freeze was lifted in October 1948. In August of that year, the factory management and works council had already agreed on a general wage increase of 15 per cent. In subsequent negotiations, the employee representation managed to achieve wage increases of up to 50 per cent for the lower wage groups.138

The policy of the new general manager was not the only problem the works council was faced with. Disputes between communists and social democrats additionally impaired its work. At the works council elections of June 1948 the social-democratic majority in the "IG Metall" (metalworkers’ union) pushed through, against previous custom, a list overwhelmingly composed of its members. This led to the setting up of an opposing list, in which the CDU and KPD candidates, together with the independents, presented themselves. The "election campaign" turned into a real mudslinging match, with the participants hurling mutual accusations of corruption. Nordhoff took advantage of the weakened employee representation to gradually restrict its influence and to move committee powers into his area of responsibility. He achieved this without any major resistance from the works council which was intent on reconciliation, lacking both the workforce backing for a course of confrontation and the enthusiasm to engage in conflict. However, Sührig, the union secretary who came to Wolfsburg in 1949 on the orders of the IG Metall central governing body in search of an aggressive confrontation with Nordhoff, failed to carry the employee representation or the Volkswagen plant workforce with him.139

More even than the troubles between social democrats and communists, the growing influence of extremist right-wing candidates threatened to test the VW works council to its limits. At the works council elections of 1948 a grouping made its first appearance which regarded itself as a union opposition list. These groups were boosted by the results of the local government elections of November 1948, in which the "Deutsche Rechtspartei" (German Right Party – DRsP) won a landslide victory in Wolfsburg, polling 64 per cent of the votes. Because the mood among the workforce gave rise to fears of a similar debacle at the works council election in May 1949, the IG Metall and the Deutsche Angestellten Gewerkschaft (German Employees’ Union) reserved places on their joint list for six extreme right-wing candidates, five of which were elected to the works council. This strategy of neutralising opposing forces by inclusion was ultimately a sign of weakness. There was no union
tradition to speak of in the workforce but there was considerable potential for extreme right-wing allegiances, and the high turnover rate of the heterogeneous workforce, consisting mainly of freed soldiers, Wehrmacht officers and refugees from the East, added to the obstacles preventing the development of a core membership.

Judging by the election results, this neutralisation strategy proved successful. None of the anti-union groups managed to place any of their candidates, although the recent DRsP ban may have had something to do with this. Yet it was not until the period of prosperity starting in 1950 that the company succeeded in making the IG Metall the most powerful union presence in the workforce and conclusively defining the functions of the works council.
The Volkswagenwerk’s monopoly for the supply of vehicles to the Reichspost and Reichsbahn was shaken somewhat in mid-1947. This was a foretaste of the competitive situation which would once again prevail in the foreseeable future, and caused the head of the service department, Karl Feuereissen, to warn against underestimating Opel as a competitor. The Rüsselsheim motor manufacturer had, he said, an excellent service network and a dealer network which Volkswagen did not. Feuereissen thus touched a raw nerve of vital importance to the plant’s future development. By the end of the war the Volkswagenwerk had only the beginnings of a service department and sales system to its name. Both were originally to have been set up by the German Labour Front. But the basis for this no longer existed, because the motorization of the people that Hitler promised failed to materialise due to the material and labour shortages caused by the war. Apart from a few symbolic vehicles for Party officials, series production of the saloon only started under British occupation. Actively supported by the trustees, the Volkswagen plant now concentrated on setting up a sales and service department in an attempt to reduce its rivals’ substantial competitive lead.

At the end of 1945, on Major Hirst’s initiative, the service department was set up. The Royal Engineers made valuable contributions to its development, having operated its own service department for the British Army in the REME workshop. The new department initially remained closely bound to the requirements of the Military Government. Because the Volkswagenwerk processed almost exclusively orders from the occupying powers, the Industry Division does not seem to have promoted its further expansion. Given the production conditions prevailing, the priorities lay elsewhere. This changed at a stroke in June 1946. The British ordered the management at short notice to supply the Volkswagen to British administrative departments at half-price, that is, 2,500 RM. This would depend on a monthly production of 4,000 vehicles, a part of which was to be released for civilian sales. The factory management had to calculate the price in such a way that it could recoup the losses from the commanded programme.

Although this instruction took no account whatsoever of the actual production possibilities, the prospect of civilian business triggered a hectic burst of activity. The factory management pressed for the immediate establishment of a sales organisation and a service department for the civilian sector. Otherwise the Volkswagen would risk getting a bad name as a result of incorrect or inadequate repair, service and maintenance. At the beginning of June 1946 Karl Feuereissen submitted his proposals for the establishment of a service organisation. In accordance with the provisions of the Highways and Highway Transport Branch, distributors and main distributors were to be appointed for certain areas, whose business policy was to be contractually regulated in close consultation with the
Volkswagenwerk. As required by these provisions, Volkswagen terminated the existing workshop agreements. This served to obviate the risk that these firms would exploit their formal status as VW contractual partners in order to be instated as dealers, even though some of them no longer satisfied the new requirements.144

The trustees’ initial reaction to the management’s proposals was cautious. When their expectations in respect of a production increase were not fulfilled, they clearly entertained doubts as to whether a factory sales organisation in the grand style was necessary for the small number of vehicles provided to meet civilian requirements. Not until the end of October 1946 did the British military government approve the setting up of a dealer organisation for its zone which in its basic features conformed to Feuereissen’s blueprint. With the authorisation of 10 main distributors and 28 dealers, his advice was followed of not making the network too dense, so that the dealers would have a livelihood from the low level of civilian business. Otherwise there was a risk that they would lose interest in providing Volkswagen customers with a satisfactory level of service. At the beginning of December 1946 a main distributor for Berlin was added, having been selected by the service department from three hopefuls named by Major Hirst. Only the wholesalers had direct business dealings with the Volkswagenwerk. They had sole responsibility for the proper delivery of the Volkswagens, the service and the sale of replacement parts. The dealers were selected in consultation between the factory management and the main distributor. Appropriate contracts with the main distributors were in preparation, and at the beginning of 1947 were ready for approval.145
Some of the firms named by the Highways and Highway Transport Branch were unknown to the Volkswagenwerk and had to be examined on the spot. This job was undertaken by the "Reisedienst" (field representatives service), set up in August 1946, which consisted of two engineers. It maintained contact with the British departments and the German dealers. The latter were not only advised, but at the same time subjected to a strict quality control. However, the mobile inspectors were sometimes harsh, as the main distributor in Essen, Gottfried Schultz found out in no uncertain fashion at the end of April 1947.

With purpose-built premises, good mechanical equipment and 160-180 vehicle repair throughputs per month, his workshop occupied a leading position among the main distributors. However, as he read in the inspection report, "the work it does can scarcely even be called mediocre", and it failed to come up to Volkswagen expectations "by a long way". The main reason for this was given as the absence of suitable management for the technical operation, and inadequate supervision of fitting by the foremen and supervisors. The inspector therefore undertook minor changes in the work organisation. In a discussion with the works council and management he recommended transfers in the workforce.

In return, the Volkswagenwerk allowed its dealers to make critical observations, with the result that gradually an exchange of ideas developed from which both sides gained. At a management meeting in mid-July 1947 general manager Münch said that in the foreseeable future the Volkswagen must successfully compete with other vehicles. It was therefore important to listen to the views of the VW dealers concerning sale of the products. Gottfried Schultz submitted a list of parts, of which his firm had not one single example in its store. This included connecting rods, crankshafts, roundhead bolts, steering gear, kingpins and gearsticks. For lack of these replacement parts, half the Volkswagen fleet of the post office in Düsseldorf and Hanover was out of action. The Essen main distributor presented various cases of complaint from the experiences gathered by his workshop. His suggestions for improvement were individually discussed and passed to the technical management. Overall there developed a partnership based on mutual confidence between the main distributors and the motor manufacturer, which was partly evident from the amicable relationship between Gottfried Schultz and Heinrich Nordhoff.

Like the dealer network in the British zone, the service department also developed in a promising way. Its growing importance was underlined in the course of 1946 by organisational reforms, beginning with the subdivision of the service department into the parts department, the technical department and the service school. In September 1946 the general manager had been submitted the idea, presumably by Karl Feuereissen, that the service department must always be subordinate to Sales, the reason being that the sole determinant was the car-buyer, and the entire factory had to be oriented to this fact. This call for the attitude that "the customer is always right" may have seemed a little out of place in the conditions of the deficit economy, but it signalled a gradual change of perspective. In any case, at the end of 1946, Sales, which had previously been subordinate to the finance department, was attached to the main department of Service, and both moved into new premises.
The service school began running courses in early February 1946. After two moves, a large workshop was set up in the basement of Hall 1 for practical instruction, and a classroom for the theoretical side. Here both British and German courses were held, the latter for employees of the post office and railways and for the fitters at the authorised workshops. The whole was rounded off with brief courses of instruction for the customers. On account of the increase in its use, the service school was transferred to the southern perimeter building in 1947, and extended.

The technical department passed on information to the authorised workshops about the improvements carried out, and in 1946 it issued a total of 24 service bulletins, which announced technical and design modifications as well as repair tips. More detailed instructions could be found in the repair manual issued by the technical department in 1947 to aid customer service in the VW workshops. The technical department also developed a unique new instruction manual for its less technically minded customers, entitled "Der sichere VW Fahrer" ("the safe VW driver"), which made exclusive use of illustrations. By far the most significant customer service development was a comprehensive damage register issued in 1947, which emerged from the monthly analysis of warranty cases, consumer reports and service reports. Of roughly 3,300 cases of damage registered in the first six months, all the important ones were reported to the technical management so that the defects could be eliminated. As a new measure, new vehicles were also given a free service check.

The chronic dearth of replacement parts meant that the service store was of nothing less than strategic importance. This was not least due to its manager, Schulz, who during the war had managed a repair workshop and was entirely familiar with deficit situations. His initiative was indispensable for the logistic setting up of the spare parts stores. Schultz produced a new bilingual parts catalogue in German and English, and against Feuereissen’s will pushed through the introduction of exchange units. Up until the setting up of the sales system, each and every replacement part issued to the German dealers required the approval of Major Hirst. As of October 1946, parts were supplied via the main distributors, whose requirements could be more swiftly processed by calling off the stores levels. In order to satisfy the growing demand for replacement parts as swiftly as possible, in 1947 a packaging line was set up for British deliveries, and an electric loading system for assemblies. All these measures contributed to a more efficient stores administration, but did little to alleviate the acute shortage of parts. In March 1946 Bosch designated the supplies agreed with Volkswagen an emergency programme, while admitting frankly that the desired delivery dates could not be adhered to. In May five to ten per cent of the required parts were to be delivered. After that the continuous increase in the production of parts was planned. But although in 1947 the supply to the service departments of 50,000 parts per month was more than doubled, parts still remained in short supply.
A service workshop as envisaged by Karl Feuereissen in his concept paper commenced operations at the beginning of 1947. After initial difficulties in the precise demarcation of its tasks vis-à-vis car repair and vehicle testing, it filled an important gap. However, Volkswagen customers made use of it more frequently than the management liked. On seeing an engine being replaced on a private car at the workshop, Münch asked the production management why the customer did not go to the repair workshop in Braunschweig as he should. Because cases like this were becoming more numerous, in early December 1947 Major Ivan Hirst took a different tack, stating that poor service on the part of the dealers was generally to blame for the demands made on Volkswagenwerk’s service workshop. In future, the British officer said, any repair for private customers at the plant should entail an examination of whether the dealer in question had fulfilled his obligations.

The decision to set up a dealer network in the British zone was accompanied by a similar initiative in the American sector by the Industry Division. On 18th October 1946 a meeting took place with Captain Phillips of the US Army Exchange Service, at which the supply of 800 Volkswagens to the Americans was discussed in detail. The British took this opportunity to propose the setting up of dealerships in Frankfurt and its environs. This suggestion clearly found favour with the American officers, as they asked for the names of the authorised distributors in their zone. Hermann Münch emphasised the importance of the right selection and control. It was extremely important for Volkswagen, he said, to find suitable representatives, because the customer judged the manufacturer and its product first and foremost by the way the dealer represented the company and looked after the vehicles. For this reason the Volkswagen plant would have to keep up to date with its dealers’ business policies and inspect their balance sheets, as set out in the agreements. In order to be sure of the information received from the dealers, Münch proposed the setting up of factory sales branches in a few cities in Germany. These branches should serve both as a proving ground and as an example of the way to set up a dealership network. For this the general manager referred to the big motor manufacturers Opel, Daimler-Benz and Adler, which had worked with a branch system of this kind before the war. In relation to the earnings, he felt that the investment required was low. Since the development of Frankfurt into a "transportation and commercial metropolis" was already perceptible, Münch felt that here was the place for the first "Volkswagen Dealer Organisation" to be set up. His call went unheeded, and similarly the establishment of a distributor network in the American zone at first stagnated. In the 1947 half-yearly report Münch announced that the examination of the main distributors and distributors in the British zone was complete. It was now intended to start setting up a service organisation in the American-occupied sector.
The Jeep repair workshop celebrates the overhaul of the 1000th Jeep engine.
Endeavours of this kind came up against even bigger problems in the French zone of occupation, where a functional sales and service network did not emerge until 1948. Shortly after the end of the war, some former employees of Porsche KG attempted to set up a VW customer service department managed by a French officer. Their plan came to nothing, however, especially since the people involved were clearly not acting on behalf of the military government responsible for the Volkswagenwerk. Instead, the authorised workshops at Daimler-Benz AG were now gradually called in to repair Volkswagens; in Baden-Baden alone the registered monthly throughput for May 1947 was 300 vehicles.

By agreement with the British trustees, in 1946 the French military government had transferred the general representation of the Volkswagen plant and the distribution of its vehicles in the French zone of occupation to the Oberrheinische Automobil AG company (ORAG), with a view to returning the complex commercial relations with the Volkswagen plant to normal. The Stuttgart-based car manufacturer was still responsible for customer service. However, while the number of repair orders increased, the supply of spare parts to the workshops visibly deteriorated. At the end of February 1947, after ORAG had taken over the spare parts warehouse in Muggensturm from a French military unit, Daimler-Benz was ordered to produce VW spare parts itself. The company told the French military government of its reservations regarding the manufacture of other firms’ parts and summoned general manager Münch to Gaggenau in May 1947 to settle the matter. During the meeting, Director Gutter admitted in confidence that Daimler-Benz had "no interest whatsoever" in the VW repair business, but that no objections would be raised if Volkswagen were to conclude workshop agreements with the Daimler-Benz authorised workshops.152

The more Volkswagens went on the roads in the French zone, the more obvious the weaknesses of this provisional solution became. In December 1947 the French military government enquired of the Volkswagenwerk whether their vehicles could be repaired in Wolfsburg. Major Hirst declined direct assistance, because 800 vehicles were waiting to be overhauled and both the personnel and physical capacities were fully in use. Instead he promised to support the French military government and ORAG in the setting up of a workshop by providing practical and technical advice. Because trading in Volkswagens was increasingly expanding in the German economy, in February 1948 the French military government informed the Volkswagen plant’s British trustees of their decision to let ORAG set up a distribution network in the French zone. The department in charge of allocating the Bizone’s steel quotas and monitoring their use promised the Volkswagenwerk an improved supply of raw materials and fair distribution. The cars and parts were to be allocated to the carefully selected dealers in line with customer numbers, taking no account of the area to be looked after.153
In spite of all these difficulties, within only a few years the Wolfsburg company, with British support, had extended a close-meshed network of dealerships over the Western zones of occupation. By 1949, 31 wholesale and 103 retail dealerships were handling the sales and servicing of Volkswagens. Consequently, the Volkswagenwerk was no longer trailing the field, but had actually established a small lead over the competition.
"Too ugly and too loud" was how Sir William Rootes summed up the wartime version of the Volkswagen saloon in 1945, adding his gloomy forecast that: "A car like this will be popular for two or three years, if at all." Rootes was wrong about its future development. In the fifties, the dream of owning a Volkswagen set the car-mad Germans alight. The Beetle supplanted the Borgward "sticking plaster bomber" as the most popular car, became an export hit, and in 1972 broke the legendary record of the Ford Tin Lizzy with 15,007,043 models sold. Its later reputation sometimes made people forget that the Volkswagen manufactured in the first years of the occupation in many ways failed to match the standards of British or French cars. Between the post-war version and the Volkswagen of the "economic miracle" lay, if not worlds, then at the very least a broad spectrum of lasting improvements. Some of them in retrospect proved Rootes' unflattering assessment right.

The "Kundendienstbrief" (service bulletin) No. 13, issued in July 1946, gave information on the initial success of the attempts to reduce engine noise. To this end the rear part of the roof uprights had been filled with insulation, and the rear part of the luggage space floor together with its rear wall and lid had been lined with bonded felt, on which a boot lining had been fixed. In the following year, the still high noise level was further diminished with the application of "anti-boom compound".

Visually, annoyance was caused by the "multi-coloured engines" installed up to the spring of 1947, with their dark-blue air filter, green cover plate and black and grey hoses. Whereas this small visual blemish was relatively easily fixed by unifying the colour scheme, the vehicle finish itself presented an extremely knotty problem. As the sales department reported in December 1946, a number of the vehicles delivered in the previous month were covered with a heavy layer of dust, leaving visible damage to the outer skin of the paintwork which could only be remedied by a respray. Most vehicles had bad incipient rusting on the door hinges, the flanges on the front and rear lids, and the rain channels. The American inspector rejected on average 20 to 25 per cent of the vehicles supplied because of substandard paintwork and rust spots. The numerous complaints of the Military Governments were swelled by the grumbles of many customers that the Volkswagen was not supplied with a high-gloss finish.

The paintwork and rust damage were in part due to the lack of suitable parking lots for the new vehicles. The parking areas allocated to sales in the foundry building proved unsuitable because the roofs were in some cases badly damaged, and despite numerous reminders to the factory construction department had not yet been properly weatherproofed. In rainy or snowy weather the bodies were so badly damaged by lime splashes that almost all vehicles delivered had to be touched up or resprayed. The sales department therefore announced in December 1946 that it would no longer accept these vehicles. Whilst the premises improved, the problems with the vehicle paint finish remained. In June 1947, 220 vehicles had to be resprayed. Three months later the inspection department reported that the green bodies stored for the American army had become unsightly in a short space of time through "signs of
corrosion between filler and topcoat" and could therefore not be delivered. For the same reason a series of grey cars for the French zone and green vehicles for the British army had to be resprayed.

In order "not to jeopardise the good name of the Volkswagen through negligence" the inspection department called for an urgent improvement in the quality of the materials used. The laboratory must be enabled, through the provision of appropriate equipment, to examine the paints, filling compounds and thinners supplied. At the same time there was a need for an expert who was familiar with the latest paint manufacturing processes and who could transform the paintshop from its current "primitive level" into a "modern operation". However, this justified demand came up against an increasingly poor material supply. The problem could be alleviated through rust-prevention measures, but could not be eliminated. A solution was only set in motion in January 1948 with the appointment of a specialist, whose task was to improve the Volkswagen finish.

Other defects in the Volkswagen's appearance derived from a production process severely impaired by tooling shortages, badly worn machinery and personnel bottlenecks and in which improvisation was more or less the order of the day. Consequently, defects crept in as a result of inaccurate production of parts or poor assembly. Doors and lids did not shut properly, the glove-box lining curled up, and the headlamp and interior light lenses cracked due to inbuilt tensions, even when the vehicles were immobile. The factory management was under no illusions as to the impression made by the Volkswagen. At the production meeting in June 1947 all present agreed that its appearance and assembly had to be considerably improved.
If these and other quality defects were to be removed, a well-organised inspection programme was essential. It was mainly thanks to Major Hirst that a functional quality control programme was set up at the Volkswagen plant in 1946, under the supervision of the REME. However, the search for a suitable head of inspection proved difficult, as qualified personnel were also thin on the ground at that time. A team of non-commissioned officers, sent to the Volkswagenwerk by the British army at Hirst’s request, was therefore entrusted with inspection duties on a temporary basis. The leading officer, a metallurgist by profession, contributed some good ideas for improving the quality of the vehicles and, together with Hirst, developed a defect reporting system. The role of inspection manager was finally given to Helmut Orlich, who had previously worked at Opel in Rüsselsheim.161

Despite the inspections, the overall quality of the Volkswagen could not be improved overnight, as it was the result of improvised production processes hampered by material and labour shortages, which continued to cause a whole series of
defects. Josef Kales, the head of the design office, hit the nail on the head when in December 1946 he pointed out to general manager Dr. Münch the various respects in which the execution of the Volkswagen was to be faulted. For him it was details in the manufacture and assembly that jeopardised the good name of the Volkswagen, which was “technologically still way out in the lead”. A discreet criticism of the British production instructions could be discerned in his stated view that the manufacturing side was more concerned with quantity than quality. Kales warned that the surface quality requirements should not be disregarded for whatever reason, that a component “should not only get a few knocks with a chisel instead of being oilproofed by caulking, and that a cylinder should not have any kind of a shape except a cylindrical one”. For high-volume series production the chief designer regarded "proper and conscientious preparation" as being the most important element, from the quality of the materials and the good working order of the jigs and machines to the accurate assembly of every individual component.¹⁶²

Precise production preparation repeatedly came up against the inadequate provision of materials and personnel. Commercial Director Leonhard Kemmler indirectly laid partial responsibility for this at the door of the British factory management. In his opinion, their insistence on meeting the production targets caused problems which made a mockery of even the most foresighted planning and work preparation.¹⁶³ On the other hand, there was a whole series of organisational deficiencies, some of which were eliminated in the course of 1947. The originally centralised production planning department was split into chassis construction and press shop, and spatially organised so as to ensure a closer collaboration between the shops. Incomplete or inaccurate manufacturing plans were completed or corrected. To counter the constant discrepancies in materials provision, the work preparation department took over the disposition of materials and also the task of ensuring the punctual introduction of design modifications. The function of the centralised schedule monitoring department was taken over by shop departments which monitored adherence to individual schedules for a prescribed section. A big leap was made by the central tool administration. In meticulous detail work, an estimated 10,000 tool types had been reduced to 1,400 tools requiring drawings and just under 1,000 DIN-standard milling tools.¹⁶⁴

In design terms, the Volkswagen did not need to fear comparison with the competition. Its sturdiness, which had already become a byword, was something to make the most of. Richard Berryman demonstrated the structural stability of the saloon to three visibly impressed Ford engineers by driving along the potholed roads behind the factory. Apart from rattling doors, the car survived the ordeal unscathed.¹⁶⁵ At any rate, a report on the first international motor show in Paris was positive for the Volkswagen, at least in the view of Josef Kales. Despite its 10-year-old design, it could hold its own in every respect with the new French models. Kales made no bones about the fact that some things could have been done differently. However, now that production was aligned to this version, for commercial reasons it had to be kept to. The design of the steering for example proved less than ideal because the steering box was made of sheet metal and not cast, which meant that the necessary manufacturing tolerances could scarcely be
achieved. Consequently the steering was heavy, and it wobbled. Furthermore the air-cooled, very noisy engine, the lack of a synchromesh gearbox, and cable brakes were hardly the mark of modern vehicle engineering. And the list of defects occurring was a long one.

For example a loud ticking noise of a tappet on the right side of the engine gave rise to complaint. Neither the driving-in inspection nor the reworking department was able to eliminate this defect. Leaky fuel taps were one of the most annoying complaints, as this defect was only noticed after filling up with fuel. In May 1947 ten fuel tanks had to be removed and sealed, in June 15 fuel taps replaced. Karl Martens of the Sales department suspected that the cause was the "fouling of the track rods" and called upon the design department to find an immediate solution. Of the various complaints, the carburettor never ceased to give trouble, frequently accumulating heavy deposits even prior to delivery. On cleaning, a "brownish-black, powdery substance" was encountered, which was deposited in the float chamber and blocked the jets. This was the reason why 20 of the vehicles taken to Hamburg in April 1947 broke down on the way. The correct adjustment of the carburettor also gave problems. The checking supervisor at the Gottfried Schultz wholesale dealership complained on taking delivery of the vehicles that the carburettors had no transitional range, and when the accelerator was depressed suddenly, they choked. Gearbox defects, broken camshafts and steering which refused to return automatically to straight-ahead after bends, completed the sorry picture.

The sales department had on several occasions called for a stricter final inspection, so that the defects did not have to wait until after delivery to be rectified. After the stricter inspection conditions agreed with the inspection department came into force on 20th March 1947, the number of complaints fell to an acceptable level. In July 1947 Martens was able to report that, with the exception of the leaking fuel taps, previous defects had not recurred. Even so, the inspection department remained unpopular within the victory. Under the prevailing materials and personnel conditions, and the resulting compromises, it was difficult to maintain a proper quality standard. Inadequacies in production were the rule rather than the exception. And no department was exactly delighted to have its mistakes constantly held up for criticism. The inspection department did not, therefore, enjoy a very high level of popularity. Its decisions were constantly made light of and frequently disregarded. At the beginning of October 1947 Major Hirst had driven some of the vehicles straight off the line, and was not satisfied with the results, as he wrote to general manager Münch. All heads of department must be pressed to improve quality, because current production was in no way competitive. Hirst identified the source of the defects as being inadequate supervision in the machine workshops and in body construction. As a result, he said, "inferior work" was being allowed through at all stages.

Hirst was not mistaken in his suspicion that the inspection department was being ignored by production. Only a few days later a complaint landed on Münch’s desk from the head of inspection, Helmut Orlich. According to Orlich, the foremen in the press shop and hardening shop had "most frivolously" disregarded the inspector’s decision and passed on the disc wheels
that he had rejected to production, bypassing the checkpoint. 

This was not an isolated case, and furnished proof that the importance of inspection activity for a well-functioning series production was still seriously underestimated. To what extent material shortages played a part cannot be stated with certainty. At any rate, on 3rd and 4th November 1947 production came to a halt because the hardening salts supplied by the Degussa company did not comply with requirements and the disc wheels could not be processed. A transport convoy was despatched to the Soviet zone to get the necessary raw materials.

The inspection department was not prepared to put up with transgressions of this kind, and demanded that those responsible be called to account. Münch took this complaint seriously and called for an investigation, in order to avoid similar incidents in the future. Only recently, the steering arms on four vehicles had fractured due to poor material quality, as a result of which the management had decided to implement a replacement campaign covering all Volkswagens, as far as this was possible. Because the defect could not be satisfactorily eliminated as things stood, Hirst obtained a detector from the British army with which all important steering components were magnetically examined for cracks in future. In other ways too the Senior Resident Officer acted as a driving force for the quality development of the saloon. He constantly pressed for improvements in vehicle engineering and quality, in order to make the Volkswagen capable of holding its own with the competition. At the management meeting at the end of July 1947, when export had become a realistic prospect, Hirst announced a three-phase programme for the further development of the vehicle. Phase one comprised the attempts to procure better materials, and
Only after a quality control were the saloons permitted to pass the checkpoint.
the adherence to manufacturing tolerances. The second phase called for the elimination of defects, and improvements in the vehicle and its equipment, without undertaking any design modifications. In phase three, postponed by the Board of Control for the time being, the design of a new vehicle was to be put in train.173

At the end of 1947, general manager Münch was able to present a positive balance sheet. The carburettors developed by Solex had been modified in such a way that a faultless idling and transition to acceleration were achieved. With the development of a new felt-element air filter and a deflector inserted in the cooling-air intake, the serious fouling and over-cooling of the engine were prevented. This had a positive effect on the service life of the cylinders, whose quality had been improved by an alteration to the composition of the alloy used and to the milling process. When the cylinders and pistons were lengthened, the Volkswagen ran more quietly. The crankshaft production line was modified in order to achieve better adherence to tolerances in manufacture. The loosening of the camshaft wheel was eliminated by improved riveting. Frequently occurring running noises from the disc wheel and bevel gear disappeared thanks to a new device permitting precise adjustment. In the gearbox the dimensional precision and surface quality of the gears, running parts and bearings were improved. A new noise monitoring device was set up to examine the running noise in the differential and the gearbox. The rattling of the front axle had disappeared; the steering worked well. The necessary corrections had been implemented in the fitting of panels, with the result that doors and lids now closed properly.174

One important innovation was still at the design stage. At the beginning of September 1947 Josef Kales began installing a hydraulic brake produced by the Teves company, which gave rise to considerable design problems in the re-siting of the hand-brake.175 It seems that these problems were insoluble, as the Volkswagen had cable brakes up until the fifties. Nonetheless, since start of production the saloon had undergone a sort of metamorphosis, which Hirst in retrospect demonstrated, taking the steering as an example: "We started with a car whose steering was wobbly. I said, okay, get the wheels balanced, and they did. Change the steering box, so they did. Change the front axle, so they did. And we had a different car."176
The export question

The possibility of exporting the saloon was first debated at the Volkswagenwerk in May 1946. Major Hirst proposed to factory manager Brörmann a quota of 1,500 vehicles for the export business, for which it would be necessary to increase monthly production to 2,500 cars by the end of the year. To present this project to the British government, in June 1946 Leslie Barber of the Property Control Branch travelled to London, where he explained the plans at a meeting of the Control Office for Germany and Austria. To counter the intentions of dismantling the factory, he set forth the argument that the residents of Wolfsburg were entirely dependent on the Volkswagenwerk for their livelihood, there being no other employment opportunities available. Barber felt it would be irresponsible to deprive the workforce of their jobs and to allow the housing to fall into disrepair. Instead, he proposed a profitable production of 2,500 cars per month, 1,000 for the British military government, 1,000 for export and 500 for the German market.

A similar initiative was undertaken by the chairman of the National Savings Committee, Gibson, who had studied the possibilities of expanding production at the Volkswagenwerk for the purpose of export business. In July 1946 he submitted to the British Chancellor of the Exchequer, Hugh Dalton, the suggestion of exporting Volkswagens for a limited period of two years and under British control to Switzerland and Sweden.

In this period the British motor industry could adjust to the European demand for motor vehicles, and the export of Volkswagens could prevent the European market being monopolised by American manufacturers. To make the project palatable to the Exchequer, Gibson dangled the figure of currency earnings of 7 million pounds.

This was music to the ears of Dalton, who was pressing for a reduction in occupation costs so as to relieve the state coffers, which had been badly depleted by the war. To finance the war effort, Great Britain had had to sell off a large part of its foreign reserves, and was now pumping its remaining dollars into the purchase of foodstuffs and raw materials for the British zone. In the eyes of the British government, the budget deficit was ultimately a significant reason for zonal amalgamation, which would allow the dismantling of the occupation system and consequently a reduction in occupation costs. The Exchequer therefore was in favour of increasing income and currency earnings at the Wolfsburg publicly operated undertaking, if necessary through the export of Volkswagens. In this matter the Exchequer, together with the Foreign Office and the Military Government, presented a united front. The latter had for a long time been urging that no possibility of exports from Germany should be left unexplored.
The Ministries of Trade and Supply opposed this plan, as both of them regarded their chief priority as being the protectors of the British motor industry. They feared, not without justification, that any production increase for the purpose of export would develop into a mushrooming vehicle production as soon as the Allies had revised the Level of Industry Plan. As a result, not only would the British motor industry lose the steel supplies required for its expansion, but so would those German companies which were of direct significance for a reconstruction of the British economy. Both ministries were therefore seriously considering proposals that the Volkswagenwerk should be dismantled. In the summer of 1946, the Ministries of Trade and Supply achieved a temporary victory, and the Volkswagen exports file was provisionally closed. However, after the Level of Industry Plan was suspended in October 1946, their massive opposition crumbled bit by bit, with the result that the following spring the Military Government was able to reopen the export question.\textsuperscript{179}

On 22\textsuperscript{nd} March 1947 Major Hirst informed the factory management about the possibility of exporting Volkswagens. With this in view, exhibitions were shortly to be organised in Berlin, Hanover, Kiel, Düsseldorf and Hamburg.\textsuperscript{180} This possibility took on a concrete, if unusual, form in April 1947. The Belgian Government expressed interest in importing Volkswagen assembly kits, in order to promote employment in its domestic automotive industry. A discussion between British and Belgian representatives resulted in the proposal to export 5,000 Volkswagens to Belgium. Of these, 500 were to be supplied as bodies and 5,000 in the form of sheet-metal parts with engines, gearboxes and axles, and the Belgian motor industry would be responsible for assembling them and equipping them with glass, textiles, batteries and so on.\textsuperscript{181} The director of the Mechanical Engineering Branch in Minden, Harle, thought this was a lucrative deal, because the Brussels government had promised high-quality blanks and the VW press shop had unused capacities.

For clarification of this question Harle suggested to the head of the Industry Division at the Berlin headquarters that the factory’s production should be raised to the limit on the basis of the steel available in order to satisfy the various interested parties. 1,000 cars per month were to be manufactured for the Military Government and 1,000 for export, with any production over and above this going to the German market.\textsuperscript{182} The Ministry of Supply objected to this, pointing to the shortage of steel, but in principle the die was already cast for the export of the Volkswagen. In June 1947 the British had a supply agreement, signed and sealed, with the Belgian importer Electrobel for 350 vehicles at a price of 160 pounds each. Because the required sheet metal was to be supplied by the Belgians the Trade and Supply Ministries withdrew their objections.\textsuperscript{183}

The suggestion to export the Volkswagen not as a fully built-up vehicle, but divided into assemblies, met with the keenest interest on the part of the factory management. As Kemmler pointed out to Major Hirst in a letter in mid-July 1947, the advantages of such a business were obvious. By circumventing the problems of the procurement of materials which were in short supply, the export business could start up considerably earlier than with the delivery of fully built-up vehicles. In this way currency would flow faster into the British import fund, out of which the Military Government financed foodstuffs and raw materials
from abroad. The Volkswagen plant was able to take direct advantage of some of the export proceeds in the form of a discretionary export bonus which was in urgent demand, for example for the importation of scarce materials. On account of the supply of sheet metal, and of dispensing with the equipment, this order could run more swiftly through production. The provision of materials by the importer accounted for only a small part of the export proceeds. What was decisive for the assessment of this business remained, in Kemmler’s view, the currency gains to be achieved.\(^{184}\) This trade presumably came to grief for the same reason which also caused the Electrobel deal to fall through. When the British officers visited the Belgian steel works, accompanied by representatives of the importer and of the Brussels government, it transpired that the works were already working flat out for the British automotive industry. They therefore refused the government representatives’ request to supply sheet steel to Wolfsburg.\(^{185}\)

Despite these setbacks the British military government stood by the decision, approved by London, to crank up Volkswagen saloon exports. At the end of July 1947 Hirst informed the factory management that the occupation requirements for vehicles were contracting, and would be covered by the end of the year. The car production capacities thus freed would be split equally between export and the German market, after the British military government including REME had been supplied as a priority. However, Major Hirst strictly ruled out sales to the international black markets, on which the Volkswagen fetched between 20,000 and 30,000 Reichsmark. Hirst warned that this sort of business, while promising the highest dollar rates, would backfire in the long run. In agreement with the Joint Export Import Agency (JEIA), founded in Frankfurt following zonal amalgamation, the Board of Control favoured an export business via representative importers "on the basis of sound business principles, although this would mean correspondingly reduced currency proceeds". The British believed this was the only way to guarantee a sound, sustainable export business. The JEIA was prepared to purchase material abroad in order to raise the quality standard in terms of paint finish, upholstery etc. It remained an open question to what extent the export bonus of 10 per cent should be applied. The objections of the Ministry of Trade and Supply were stilled by restricting the use of the imported materials for export vehicles only.\(^{186}\)

In the meantime, at the Volkswagenwerk, the preparations for the export business had begun. At a meeting with representatives of the Economic Administrative Office in June 1947, general manager Münch had received the official notification that the order for 1,000 cars for the French military government had been cancelled, and that instead 500 export vehicles were to be produced: 200 for Holland and 300 for Belgium. Because the standard version of the Volkswagen did not meet the expectations of foreign customers in terms of equipment and appearance, the committee consisting of Paulsen, Striebig and Feuereissen was asked to come up with suggestions for the development of an export model. Time was of the essence, because it was intended to present the Volkswagen at the forthcoming trade fair in Hanover.\(^{187}\) Another key point was touched on by the factory management during a meeting in mid-July 1947: the Volkswagen’s far from glorious past. After the occupation of half of Europe by the Nazis, its reputation as the "Führer’s" favourite toy could prove a millstone. The question
therefore arose as to whether the trademark "Volkswagen" should be replaced, and the company name changed from Volkswagenwerk GmbH to Wolfsburger Motoren Werke. The task assigned to Feuereissen of converting the colourful "Strength through joy" catalogue for export purposes was a first indication that this matter was to be approached in a pragmatic fashion.188

During the Hanover Fair, the first official export of the Volkswagen to the Netherlands occurred at the beginning of August 1947. For months "Pon's Automobilhandel" of Amersfoort, now the licensed importer, had been working towards this moment with perseverance, and occasionally in somewhat unconventional ways. Arthur Railton remembers that on one of his visits to the Volkswagenwerk, Ben Pon had stopped off at the Minden headquarters in order to talk to Colonel Radclyffe about the intended importation of Volkswagens. When the latter learned that Pon had previously been active in the automotive business, he offered him Volkswagens in exchange for sheet steel. The Dutch importer for his part offered enormous amounts of herrings for the factory canteens. Because they contained too much fat, and in accordance with the nutritional directives could not be given to the workforce, Radclyffe had to decline.

The handover of five Volkswagens to Pon – the sixth was not accepted by the inspection department – aroused great attention in the press, which extolled this "historic moment" as the rebirth of German export.189 That same month at the Paris motor show, the Volkswagen passed its first international comparison test, which emphasised its favourable price/performance ratio.
The first Volkswagens for the export to Holland are inspected by Ben Pon. Left to right: Karl Feuereissen, Karl Schmücker, Ben Pon, Karl Martens, Frank Novotny, Peter Kock.
compared to other manufacturers. Major Hirst had visited the exhibition, accompanied by Colonel Radclyffe, to ascertain a suitable price for the export saloon. The market analysis indicated that the Volkswagen was comparable with the Škoda, which now became the benchmark for determination of prices.\(^\text{190}\)

In fact there could hardly have been a worse moment to start up the export business with Volkswagens. In August 1947 the material supply crisis was at its height, for which reason, on the advice of Kemmler and Steinmeier, production was throttled back to 800 vehicles and the commanded programme of 1,000 vehicles per month was postponed by six months. Once again, at the beginning of September 1947, the British had to correct the already revised instruction to increase monthly production to 2,500 vehicles by July 1948. In agreement with the representatives of the Joint Export Import Agency and the VAW planning department, it was now firmly resolved to affect the production increase during the coming year. Prior to this the occupation requirements were to be reduced to 300 vehicles per month, leaving the rest available for export and for the German market.

General manager Münch suggested reducing the ordered programme slightly and making up the deficit at a later date, so as to be able to export some vehicles immediately. Major Hirst rejected this on the grounds that firm resolutions had already been adopted in this matter. In December 1947, in respect of raw material allocations for the export and civilian business, there was a yawning gap of 3,350 tonnes of steel. One reason for this was the provision that steel quotas for vehicles intended for export were to be supplied by preference where a firm contract existed. In the case of planned deliveries, however, the Economic Administrative Office only released small quantities. Colonel Charles Radclyffe immediately set about procuring the necessary quantities of steel from them.\(^\text{191}\)

The number of vehicles exported in 1947, given in the statistics as 1,963, is misleading, because as of June the vehicles delivered to the civilians connected with the Military Government were accounted via the export procedure. Of the 126 cars "exported" in June, 116 went to British families and 10 to the foreign press.\(^\text{192}\)

The expectations which above all the British had placed in the export business since the middle of the year were not fulfilled. In numerical terms the export of Volkswagens in 1947 was negligible. However, the figures were unimportant when set against the fact that export had been finally pushed through in the face of the ministerial resistance which had been encountered, and was at last able to get going properly in 1948. It may even be that this delay was a good thing in the long run. The factory management had sufficient time to transform the standard version into a model fit for export. In order for the Volkswagen to survive among the foreign competition, a series of cosmetic measures was implemented. The export cars were far better crafted and equipped, from the paintwork and an appealing selection of finishes, to the upholstery, and the chromium-plated bumpers and hubcaps. With this constant insistence on improving the quality of the vehicles destined for export, Major Hirst made a decisive contribution to establishing Volkswagen’s good reputation.
The Industry Division in Minden was interested in seeing the German management becoming stronger and more independent. Throughout the British zone, the military government was obliged to make a drastic reduction to its exorbitant occupation costs by dismantling the administration system. The amalgamation of the American and British zones of occupation on 1st January 1947 was a vital step in this direction, since Great Britain's war debts with the USA had brought it to the brink of economic ruin. After the decision to set up the Bizone, which was a boost for the proponents of reconstruction, the British military government's medium-term policy was directed at returning the factory to German hands, as Colonel Radclyffe stated at the meeting of the Board of Control in early December 1946. Because production had now been organised and sufficient numbers of vehicles could be produced, he asserted that there was no longer any need to exert strict control. The Board of Control's plans involved transferring responsibility from the Mechanical Engineering Branch to the Property Control Branch and entrusting the latter's on-site representative, F. T. Neal, with the position formerly occupied by Ivan Hirst. Together with Colonel Radclyffe, Hirst was to maintain a relaxed supervision of production through flying visits. Major Hirst was withdrawn in December 1946 and sent home on leave.

The Property Control had raised objections to this decision as it doubted strongly whether the interests of the Military Government would be adequately protected under the new arrangement. As it soon turned out, these doubts were justified. The first attempt to transfer governance of the company to the German management turned into a fiasco. Left to its own devices, in the grave crisis of 1946/47 the factory management proved incapable of keeping the operation going and attacking the numerous problems to the satisfaction of the British. It failed in its attempts to secure a regulated provision of raw materials, and instead got itself entangled, at least in the view of the Military Government, in dubious black-market deals with the support of the Economic Administrative Office. Major Hirst was hastily recalled and despite his official posting spent the majority of the time performing his previous job in Wolfsburg, helping to control the chaotic conditions. After this experience the British temporarily shelved the idea of returning the company entirely to German hands. It was feared, probably correctly, that once control had been relinquished, supplies to the Allies would no longer be assured. Major Hirst, now a civilian employee of the German Section of the British Foreign Office, was officially recalled to the Volkswagenwerk and assumed the position of Senior Control Officer.

There was, however, no alternative to a strengthening of the management. At the end of May 1947 the Bizone powers had set up the "Wirtschaftsrat für das Vereinigte Wirtschaftsgebiet" (Economic Council for the United Economic Region), thus creating a German quasi-parliament. This was one reason why in the summer of 1947 the Board of Control of the Volkswagenwerk envisaged the setting up of a corporate Board of Management.
Major Hirst informed the management of the new situation at the end of July. Because the Economic Council in Frankfurt was a higher instance, the military government could no longer exert pressure of command on authorities and suppliers in the British zone. The factory management was therefore to be reorganised into a Board of Management vested with increased responsibility and more powers. This would have to fight, both for production and for the procurement of the necessary materials, through constant negotiations with the Economic Council and its subordinate authorities. The British resident officer assured it of the full support of the British and American military government in the forthcoming negotiations.195

The new requirements, and the expansion of production striven for by the British, demanded an experienced technological expert, since this position had been more or less vacant since Brörmann’s dismissal. Hermann Münch, an industrial lawyer by profession, could not fill this gap. His appointment as general manager was probably more a question of a lack of alternatives than of unrestricted confidence in his abilities. In Major Hirst’s view he was a good manager as far as legal and financial matters were concerned. According to Hirst however, he had insufficient technical knowledge to deal with the manufacturing problems of a large automotive company. In support of the general manager, Hirst recommended the Board of Control to look around for a technical expert.196
This was the cue for Heinrich Nordhoff, who as ex-chief of the Opel works in Brandenburg possessed not only leadership qualities but also experience in automotive mass-production. Because his position had earned him the rank of "Wehrwirtschaftsführer", Nordhoff had been dismissed under the denazification guidelines applicable in the American zone of occupation, even though he had not been a member of the Nazi party. Having been unemployed since the end of 1946, Nordhoff accepted the post of Managing Director with the Hamburg-based Opel dealership, Dello & Co. It is thought that his initial contact with Ivan Hirst took place in the drawing room of Dello’s owner, Lisa Praesent, in the autumn of 1947, when Hirst invited Nordhoff to a meeting in Wolfsburg. Visibly impressed by Nordhoff’s charisma, Hirst gave up his original plan and proposed the Opel man as general manager. An interview with Radclyffe secured Nordhoff a second patron, who now together with Hirst arranged for Münch’s removal from office. On 7th November 1947 the Board of Control appointed Heinrich Nordhoff managing director, requesting him to take up his new position as soon as possible.197

To begin with the current general manager Münch was kept in the dark regarding this decision. He introduced the new man to the company, and during this time enjoyed a "friendly and harmonious collaboration" with him. With regard to the future division of tasks, both had agreed to draw up only basic lines of demarcation and work out the details at a later date, depending on practical requirements. All the more bitter was Münch’s disappointment when on 25th November 1947, in an interview with Major Hirst, Property Control Officer Neal and Nordhoff, he was informed of his removal from the position of general manager. Only the previous evening Nordhoff had been a guest in his house, but had, he said, been required to maintain silence on the decision. Whether Münch believed this version is not known. In any case his letter to Nordhoff rang bitter as he demanded "that no opprobrium should attach to my good name, which is all I have left, and that there should be no (...) suggestion that I should have failed here in a great and important task”. And although he did not accuse Nordhoff of plotting, the impression had nonetheless been formed "that you ousted me".198 It is indeed unlikely that Nordhoff would have been in favour of a duumvirate, because the centrally managed line and staff organisation that he was aspiring to, modelled on General Motors, and his rather autocratic management style could not tolerate a second decision-maker. However, the last word went to the Board of Control, which after a final convulsion from Münch indicated that "no further change is admissible" in this matter. Münch proved unable to overcome his bitterness at the lack of recognition of his efforts. In April 1948 he also resigned as trustee. His place was taken on 1st May 1948 by Dr. Hermann Knott.199

With Nordhoff’s assumption of office on 1st January 1948, the British factory management retired to the background, leaving him a free hand with the management of the company. A clear indication of this victory for autonomy was the restructure of the German management, which had been under discussion since early November 1947 and was implemented in May 1948 under Hirst’s supervision. The Volkswagen plant now acquired a full management board as befitted an industrial concern, consisting of technical management, personnel management, purchasing management, sales management, finance management and operational management.200
Supplies of raw materials still determined day-to-day business, even under general manager Heinrich Nordhoff, especially since the shift to a firm global quota at the beginning of March 1948 only partially fulfilled company expectations. The new procedure scheduled allocation of 10,000 tonnes of iron and steel per month, which thus set a limit to the number of vehicles which could be produced in 1948. Up to this limit, according to Fritz Wenk, supplies of parts and other materials were assured. Beyond this limit, shortages must be expected, especially of tyres. The quota of 10,000 tonnes included the commanded production, exports and the orders of fleet customers such as the railways or the post office. Because there was as yet no decision as to how this global quota was to be distributed among the individual motor manufacturers, the Volkswagenwerk could not make reliable production plans for the current year before the end of March 1948.

This delay presented problems, as Purchasing had made its dispositions at the end of 1947 on the basis of the "Rothenburg programme". It was now doubtful whether this programme could be fully covered by the global allocation, and also whether a part of the raw material quantities received in 1948 could be processed in production due to a lack of other materials. An unbalanced store involved certain risks in view of the forthcoming currency reform. Apart from this, there was a fundamental disagreement between the "Verwaltung für Wirtschaft" and the "Hauptverwaltung Straßen und Verkehr" about whether it was a matter of a global or an advanced allocation. These differences of opinion could have a deleterious effect on the motor vehicle industry.201

As had been feared, the new quota arrangement brought with it no perceptible improvement in the allocation of raw materials and components. In March 1948 1,200 cars left the assembly hall – 100 less than planned. The following month only 1,250 cars were built instead of 1,400. In his factory report to the Board of Control, Major Hirst gave the reason for this as problems in materials procurement: the deliveries were late in coming, there were shortages of rubber mouldings and disc wheels, and sheet steel was scarce, as were the electrical components supplied by Bosch. The "Auslands-Handelskontor" (Foreign Trade Branch) and the Joint Export Import Agency had intensified their efforts to import the materials which were in short supply. But these were sometimes three times more expensive from foreign suppliers.

The production meetings in the first half of 1948 revealed a similar picture. Scarce, and sometimes unobtainable, were rubber door seals, tyres and tubes, rubber mats, seals, fibre sheets for the luggage boot, petrol pipes, brake drums and paints. The shortfall of 68 bodies in mid-May 1948 was due to the lack of rear side panels. At the end of June the upholstery line shut down for lack of springs for the front seats. In addition production manager Steinmeier announced backlogs of 172 bodies and 422 gearboxes. It was explained to him in this connection that production in the assembly jigs had come to a halt four times that month because heated discussion had broken out among the workforce regarding the reduction of working hours. During the discussion on this topic, the factory management had complained that the sale of foodstuffs within the factory inhibited production.202
In mid-June 1948, general manager Nordhoff complained to the Industry Administration in Frankfurt concerning the inadequate provision of materials. He said that the head of the vehicles construction department had promised to increase the quota weight per vehicle from 850 to 1,000 kilograms. Furthermore the allocation of components in no way satisfied requirements, prompting the general manager to condemn the current regulation as inadequate. Fritz Wenk made it clear in self-defence that he had tried to get a fifteen per cent increase in the quota weight from the special department of economic planning. However that department did not wish to adopt any new regulations in view of the immediately forthcoming currency reform. This was also the reason why the Volkswagenwerk was being bombarded with "Bezugsscheinen" (supply permits), because all the customers were pressing for delivery of a car before the currency change. Because the Volkswagenwerk could not meet these demands, it was open to the accusation of deliberately withholding the vehicles. Incensed at this, Nordhoff informed the Industry Administration that he was seriously considering "stopping deliveries altogether, exactly as all the suppliers are doing to us".203

The stagnation and contraction of the markets in the months prior to the currency reform gave the general manager little cause for optimism. Indeed it was with some concern that he viewed the long-term security of the company. The Industry Division’s deliberations concerning a transfer of the Volkswagenwerk to Ford and concentration on the Cologne Ford works’ car production in Wolfsburg therefore met with his agreement. In this way Nordhoff believed he could procure the necessary capital reserves and forge ahead with technical modernisation of the factory. Amalgamation with Ford furthermore looked like a good thing from the point of view of eliminating the export trade restrictions, especially price fixing. The American car manufacturer was receptive to these plans and had expressed its interest in a takeover after viewing the Volkswagen plant in March 1948. They regarded the saloon as a unique vehicle which, with some improvements in design, materials and fabrication, had a brilliant future ahead of it. In the same month Henry Ford II, during his first tour of Europe, held exploratory talks with the VW general manager.

The initiative finally came from Nordhoff, who in April 1948 sent Ford a letter dealing with the question of a takeover. The American automotive giant decided to acquire a large, but minority, interest in the Volkswagenwerk in order to prevent unpleasant reactions to a foreign takeover. In the Volkswagenwerk Board of Control the planned merger had a mixed reception. The Industry Division welcomed the proposal as a way of improving the capacity utilisation of the factory and bringing a breath of fresh air into the management. In the meantime the Property Control Branch envisaged a transformation into a public company, and refused to discuss the possibility of a private sale. Its veto may well have contributed to preventing the marriage of the two carmakers. While Nordhoff and Radclyffe stuck to the merger plans, in October 1948 Ford retreated a step, because the unclarified ownership question and the financing of the deal were meanwhile developing into insurmountable problems. After the Berlin blockade of 1948/49, the Ford Company put its European expansion plans on ice for the time being.204
Until the autumn of 1948 the future of the Volkswagenwerk as an independent company hung by a thread. The fact that the thread did not break was probably due as much to the differences within the Board of Control as to the ultimately lukewarm attitude of the American manufacturer. It was of great significance for the further development of the Volkswagenwerk that Nordhoff, despite several approaches, did not switch to Ford. With his energetic hands-on approach, he exploited the take-off phase triggered by the currency reform to raise the factory’s economic viability to an international level and boost the export business. Although somewhat unconvinced by the vehicle’s engineering, the general manager stood by the reliable model and resolutely backed mass production of the constantly improving saloon. This may well also have been why the suggestion of the Hauptverwaltung der Straßen to convert the Volkswagen engine to water cooling fizzled out at the beginning of 1948. Nordhoff’s strategy was ultimately crowned with success, and the Volkswagenwerk became the driving force behind the young Federal Republic’s economic resurgence.
Overnight the shop windows were filled with goods that ordinary consumers had not set eyes on for a long time. Secret hoards yielded up saucepans, toothbrushes, books and other long-yearned-for consumer articles which could now be sold without ration cards. A Volkswagen could, at least in theory, be delivered within eight days at a price of 5,300 DM. Even the cows seemingly reacted positively to the currency reform on 20th June 1948, because in the first week of the DM, butter supplies showed a remarkable increase.\textsuperscript{206} The "shop-window effect" lent the currency reform a veritably mystical quality. For most contemporaries it was not the proclamation of the "Grundgesetz" on 23rd May 1949 that marked the beginning of a new age, but the issue of DM banknotes. If an image symbolising Germany's New Beginning has etched itself on the collective memory, then it is that of the long queues which formed at the bank counters, where a per capita sum of 40 DM was exchanged at a rate of 1:1.

And at the Volkswagenwerk? "Everything changed in Germany, like desert flowers after a heavy rainfall. There was a new spirit of optimism, and steel and so forth was now available. Production at VW increased." Thus Major Ivan Hirst recollected the psychological and economic effect of the currency reform.\textsuperscript{207} Its short-term effect on production was indeed astonishing.

From 1,135 cars in May 1948, vehicle production climbed to 1,520 in June and 1,806 in July. This production increase was based at least partly on the release of raw materials which had been hoarded prior to the currency reform. Consequently the volume of supplies grew from 3.7 million DM in June to 9.3 million DM in the following month.\textsuperscript{208} Since mid-1947 withholding materials and only "swapping" them in barter deals had been common practice among VW suppliers. This is actually true of the entire national economy: in 1947 a large portion of production had already been stockpiled but was not recorded in any statistics. On this basis, the currency reform is revealed as part of an ongoing upward economic trend that began in the autumn of 1947. It was this trend alone that made the currency reform's resounding success possible.\textsuperscript{209} At the Volkswagen plant too, the stage for production growth had long been set by the German and British management. However, it was the instantaneous improvement in the materials situation that formed the essential basis on which the fruits of previous efforts could now be harvested.

The clean currency cut did however produce a short-term liquidity problem, because the Reichsmark assets of the company were converted at a rate of 1:10, whereas wages and salaries were converted into the new currency at 1:1. On the one hand there were the cash assets of 495,000 DM, and on the other the monthly wages bill of some 1.5 million DM. The company closed this financial gap with loans, which thanks to the rapid growth of income from the sale of vehicles were paid off again by the autumn.\textsuperscript{210} Conflicts with the suppliers arose from the business entered into during the currency reform.
In principle, liabilities incurred prior to the deadline were supposed to be converted at the rate of 1:10. In practice there were a lot of borderline cases. In April 1948 Volkswagen had ordered a batch of car tyres from Belgium via the Belgian import dealer Bonus-Service, which obtained an import licence in its own name at the foreign trade bank and paid for the goods. Because the tyres did not arrive in time before the currency reform, the importer offered to pay the debts prior to the deadline in cash. Volkswagen failed to take advantage of this. Bonus-Service now demanded the full DM price and refused to release the tyres. The Volkswagenwerk declined a settlement offered by the import firm, giving the reason that the import of the car tyres was not a business transaction on its own account, but an agency transaction, which meant that only one tenth of the outstanding amount was owing. This legal interpretation was based, it said, on the fact that Bonus-Service had purchased the goods with the VW currency bonus, and was not entitled to sell them to any other buyer. The importer thought differently. The "Bank Deutscher Länder" (Bank of German States), which had been approached for information, declined to intervene in con-
flicts triggered by the currency reform. The legal adviser who was consulted advised against proceedings, because the import firm was a legal entity of the United Nations. An action which could not be brought under German jurisdiction required the approval of the Military Government, which was only granted in exceptional cases. The adversaries therefore finally agreed on a settlement. The carmaker paid one half of the value of the goods, plus the importer’s costs and profit, in DM. Bonus-Service’s co-operation was rewarded with a Volkswagen.211

The free sale of the saloon on the German market remained restricted for a while, even after the currency reform, by the purchasing certificates in circulation. On account of bureaucratic delays, a large number of these was issued even after the deadline. On 1st July 1948 the motor industry had promised the Economic Administrative Office that it would supply customers having such purchasing certificates as a matter of preference. Yet the complaints multiplied, especially against the Volkswagenwerk, to the effect that this agreement was not being honoured. The trigger for an unpleasant letter from the Frankfurt authority to Heinrich Nordhoff was the latter’s instruction to some VW dealers in mid-August 1948 to send the owners of purchasing certificates to the back of the queue. It was a fact that many of these customers were, after the currency reform, not in a position financially to purchase the vehicles. Volkswagen therefore met other delivery obligations, especially in view of the fact that large numbers of buyers such as doctors, professional people and industrial companies had been passed over in the vehicle allocations. Furthermore the Volkswagenwerk had received exceptional permission to accept allocations in the amount of some 2,500 tonnes, because the Frankfurt economic authority was unable to provide sufficient iron quotas. Nordhoff therefore defended himself against the accusation, pointing out among other things that they ought to be able to deliver a larger quantity of cars which were "not encumbered with a mortgage from the Industry Administration".212

Despite these problems, Volkswagen production experienced an enormous upswing in the currency reform year, increasing from 1,110 cars in January to 2,306 in December. In addition to the improved materials supply, this upswing was helped by the easing of the labour situation. In March 1948 the bizonal authorities approved a wage increase at the Volkswagenwerk of an average of 15 per cent, and the partial rescindment of wage controls in November was followed by further income concessions to the employees. In conjunction with the general improvement in nourishment, this had a beneficial effect on the physical condition of the VW workforce. The numbers off work with doctor’s notes fell from 10-12 per cent at the beginning of 1948 to 2-4 per cent at the end of the year. As early as April the absentee rate had fallen from 14.5 per cent to under 10 per cent. By October it had fallen to 4 per cent, where it remained until October 1949.

The endeavours to establish a core workforce bore first fruits, which was probably due to a number of different factors: a prevailing mood of optimism, higher wages and, with the improved materials flow, the possibility of setting about the construction of new housing. With its own finance, the company completed a housing project started by the council, which in 1949 provided 174 accommodation units for factory employees. While the
workforce at the Volkswagenwerk increased from 8,382 in January 1948 to 8,819 by the end of the year and 10,227 in December 1949, the turnover rate fell. Between January and June 1948, 1,407 employees were taken on at the Volkswagenwerk and 1,495 left. In the second half, 758 recruitments and 333 departures were recorded. The comparable figures for 1949 were 2,279 and 771. In parallel with this, labour productivity improved considerably. The time taken to construct a vehicle fell from 179 hours in May to 148 in July 1948, reducing constantly after that to 127 in September 1949.213

Meanwhile the housing shortage in Wolfsburg remained an intractable problem. In April 1949 the Volkswagenwerk negotiated with the Lower Saxony Ministry of Labour for the construction of several blocks of flats in order to alleviate the housing problem as a matter of urgency. The existing accommodation was still overcrowded, and numerous factory employees were housed in hutments. Part of the workforce lived outside Wolfsburg and was ferried to work in factory buses. Recruitment suffered, as before, from the fact that no housing could be offered to applicants in the foreseeable future. And the existing accommodation sometimes left a great deal to be desired. In mid-May 1949 the VW general manager was informed that the rooms at the Central Hostel for single persons presented "not a nice picture". Due to the lack of straw, the 275 occupied beds were topped with galliasses filled with wood shavings. Heinrich Nordhoff thereupon sanctioned the equipping of the beds with mattresses. A turnaround in the housing situation came only with the start-up of private construction work, when in May 1949 the Military Government approved the conclusion of "Erbbaurecht" (inheritable building rights) contracts.214

The hopes nourished by the Volkswagen management, that the currency reform would cause the export shackles to fall away, were not fulfilled. Despite a rising foreign demand for the universally sought-after Volkswagen, the export business did not come up to expectations. Exports increased, but they could not keep pace with the general production growth because sales abroad were subject to two decisive restrictions. The Joint Import Export Agency (JEIA) only permitted exports against dollar payments, and as of 25th June set the exchange rate at 30 cents per 1 DM.215 And, as it informed the Commerce & Industry Group in Frankfurt, it did not intend to treat the export of Volkswagens in any way differently from other exports.216 At the request of the British the JEIA had set the price of the Volkswagen at 800 dollars, so that it could compete internationally with other small cars. In line with the old rate of 17 cents for 1 Mark, the export price would have been 4,705 Reichsmark. However the new rate resulted in a loss of 1,596 DM per exported vehicle. General manager Nordhoff, closing ranks with the Industry Division, pressed for a lowering of the exchange rate, but in vain. A company report noted in this connection that the imposition of dollar payments and the existing exchange rate resulted in "an almost complete throttling of export possibilities".217 In its endeavours to procure currency for the necessary imports, and thus reduce the costs of occupation, the British-American export policy was ultimately harming primarily itself because at that time bilateral national trade agreements were the rule, and not many countries were in a position to import private cars.
For all its criticism of the bureaucratic export regulations, Volkswagen escaped the effects of the "dollar clause". The JEIA provisions scheduled payment at the old rate for those export obligations which had been entered into prior to the currency reform. As Nordhoff remarked with satisfaction, the Volkswagenwerk was "the only German automobile factory to have had the courage" in the spring of 1948 to conclude long-term export agreements, even though "in those months actually all the omens were against it". If these contracts were terminated, the general manager dramatically declared, this would be "the final death" of exports. Indeed the company continued to export on the old terms and conditions until the spring of 1950. Six months later Volkswagen was able to reduce both the domestic price and the rate-adjusted export price. The export business was now helping to reduce costs through a better utilisation of capacities, and to establish a foothold in the foreign markets.

At the distributors’ conference in January 1949 Heinrich Nordhoff was able to present a positive balance sheet. Up to that point 2,000 cars had been exported to Holland, 1,500 to Switzerland, 1,050 to Belgium and 100 to Luxembourg. According to the official registrations which had been received the day before, Volkswagen was the top importer in Switzerland with 155 cars, followed by the British Standard with 120 "Vanguards". Opel managed a grand total of 12 cars. The general manager therefore requested the dealers to appreciate that 700 to 1,000 Volkswagens would still have to be earmarked for the export market. It would be irresponsible, he said, "if we were to fail to exploit this once-in-a-lifetime opportunity". Attacks from the British automotive industry, which publicly raised the spectre of dangers for its own export business emanating from Volkswagen, were countered by Nordhoff with simple figures. The British had exported 180,000 vehicles in the previous year, whereas the Volkswagenwerk had a share of just 2.5 per cent of total exports. Nordhoff commented on the fears stirred up in the British press by quoting the words of a Swiss newspaper: "The British Lion must have become a strange animal, to tremble at the yapping of such a little dog".

By liberating the market forces, the currency reform provided the trigger that the automotive industry needed for its growth spurt, sensitive as it was to economic trends. A free product market with fixed prices for raw materials put an end to West Germany's bottleneck economy, and the international economy was gradually moving towards a global free trade system. This development was especially beneficial to the Volkswagenwerk, which was utilising only one tenth of its annual capacity of 250,000 vehicles. Increased capacity exploitation meant increased profitability, and the enormous European demand for vehicles resulting from extensive wartime losses now opened up expansion potential beyond anyone's wildest dreams. With other countries begging for cars, the Volkswagenwerk was ready to deliver.
At a discussion evening in the Volkswagenwerk on 3rd June 1947, Property Control Officer F. T. Neal raised the question of what legal form the company should take in future. He had shortly before been at Berlin headquarters, and learned there of the intention of placing the factory in the hands of the German people. The proposal he himself submitted called for the management of the factory to be transferred to a managing board of trustees. These should be responsible to a body made up of representatives of the highest government departments, the union, the state government, the banks and local government.

This proposal of Neal’s more or less reflected the solution envisaged by the Property Control Branch, although in his inclusion of the banks and local government he went slightly beyond the model currently in favour. In the trust company to be set up, the state and the federal government should be represented, and in the supervisory board the unions and various state governments. The strict preference of the Property Control Branch for a public company was remarkable insofar as this amounted, to a certain extent, to a continuation of the original form of the company. Their endeavour to make the Volkswagenwerk into a shining example of a democratically controlled industrial corporation, however, found no support at the Industry Division. Because the latter was averse to the socialistic aspect of the whole thing, the suggestion was blocked.

It would probably have been simplest to have followed the letter of Directive 50, adopted in April 1947, and to have transferred the entire DAF assets to the appropriate state government, with the exception of assets belonging to a union, a trade association or a charitable association. But the Military Government excepted the Volkswagenwerk from this regulation, keeping control in their own hands. One reason for this was the property rights claimed by the German unions. The "IG Metall" maintained that the German Labour Front had been set up with the confiscated assets of the unions which had been broken up in 1933. Although the directive offered grounds for doing so, the Military Government did not conclusively reject this claim. As with the subsequent transfer of the plant to the German federal government, it held the matter in suspense, but deflected the unions’ claim for the time being. The claims of the former savers for the "Strength through Joy" car, who went to court demanding their money or their cars, also went unredeemed, because the Control Commission for Germany feared that too early a verdict could bankrupt the company.

A transfer of the factory to the government of Lower Saxony would have meant that the British could conveniently unload this problem. But with an eye to the potential economic power of the Volkswagenwerk they hesitated to take this course. In the hands of a state government, the Property Control Division warned, it would be a dangerous weapon which could be directed against the victorious powers. Thus the military government maintained the status quo, until such time as the forthcoming establishment of a federal German government in 1949 started things moving again. In June the Property Control offered the state of Lower Saxony direct control over the Volkswagenwerk.
But the social-democratic minister-president shrank from the high and uncertain liabilities of the company, preferring instead the role of a trustee under the aegis of the Federal Government. His attitude underwent a swift change after the federal parliamentary elections in September 1949, which put a conservative government under Konrad Adenauer into office. From the social-democratic point of view it was to be feared that control would be handed to German Federal Economics Minister Ludwig Erhard, and the Volkswagenwerk would as a result fall victim to a liberal economic policy. The state government now claimed responsibility for the factory on the grounds that this could be a test case for the division of authority between the federal and state governments. The British military government allowed this claim on 6th September 1949 with Directive 202. It transferred responsibility for control of the factory to the state of Lower Saxony, subject to the proviso that this control was exercised jointly with the Federal Government and under its leadership. This was a "masterpiece of British ambiguity". It transferred the Volkswagenwerk to two different authorities, without making any firm decision in the matter of ownership.
The first misunderstandings and conflicts made their appearance even before the official transfer. On 27th September 1949 the "Hamburger Abendblatt" stated, under the headline, "Return of Reich assets – Volkswagenwerk back in German hands", that on the following Saturday German Economics Minister Ludwig Erhard would be taking over trusteeship of the Volkswagenwerk. A memo to the under-secretary of state at the German Federal Treasury referred to this article, pointing out that takeover of the company was subject at least to the agreement of Fritz Schäffer, the "Bundesschatzminister" (German Federal Minister of the Treasury), who was now immediately informed of the facts of the matter. The under-secretary of state explained that, as long as there were no provisions under federal law relating to ownership of the Volkswagenwerk and transferring rights of ownership to Nazi assets to the federal states, Minister Erhard could not exercise trusteeship. Otherwise "serious political problems both with the state government and with the unions" must be expected.225 Until such time as a federal law was enacted, the Lower Saxony Finance Minister Strickroth was responsible as trustee. This latter struck the same note when in a telephone call on 4th October 1949 he warned the "Bundeswirtschaftsministerium" (German Federal Economics Ministry) against taking over control of the Volkswagenwerk. He recommended calling in the as yet uninvited state government to the following day’s public meeting at the Volkswagenwerk, so that it could take up provisional trusteeship in accordance with Military Government law.226

These troubles ended briefly on 8th October 1949. In the presence of German Federal Economics Minister Erhard and Deputy Assistant Under-Secretary Haverbeck representing the state of Lower Saxony, Colonel Charles Radclyffe placed the trusteeship of the Volkswagenwerk in the hands of the Federal Government. The latter transferred the administration of the company, to be carried out under its instructions, to the state of Lower Saxony. A memorandum of the Control Commission prepared for this official act listed the assets of the Volkswagenwerk. With a workforce of roughly 10,000, the plant’s monthly production was between 4,000 and 5,000 vehicles, its business prospects were good, the cash reserve amassed since the currency reform exceeded 30 million DM and, under the "skilful management" of Heinrich Nordhoff, there was no reason why the Volkswagenwerk should not prove a valuable addition to the West German economy.227 And much more of the same.

The obligation to produce for the occupying powers gave the Volkswagenwerk a tremendous lead over the competition. Opel had only launched its post-war Olympia in November 1947, in 1948 Ford produced the first 571 examples of its Taunus, and production of the 1.7-litre Daimler-Benz achieved a monthly figure of 1,000 in February 1949.228 Volkswagen on the other hand had produced approximately 70,000 saloons under British management. As the only car manufacturer in the early years of the occupation, the Volkswagenwerk had the fleet business more or less drop into its lap. Volkswagen became the "purveyor by appointment" to the Reichspost and the Reichsbahn, and because the authorities wanted a "homogeneous" fleet, under normal economic conditions an easy and expanding business was beckoning. Heinrich Nordhoff had every reason to be con-
fident, since "nowadays when people talk about cars in Germany, they mean the Volkswagen".229 And on account of its role as currency earner for the British Treasury, Volkswagen also called the tune in the export business. In 1950, from the previous year’s figure of 7,000, the number of exported vehicles leapt to 30,000. Its status as a British publicly operated undertaking catapulted the Volkswagenwerk into pole position, from which it roared away into the emerging automotive society of the 1950s, scoring national and international triumphs on the way. The Wolfsburg company became the symbol of the West German economic miracle, the Beetle the icon of an era. Perhaps Volkswagen really is, as a later Chairman put it most aptly and with an ironic twinkle in his eye, "the most successful car company ever set up by the British".230
For a more detailed discussion of Ivan Hirst’s achievements, see Ralf Richter: Memorandum from Kemmler dated 25th June 1946 (ibid.).

Ibid.


1 For a more detailed discussion of Ivan Hirst’s achievements, see Ralf Richter: Ivan Hirst. British officer and manager of Volkswagen’s postwar recovery, Wolfsburg 2003, p. 44 f. The Volkswagenwerk was not an isolated case. British and American officers acted as managers during the reconstruction of numerous companies, some of which were under Allied control for many years; cf. Alan Kramer: The West German Economy, 1945-1955, New York, Oxford 1991, p. 113. Welhöner implicitly acknowledges the important role of the British trustees when he refers to the company’s early export-orientated approach as a significant factor in its success on the world market in the 1950s, stating: “The fordistic mass production only promised to increase the Volkswagenwerk’s profitability because it recognised the world market as an important cornerstone in its plans.” Quoted from Volker Welhöner: Wirtschaftswunder – Weltmarkt – westdeutscher Fordismus. Der Fall Volkswagen, Münster 1996, p. 192.


3 Cf. Mommsen/Grieger, Volkswagenwerk, p. 949 ff. Contrary to the dates in this publication, the occupation of the “KdF-Stadt” (the town that would later become Wolfsburg) began on 11th April 1945.


6 Richter, Ivan Hirst, p. 29 f., 53; Questions to Ivan Hirst, January/February 1996, p. 3 (StadtA WOB, HA), for the reorganisation of the zones of occupation, see Wolfgang Benz: Potsdam 1945. Besatzungsherrschaft und Neuauflauf im Vier-Zonen-Deutschland, Munich 1986, p. 73.

7 Richter, Ivan Hirst, p. 45 ff., 52 f., 81; for Hermann Münch’s assumption of office, see chief trustee’s preliminary report, undated (Volkswagen AG Corporate Archives [UVW], Z 69, no. 198).

8 Richter, Ivan Hirst, p. 37, 40; questions to Ivan Hirst, January/February 1996, p. 2 (StadtA WOB, HA).


10 Guidelines for the supervision of distribution sites dated 18th June 1945 (ibid.); cf. Mommsen, Stunde Null, p. 129; for a detailed account of the effects of the displacement programme on machine stocks, see Richter, Die Währungs- und Wirtschaftsreform, p. 219.

11 For the essential characteristics of British occupation policy, see Turner, Das Volkswagenwerk, p. 283 f.


13 Steven Tolliday: Enterprise and State in the West German Wirtschaftswunder. Volkswagen and the Automobile Industry, 1939-1962, in: Business History Review, 69 (1995), no. 3, p. 298; Turner, Occupation Policy, p. 182 ff. The special clauses in the Potsdam Agreement allowed production to resume in plants designated for dismantling, if the occupying powers needed the products for themselves; see Falk Pingel. Der aufhitzs. Aufschwung. For economic plans for the British zone in accordance with the occupying powers’ foreign policies, see Petzina/Euchner, Wirtschaftspolitik, p. 41-64, here p. 45.

14 Project concerning the production of 20,000 Volkswagens (UVW, Z 69, no. 198).

15 Questions to Ivan Hirst, January/February 1996, p. 8 (StadtA WOB, HA).

16 Richter, Ivan Hirst, p. 41, 49.

17 Internal memo to all heads of department dated 11th September 1945 (UVW, Z 69, no. 3).

18 Hirst to Nordhoff, 7th October 1948 (UVW, Z 69, no. 201).

19 Questions to Ivan Hirst, January/February 1996, p. 9, 12 f. (StadtA WOB, HA); travel report about journey to Helmstedt and Harpke, 30th May 1945 (UVW, Z 69, no. 198); cf. also Mommsen, Stunde Null, p. 132 f., for the warehouse, see Richter, Die Währungs- und Wirtschaftsreform, p. 219.

20 Memorandum regarding production of pressed panels for Ford, 19th June 1947 (UVW, Z 69, no. 232).


23 Tolliday, Volkswagen, p. 293 ff.

24 Turner, Occupation Policy, p. 263 ff.

25 Questions to Ivan Hirst, January/February 1996, p. 18 (StadtA WOB, HA); Richter, Ivan Hirst, p. 58 f.

26 Turner, Occupation Policy, p. 269 ff.

27 Hirst to chief trustee and general manager Münch, 21st June 1946 (UVW, Z 69, no. 152).

28 For the number of denazified persons, see Turner, Occupation Policy, p. 272, and the business review for the chief trustee’s report as at 1946 dated 7th March 1947, p. 7 (UVW, Z 69, no. 198).

29 Hirst to chief trustee and general manager Münch, 20th June 1946 (UVW, Z 69, no. 152); Military Government - Germany, Property Control (No. 9901): Letter of Appointment of Custodian dated 17th June 1946 (UVW, Z 261, no. 1).

30 Lesczek to Brörmann regarding effects of denazification, 25th June 1946 (UVW, Z 69, no. 152); meeting about the production of 2500 cars on 21st June 1946 (UVW, Z 69, no. 150).

31 Huland to Hirst, undated [21st June 1946] (UVW, Z 69, no. 152); for the reemployment of key staff, see the confidential letter from Hirst to the chief trustee Dr. Münch dated 20th June 1946 (UVW, Z 69, no. 152); memorandum about meeting with Münch on 9th July 1946 (UVW, Z 69, no. 157).

32 Brörmann to Hirst, 24th June 1946 (UVW, Z 69, no. 152).

33 Münch to Hirst, undated [June 1946] (ibid.).

34 Ibid.

35 Memorandum from Kemmler dated 25th June 1946 (ibid.).


37 Works council to Münch, 25th June 1946 (UVW, Z 69, no. 152).

38 Interview with Ivan Hirst, 21st-23rd October 1997, p. 17 (UVW, Z 300, no. 33). This assessment is supported by Fietz when talking about the enforcement of the denazification measures he maintains that “apparently, personal enmity, antipathy and friendship often played a part.” Fietz to Mr Huland, 21st June 1946 (UVW, Z 69, no. 152).

39 Brörmann to Münch, 27th September 1946; Münch to Brörmann, 3rd October 1946 (UVW, Z 69, no. 152).
Notes by Brörmann dated 12th August 1950 (UVW, Z 120, no. 22).
40  Münch's report to Hirst dated June 1946, regarding denazification
41  (UVW, Z 69, no. 152).
42  Conversation with Hans Hiemenz, 14th November 1946 (UVW, Z 69, no. 167).
43  For Brörmann's lack of leadership skills, see also Richter, Ivan Hirst, p. 64, and
44  Moormsen/Grieger, Volkswagenwerk, p. 958.
45  Cf. Turner, Occupation Policy, p. 278 ff.
46  Münch to Hirst and McInnes, 26th July 1946, enclosure: Volkswagenwerk's application
47  to the Gifhorn District Housing Office dated 26th July 1946 (UVW, Z 69, no. 198).
48  Memorandum about meeting on 27th July 1946 in the personnel management office
49  (ibid.).
50  Münch to Berryman and McInnes, 19th August 1946 (UVW, Z 69, no. 150).
51  Minutes of meeting on 9th August 1946 (UVW, Z 69, no. 204).
52  Turner, Occupation Policy, p. 288 f.
53  Hesse to Münch regarding return of denazified persons, 15th October 1946;
54  Hirst to chief trustee, 18th October 1946 (UVW, Z 69, no. 152).
55  Minutes of the works council meeting on 5th March 1947 (UVW, Z 61, no. 4002).
56  Questions to Ivan Hirst, January/February 1996, p. 11 (StadtA WOB, HA).
57  Cf. Turner: Das Volkswagenwerk, p. 299.
58  Business review for the chief trustee's report, dated 31st December 1946
59  (UVW, Z 69, no. 198).
60  Ibid.; questions to Ivan Hirst, January/February 1996, p. 11 (StadtA WOB, HA).
61  Meeting on 7th September 1946 regarding procurement of tools (UVW, Z 69, no. 157).
62  Addendum to point 6 of the 3rd set of minutes for the works committee meeting,
63  13th May 1946 (UVW, Z 69, no. 159).
64  Cf. Turner, Occupation Policy, p. 491 f.
65  Meeting about the production of 2500 cars per month on 21st June 1946
66  (UVW, Z 69, no. 150).
67  Ibid.
68  Kemmler to Hirst and McInnes, 9th August 1946 (ibid.).
69  Ibid.
70  Cf. Turner, Occupation Policy, p. 204.
71  For the transportation and food crisis of 1946-47, see Werner Abelshauer:
72  Wirtschaft in Westdeutschland 1945-1948. Rekonstruktion und
73  Wachstumsbedingungen in der amerikanischen und britischen Zone, Stuttgart 1975,
74  p. 151 ff.; Christoph Kleßmann/Peter Friedemann: Streiks und Hungrermärsche im
76  Paulsen to Hirst regarding supply industry status report, 7th November 1946
77  (UVW, Z 69, no. 150).
78  Minutes of the Eleventh Board of Control Meeting on 6th December 1946 (ibid.);
79  meeting on 6th January 1947 (UVW, Z 69, no. 222); business review for the chief
80  trustee's report for the first half of 1947, p. 1 (UVW, Z 69, no. 198).
81  Paulsen to Münch, 26th July 1946 (UVW, Z 69, no. 157).
82  Paulsen to Hirst regarding supply industry status report, 7th November 1946
83  (UVW, Z 69, no. 150).
84  Targa inspection report, 24th August 1945 (UVW, Z 69, no. 153).
85  Memorandum about meeting with the Bosch company, 20th March 1946 (ibid.).
86  Memorandum from Bökenkamp about the meeting with the Dürkopp works on
87  31st August 1945 (ibid.).
88  For the revision of the Level of Industry Plan, see Turner, Occupation Policy, p. 494 ff.
89  Meeting with Hirst on 23rd July 1947 (UVW, Z 69, no. 232).
90  Wolfgang Benz (ed.): Deutschland unter alliiertier Besatzung 1945-1949/55,
92  Die Folgen amerikanischer Besatzungspolitik in den Westzonen, Munich 2000, p. 31.
93  Richter, Ivan Hirst, p. 36.
94  Cf. Moormsen/Grieger, Volkswagenwerk, p. 955 f; for the Volkswagenwerk’s labour
95  shortage problems, see also Monika Uliczka: Berufsbiographie und
97  See Richter, Ivan Hirst, p. 57, 81; idem, Die Währungs- und Wirtschaftsreform,
98  p. 220, 225.
99  Robert W. Carden: Before Bizonia: Britain’s Economic Dilemma in Germany, 1945-1946,
100  in: Journal of Contemporary History 14 (1999), no. 3, p. 535-555, here p. 539; Wolfgang
101  Jacobmeyer: Vom Zwangsarbeiter zum Heimatlosen Ausländer. Die Displaced Persons
in Westdeutschland 1945-1951, Göttingen 1985, p. 159 f.; Major Hirst to Comdt 6 DPACS
102  Wolfsburg, 27th December 1947 (UVW, Z 495, no. 1).
Memorandum about meeting on 9th July 1946 (ibid.); minutes of the 5th works council meeting on 11th June 1946 (UVW, Z 69, no. 159).

Memorandum about meeting on 9th July 1946; memorandum about meeting on 9th August 1946 (UVW, Z 69, no. 157).

Cf. Richter, Ivan Hirst, p. 68.

Memorandum from Münch dated 12th December 1947 (UVW, Z 61, no. 4001).

Minutes of the 5th works council meeting on 16th June 1947; minutes of the 10th works council meeting on 24th July 1946; minutes of the 28th works council meeting on 23rd August 1946 (UVW, Z 61, no. 4001).


Minutes of the 5th works council meeting on 16th June 1947; minutes of the 26th works council meeting on 26th July 1946 (UVW, Z 61, no. 4001).

Minutes of the 27th works council meeting on 16th June 1947; minutes of the 28th works council meeting on 26th July 1946 (UVW, Z 61, no. 4002).

Minutes of the 29th works council meeting on 31st July 1946; minutes of the 37th works council meeting on 25th September 1946 (UVW, Z 61, no. 4002); memorandum from Münch dated 5th July 1946 (UVW, Z 61, no. 4001).

Cf. See Richter, Neubeginn, p. 235 ff.

Mommsen/Grieger, Volkswagenwerk, p. 960 f.; the "10 principles" are published in Turner, Occupation Policy, p. 397.

Minutes of meeting on 10th May 1947 regarding signature of the company agreement (UVW, Z 69, no. 232).

Minutes of meeting regarding the appointment of a Director of Human Resources, 18th December 1947 (UVW, Z 98, no. 11); interview with Ivan Hirst, 21st-23rd October 1997, p. 82 (UVW, Z 300, no. 33).

Minutes of the works meeting on 1st October 1949 (UVW, Z 98, no. 5); for Nordhoff's attitude regarding the appointment of a Director of Human Resources, see Turner, Occupation Policy, p. 403.

Richter, Die Währungs- und Wirtschaftsreform, p. 234; minutes of the 28th meeting of the Volkswagenwerk GmbH Board of Control, 26th October 1948 (Public Record Office FO 1036, no. 457); minutes of the works meeting on 9th March 1949 and enclosure (UVW, Z 98, no. 5).


Memorandum about meeting on 16th June 1947 (UVW, Z 69, no. 204).


Minutes of the 2nd general works meeting of the Volkswagenwerk, 28th November 1947 (UVW, Z 61, no. 4001).

Memorandum from Hermann Münch dated 12th December 1947 (UVW, Z 61, no. 4001).

Minutes of meeting regarding programme planning on 3rd June 1947 (ibid.).

Minutes of meeting concerning extension in working hours, 22nd July 1946 (UVW, Z 69, no. 204); memorandum from Münch dated 5th July 1946 (UVW, Z 61, no. 4001).

Memorandum from Hermann Münch dated 12th December 1947 (UVW, Z 61, no. 4001).

Minutes of meeting concerning the production of 2500 cars per month (UVW, Z 69, no. 204).

Minutes of the 27th works council meeting on 16th June 1947 (UVW, Z 69, no. 204).

Memorandum about meeting on 16th June 1947 (UVW, Z 69, no. 204).

Minutes of the 2nd general works meeting of the Volkswagenwerk, 28th November 1947 (UVW, Z 61, no. 4002).

Until July 1947, the "Wirtschaftsgruppen" (economic groups) had been departments of the "Allgemeine Gewerkschaft" (General Union). They then became independent industrial unions and members of the "Deutscher Gewerkschaftsbund" (German Trade Union Federation).

Letter to Münch from the personnel department dated 18th March 1946 regarding bonuses for manual workers, letter dated 18th March 1946 from the chief trustee to the Department of Nutrition for the province of Hanover (UVW, Z 69, no. 139); minutes of the works meeting on 15th November 1946 (UVW, Z 61, no. 4002).

Minutes of the 2nd general works meeting of the Volkswagenwerk, 28th November 1947 (ibid.); cf. Richter, Neubeginn, p. 240.

Minutes of meeting called by Münch concerning extension in working hours, 22nd July 1946 (UVW, Z 69, no. 204); memorandum from Münch dated 5th July 1946 (UVW, Z 61, no. 4001).

Minutes of meeting with Münch on 14th August 1946 (ibid.).

Minutes of meeting with Münch on 16th June 1947 (ibid.).

Minutes of the 28th works council meeting on 16th July 1946; minutes of the 28th works council meeting on 24th July 1946; minutes of the 37th works council meeting on 25th September 1946 (UVW, Z 61, no. 4002).

Cf. Richter, Neubeginn, p. 296.

Quoted from Tolliday, Volkswagen, p. 291.

Service bulletin no. 13/4 (UVW, Z 69, no. 217); chief trustee's report to 31st December 1947 (UVW, Z 69, no. 196).

Findings report concerning consignment of new vehicles, 5th December 1946; Martens to Münch, 4th February 1947 (UVW, Z 69, no. 149).

Report for June 1947 (UVW, Z 69, no. 149); service department to Münch, 8th October 1947 (UVW, Z 69, no. 196).

Memorandum from Pachaly dated 30th January 1948 (UVW, Z 591, no. 2).

Sales department reports for March and May 1947 (UVW, Z 69, no. 149); meeting concerning the production of 2500 cars per month (UVW, Z 69, no. 150).

Cf. Richter, Ivan Hirst, p. 66.
162 Kales to Münch, 30th December 1946 (UVW, Z 69, no. 196).
163 Kemmler to the British factory management, 9th August 1946 (UVW, Z 69, no. 150).
164 Chief trustee’s report to 31st December 1947 (UVW, Z 69, no. 196).
166 For the steering problems, see the questions to Ivan Hirst, January/February 1996 (StadtA WOB, HA), and the chief trustee’s report to 31st December 1947 (UVW, Z 69, no. 196).
167 Sales department reports, January to June 1947 (UVW, Z 69, no. 149).
168 Sales department report for July 1947 (ibid.).
169 Hirst to general manager Münch, 4th October 1947 (UVW, Z 69, no. 196).
170 Service department to Münch, 28th October 1947; memorandum dated 20th October 1947 regarding disc wheel (ibid.).
171 Münch to Hirst, 5th November 1947 (UVW, Z 69, no. 222).
172 Münch to Steimmeier, 28th October 1947 (UVW, Z 69, no. 196); memorandum about meeting with Major Hirst on 11th August 1947 (UVW, Z 69, no. 232); interview with Ivan Hirst, 21st–23rd October 1997 (UVW, Z 300, no. 33).
173 Memorandum about meeting with Major Hirst on 23rd July 1947 (UVW, Z 69, no. 232).
174 Chief trustee’s report to 31st December 1947 (UVW, Z 69, no. 196).
175 Kales to Münch regarding installation of a hydraulic brake, 2nd October 1947 (ibid.).
176 Interview with Ivan Hirst, 21st–23rd October 1997 (UVW, Z 300, no. 33).
177 Addendum to point 6 of the 3rd set of minutes for the works committee meeting on 13th May 1946 (UVW, Z 69, no. 159).
178 Turner, Occupation Policy, p. 488 f.
180 Memorandum from Striebig dated 24th March 1947, regarding information imparted by Major Hirst, 22nd March 1947 (UVW, Z 69, no. 232).
181 Harle to JEIA, 9th May 1947 (Public Record Office, FO 1039, no. 796).
183 Cf. Turner, Occupation Policy, p. 498 f.
184 Kemmler to Hirst, 17th July 1947 (UVW, Z 69, no. 150).
185 For the failure of the Electrobel deal, see the questions to Ivan Hirst, January/February 1996, p. 16 (StadtA WOB, HA).
186 Meeting with Major Hirst on 23rd July 1947 (UVW, Z 69, no. 232).
187 Directors’ meeting on 23rd June 1947 (ibid.).
188 Memorandum regarding the factory management meeting on 16th July 1947 (UVW, Z 69, no. 204).
189 See Railton, The Beetle, p. 108 f.
191 Memorandum regarding meeting with Major Hirst on 6th September 1947; memorandum from Münch dated 17th December 1947, regarding allocation of steel (UVW, Z 69, no. 232).
192 The figure of 1963 exported Volkswagens is taken from Turner, Das Unternehmen, p. 296. This figure is qualified by the details in the business review for the first half of 1947, p. 4 (UVW, Z 69, no. 198).
193 Minutes of the 11th Board of Control meeting on 6th December 1946 (UVW, Z 69, no. 150).
195 Meeting with Major Hirst on 23rd July 1947 (UVW, Z 69, no. 232).
196 Questions to Ivan Hirst, January/February 1996 (StadtA WOB, HA).
200 Organisation committee to general manager Hermann Münch, 5th November 1947 regarding restructure (UVW, Z 69, no. 207); cf. Richter, Ivan Hirst, p. 93.
201 Memorandum from Sagebiel dated 8th March 1948, regarding the imposition of vehicle production quotas (UVW, Z 69, no. 139).
202 Minutes of the 23rd and 24th meetings of the CCG Board of the Volkswagenwerk on 16th April and 14th May 1948 (UVW, Z 69, no. 201); production meetings on 18th February and 12th May 1948 (UVW, Z 61, no. 7039).
203 Nordhoff to Wenk, 17th June 1948; Wenk to Nordhoff, 21st June 1948 (UVW, Z 69, no. 139).
205 Deputy Assistant Under-Secretary Schumann, adviser with the “Hauptverwaltung der Straßen”, to Nordhoff, 31st January 1948.
207 Questions to Ivan Hirst, January/February 1996 (StadtA WOB, HA).
208 Turner, Unternehmen, p. 293.
209 Abelshauser, Wirtschaftsgeschichte, p. 127.
210 Cf. Turner, Occupation Policy, p. 591 f.
211 Correspondence between Bonus-Service and Volkswagenwerk, April to October 1948 (UVW, Z 61, no. 5008).
212 Nordhoff to Economic Administrative Office, 23rd September 1948; Economic Administrative Office to Volkswagenwerk, 24th August 1948 (UVW, Z 69, no. 139).
213 Turner, Das Unternehmen, p. 293 f.; study of Volkswagen export, 30th September 1949 (UVW, Z 61, no. 7046).
214 Nordhoff to the Department of Labour and Construction for Lower Saxony, 17th April 1949; Goransch to Nordhoff, 18th May 1949 (UVW, Z 69, no. 729); meeting minutes dated 19th August 1949, regarding construction phase XI (UVW, Z 63, no. 202).
215 Hirst to Nordhoff, 29th July 1948 (UVW, Z 69, no. 201); Turner, Das Unternehmen, p. 296.
216 JEIA to Commerce & Industry Group, 25th June 1948 (UVW, Z 69, no. 201).
217 Quoted from Turner, Das Unternehmen, p. 296; idem: Occupation Policy, p. 607.
218 Speech by Nordhoff, undated [probably early 1949] (UVW, Z 69, no. 730).
219 For the Volkswagenwerk’s advantages in the export business, see Tolliday, Volkswagen, p. 296 f.
220 Speech by Heimrich Nordhoff at the general representatives’ and wholesalers’ conference on 20th January 1949 (UVW, Z 69, no. 730).
221 Ibid.
222 Memorandum dated 4th June 1947 regarding the Volkswagenwerk’s future legal form (UVW, Z 69, no. 160).
224 Ibid., p. 309 ff.; Turner, Occupation Policy, p. 663.
225 Under-secretary of state to German Federal Minister of Finance, 30th September 1949; draft to the under-secretary of state regarding national and federal assets, 27th September 1949 (UVW, Z 69, no. 185).
226 Note dated 4th October 1949 and enclosure (ibid.).
227 Minutes of the negotiations at the German Federal Ministry for Trade and Commerce, 8th October 1949; memorandum about meeting with Erhard on 8th October 1949 (ibid.).
228 Cf. Turner, Das Unternehmen, p. 295.
229 Speech by Heimrich Nordhoff at the general representatives’ and wholesalers’ conference on 20th January 1949 (ibid., Z 69, no. 730).
230 Quoted from Turner, Das Unternehmen, p. 299.
A Series of publications from the Corporate History Department of Volkswagen AG, Wolfsburg

Volume 1
Klaus Kocks, Hans Jürgen Uhl,
"Learning from history. Comments on efforts by Volkswagen's workforce, labor representatives, executives, and corporate management to come to terms with the issue of forced labor during the Third Reich",
Wolfsburg 1999

Volume 2
Markus Lupa, "The British and their Works. The Volkswagenwerk and the occupying power 1945–1949",
Wolfsburg 2005. ISBN 3-935112-00-9

Volume 3
"Surviving in fear. Four Jews describe their time at the Volkswagen factory from 1943 to 1945",

Volume 4
"Ivan Hirst – British officer and manager of Volkswagen's postwar recovery",

Volume 7
"Volkswagen Chronicle",
Wolfsburg 2003. ISBN 3-935112-11-4