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**SCHOTT**  
 glass made of ideas



# From Jena to Mainz – and back again

The history of SCHOTT between the Cold War  
 and the reunification of Germany



The Odyssey of 41 Glassmakers  
 began in  
 1945

**SCHOTT**  
 glass made of ideas



## Dr. Erich Schott

*At the opening of the new headquarters in Mainz on May 10, 1952*

Our former colleagues in Jena, who had to remain, have now rebuilt the plant and are hoping for a happy future, in which we Germans will be reunited with one another. For there can be no doubt that someday this will again be the case. We are waiting for that day, when we will have two plants: one here in Mainz, the modern one, and the traditional works in Jena. We are hoping for that day to arrive!

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## Editorial

This brochure was published in 1995 for the first time. That year, on June 25 and 26, it was the 50th anniversary of what had become known as "The Odyssey of 41 Glassmakers". By that time the reunification of SCHOTT had made a good deal of progress, since the glassworks in Jena had been fully integrated in the SCHOTT Group as a subsidiary company since January 1, 1995. It was, therefore, an ideal reason for presenting this documentation on a unique chapter in our corporate history. The more so as the postwar history of SCHOTT was a mirror image of German history – in other words marked by separation and reunification.

After the end of the Second World War, in June 1945, American troops took 41 selected managers and specialists from Jena to western Germany. That was the start of a circuitous odyssey, which did not end until seven years later, when the new main works in Mainz went into operation. This later so-called "Odyssey of 41 Glassmakers" was the most striking turning point in the history of SCHOTT.

For more than four decades thereafter, there were two rival SCHOTT companies, one in the East and one in the West. It was only overcoming the division of Germany that made it possible to reunite SCHOTT in Mainz with Jenaer Glaswerk.

To make the past come alive again, you need only talk to those who took part in the "Odyssey" and study the historical documents, which until now were not available, especially those from American archives, and you can trace in minute detail a picture of the events at the end of the war. If you do, you will clearly see how "international politics" between 1945 and German unification in 1990 influenced the history of Schott both in the East and in the West. You will also see the enormous efforts put into reconstruction – starting with next to nothing – by the "41 Glassmakers" and the severe difficulties the staff of Jenaer Glaswerk had to deal with as a result of the dismantling and expropriation during the "VEB period."

Since it was published for the first time there has been no fall-off in demand for this brochure. And, as Jena and the whole SCHOTT Group have continued to develop at a high rate in the intervening period, we are now publishing a third, updated edition.

Mainz, March 2003

Jürgen Steiner  
Corporate Public Relations  
Corporate Culture Manager

# Those who took part in the "Odyssey of 41 Glassmakers"

*These employees of Jenaer Glaswerk Schott & Gen. were transferred from Jena to West Germany at the order of the US forces on June 25-26, 1945.*

Ewald Augustin  
Dr. Otto Bartsch  
Dr. Edwin Berger  
Kurt Beyer  
Friedrich Burchard  
Heinz Dorfmueller  
Paul Ehle  
Willy Elendt  
Marga Faulstich  
August Florschütz  
Otto Freundel  
Rudolf Fuchs  
Dr. Walter Geffcken

Alfred Geiling  
Max Göring  
Richard Hirsch  
Herbert Holm  
Hans Kirchner  
Friedrich Kohlschmidt  
Fritz Krämer  
Dr. Ludwig Kratz  
Otto Krauspe  
Georg Kutke  
Erwin Kwiedor  
Karl Lückert  
Rudolf Möller  
Kurt Mühlchen  
Otto Netter  
Walter Pierstorff

Dr. Paul Prausnitz  
Dr. Karl Rehm  
Franz Reitmayer  
Alexander von Riemann  
Dr. Erich Schott  
Alfred Schuch  
Hermann Schübel  
Wolfram Spehr  
Walter Suchsland  
Johanna Tiedemann  
Erich Walther  
Walter Zöllner

*The "41 Glassmakers" were accompanied by their families and dependents. Overall, 145 men, women and children took part in the "Odyssey of 41 Glassmakers."*

*Reunited decades later (1986) – members of the "Odyssey of 41 Glassmakers": Hans Kirchner, Kurt Mühlchen, Marga Faulstich, Erich Schott, Otto Krauspe (from left to right).*



# Opinions and insights



**Dr. Karl Rehm**

*(1911 – 1999) One who took part in the "Odyssey", and has been the Head of the Chemical Laboratory of Schott Glas for many years – after the reunification*

I have always considered a comparison of the "Odyssey of 41 Glassmakers" with the "Aeneid," the ancient, heroic saga by the Roman author, Virgil, very fitting. As did our Odyssey, peregrinations of the Trojans – lead by Aeneas – lasted seven years, finally bringing them to Latium near Rome. Today, I can only applaud the reunion which brought SCHOTT in Mainz back together with Jenaer Glaswerk.



**Marga Faulstich**

*(1915 – 1998) One who took part in the "Odyssey" and worked on the development of optical glass for more than 40 years. In a letter to the management of Jenaer Glaswerk after she visited it in 1992 – for the first time since her departure*

When I saw the works again, I didn't know whether to laugh or cry. I was so happy at seeing the old headquarters again and so full of hope that the plants in Jena and Mainz would soon be back together, that I could hardly keep from laughing for joy. But to see the desolate condition of the idle works and employees made me want to cry.



**Dr. Leopold von Heimendahl**

*Chairman of the SCHOTT Glas Board of Management*

When we look back at the past 13 years we can be proud to see that reunification has been a success at SCHOTT! The rebuilding work in Jena was one of the biggest corporate adventures in SCHOTT history. We successfully met this challenge. For several years now Jena has been fully integrated in the SCHOTT Group – organizationally, strategically and mentally.



**Wolfgang Meyer**

*General Manager of SCHOTT Jenaer Glas GmbH (Jena) and Member of the SCHOTT Lithotec AG (Jena) Board of Management*

The reunification of Germany gave us a unique opportunity to get out of the combine, with the help of SCHOTT, and develop an own corporate profile. We took advantage of this opportunity. "From Jena to Mainz – and back again" – for us, this is the fulfilment of a wish we have been harboring for a long time. This documentation also helps to assess the past in the East and in the West, for everything which SCHOTT in Mainz published concerning the hard times after the Second World War and reconstruction was classified as "undesirable literature" by Jenaer Glaswerk until 1989-90.

Jenaer Glaswerk

# Company with a worldwide reputation

When Otto Schott, Ernst Abbe, Carl Zeiss and his son, Roderich, founded the Laboratory for Glass Technology Schott & Genossen in 1884, they laid the cornerstone for Germany's worldwide reputation for excellence in special industries. Otto Schott, the "glass doctor," is credited with taking the historic step necessary to place the centuries-old art of glassmaking onto a solid scientific footing, thereby turning it into a modern technology.

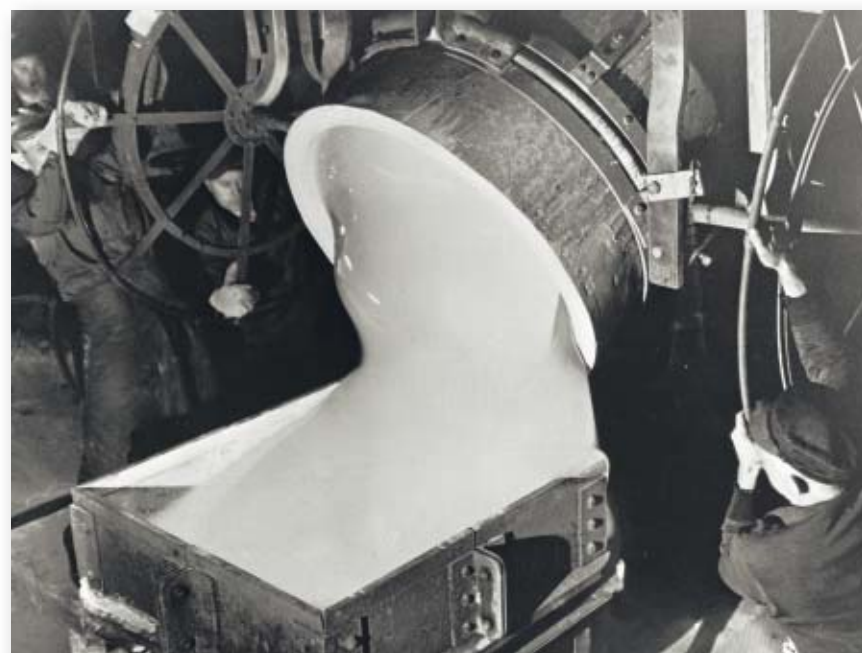
## Ascent to the standing of an industrial concern

Apart from the development of improved optical glass, Otto Schott concentrated on melting new types of technical glass. The invention of borosilicate glass sparked the rise from a technical laboratory for glass to an industrial concern. By 1909, on the company's 25th anniversary, the number of employees had already grown to 1,060.

The company was continually putting new, special types of glass on the market for optical, technical, chemical, pharmaceutical, electrotechnical and household purposes. It also continued to improve melting and processing technologies. The products gained a reputation for excellent quality abroad, as well, which put business activities on an increasingly international level. Around the turn of the century, exports topped the 50% mark for the first time.

## Wholly-owned Stiftungsunternehmen (foundation enterprise) since 1919

The Carl-Zeiss-Stiftung (Carl Zeiss Foundation), founded in 1889 by Ernst Abbe, had been in possession of half of the glassworks since 1891. The reason: Abbe and Roderich Zeiss transferred their shares in the glassworks to the foundation after the death of Carl Zeiss. At the same time, Otto Schott, decided to let his shares go the same way after his demise. He took this step prematurely when, at the insistence of the Works Council in the wake of widespread socializing tendencies, he was urged to turn over his shares to the foundation immediately. Thus, the Carl Zeiss Foundation was the sole owner of Jenaer Glaswerk since 1919.



Between September 1884 and June 1945, more than 60,000 optical melts were counted in the Jena glassworks.

## Erich Schott takes the helm

Erich Schott succeeded his father in the management of the company in 1927 and governed the fate of the enterprise from then on. When it came to power in 1933, the Nazi dictatorship posed him an extremely difficult task: to retain as much independence as possible despite the new rulers' policies. By personally intervening in the Berlin Ministry of Economics – an extremely perilous act at that time – Erich Schott, together with a colleague from Zeiss, caused the removal of the Foundation Commissioner, who was appointed by the Nazis.

## The glassworks during the Second World War

However, it was impossible for the glassworks to avoid the requirements of the Nazi armaments industry. The production of glass for military purposes was an absolute must during the Second World War. Since they produced glass for military purposes, Jenaer Glaswerk and its affiliate, Carl Zeiss, were among the primary targets of British and American bombing runs on Jena in May 1943 and after February 1945. The glassworks only suffered from serious bombing damage once, though, on March 17, 1945.

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Dr. Otto Schott (1851-1935), founder of the company, laid the foundations for modern glass science and glass technology.

William E. S. Turner, English glass technologist and Founding President of the International Commission on Glass (ICG), 1935

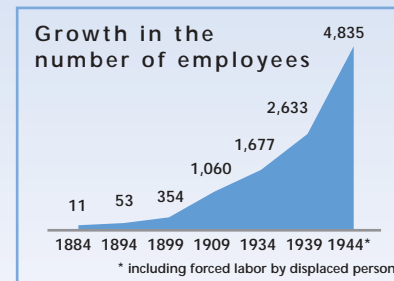
In the history of glassmaking, one name will always shine: Otto Schott.



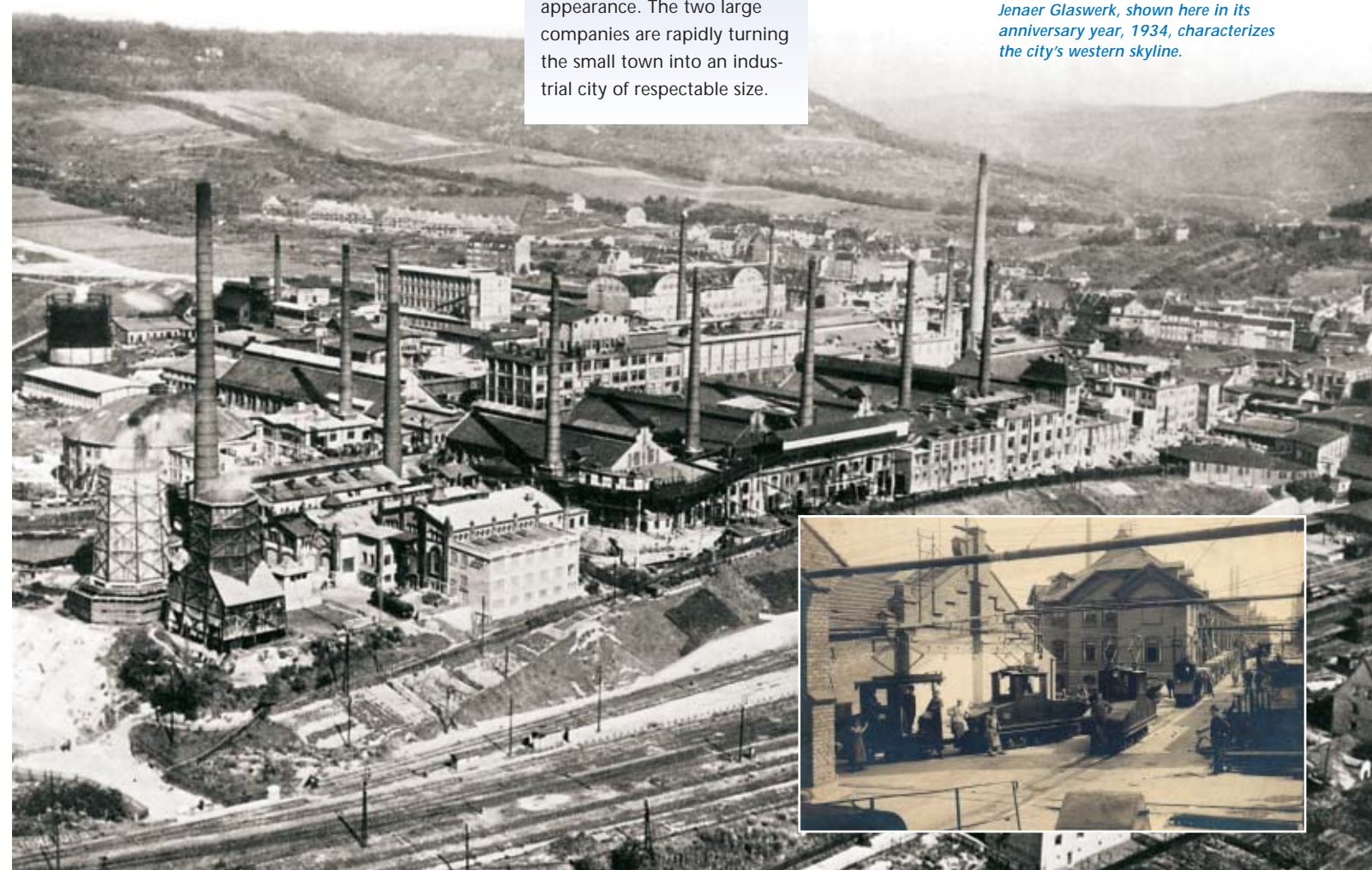
Dr. Erich Schott (1891-1989) joined Jenaer Glaswerk as a member of the scientific staff in 1917; he was a Member of the Board of Management from 1927 to 1968.

The "Jenaer Volksblatt" of July 3, 1909, on the occasion of the company's 25th anniversary

The Schott & Gen. Glassworks stands high above the old quarters of the city of Jena on a broad expanse of terrace on the banks of the Saale River, right next to the Weimar-Gera train station. This building complex, with its eleven lofty smoke-stacks, was most instrumental in changing Jena's appearance. The two large companies are rapidly turning the small town into an industrial city of respectable size.



Jenaer Glaswerk, shown here in its anniversary year, 1934, characterizes the city's western skyline.



The end of the war in Jena

# The Allied Powers take stock of the glassworks

The Second World War ended for Jena when American troops marched into the city on April 13, 1945. Zeiss and Schott, the two Stiftungsunternehmen (foundation enterprises), were placed under the command of two US Air Force officers.

In the following weeks, many Allied experts visited Jenaer Glaswerk, showing great interest in the know-how stored there. Most of the experts were members of a troop of 3,000 deployed by the Allied General Staff (SHAEF), which studied more than 5,000 scientific and industrial facilities in the first weeks after the German capitulation. Apart from these reconnaissance detachments, other officers and civilians came to the plant – among them, employees of the American optics company, Eastman Kodak, and the traditional English manufacturer of optical glass, Chance Brothers & Co.

The specialists were primarily interested in the Optical Glass Production Division, headed by Edwin Berger. They made photographs and detailed sketches, and requisitioned a great number of documents on the composition of glass, melt data, production processes, patent specifications, factory layouts, drawings of machines and sample pieces of glass.

Later, this research formed the basis for a series of reports on the scientific and technological standing of Jenaer Glaswerk. Today, these reports are kept in a US archive in Washington.

February 1944

## The beginnings of the "Iron Curtain"

At the meetings of the "European Advisory Commission" concerned with the division of postwar Germany into zones of occupation, a decision was made which fundamentally affected the future political situation in Central Europe: the Soviet Union agreed to an east-west demarcation line running from Lübeck to Hof by way of Helmstedt and Eisenach. At that time, no one dreamed that the "Iron Curtain" would fall along this line a few years later.



In Jena, the Allies' political plans for Germany after the war only became gradually apparent after the Berlin Declaration of the Victorious Powers on June 5, 1945. In connection with a commission which the US Army had given to Carl Zeiss for the production of optical glass for 3,400 photographic lenses, the management of the two companies first became aware of Allied plans for a partial relocation of the companies to West Germany.

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April 26, 1945

## "No fraternization!"

On the basis of the American Morgenthau Plan to deindustrialize Germany, US President Truman issued the following occupational directive to Commander-in-Chief Dwight D. Eisenhower: "Germany will not be occupied for purposes of liberation, but as a defeated enemy nation. Fraternization with German representatives or the populace must be strictly avoided."

February 1945

## Jena goes to the Soviets

At the "Big Three" conference in Yalta on the Soviet Crimean peninsula in the Black Sea, British Prime Minister Churchill, US President Roosevelt and Stalin, the Soviet head of state, set the boundaries of the four future zones of occupation. Thuringia was placed in the Soviet zone of occupation.

May 7 to 8, 1945

## End of the Nazi dictatorship

On May 7, Colonel General Jodl signed the unconditional surrender of Germany at General Eisenhower's headquarters in Reims. Field Marshall Keitel did the same on May 8 at Soviet headquarters in Berlin-Karlshorst. On May 8, 1945, at one minute past midnight, the joint surrender took effect.

June 5, 1945

## The Allies call the shots

The Berlin declaration stated that "in view of the defeat of Germany," the four victorious powers take over the supreme authority in Germany.

The tube shed was hit during the air attack on March 17, 1945.



## Otto Freundel

One who took the part in the "Odyssey"; in Jena, he was the assistant to Dr. Edwin Berger and in the West, he was Manager of Optical Glass Production as of May 1946

On Sunday, March 17, there had already been an air-raid alarm at 10:30 a.m. A great number of enemy planes flew over Jena heading east, as had happened so often before. About 12:30 p.m., the returning planes came into view and began dropping bombs on Jena, especially on the east side and, later, on Zeiss' south plant and the Jena glassworks. In the Optical Department, one bomb fell on the headquarters building, where it landed in the switch room without exploding. Luckily, it was a dud. It was defused on the same evening and removed the next morning. Another bomb fell on the street in front of the batch house, severely damaging the building. Several bombs fell between the Zil shed, the joiner's shop and the tube shed, one of them directly hitting air-raid shelter 7, where about 50 employees had taken refuge. Of these, 26 died, including seven foreigners.



Eye-witness report of an unknown employee

Jena, April 12, 1945, 12:00 noon:

Three huge explosions shook the air: the bridges over the Saale River, connecting East and West Jena, were reduced to rubble. These disastrous detonations shattered the window-panes of the workshop and the administration building. They also broke the huge polished plate glass mirror in the main entrance, which had directed the gaze of every visitor to the Saale Valley, toward Jenzig and Fuchsturm.

The following night, American shells were roaring over the glassworks. For days and nights, hundreds of our employees stayed in the plant, their plant. You could see the tension in the faces during these long hours: what will happen to us? what will become of our plant? what does fate have in store?

At noon the next day, April 13, 1945, the Americans occupied Jena and the glassworks. All was peaceful once again. Liberated from war and further destruction, and from the dictatorships of the Hitler years, people breathed a sigh of relief and motivated themselves.

## Otto Henneberg

Chief Accountant, came to Mainz from Jena in 1951

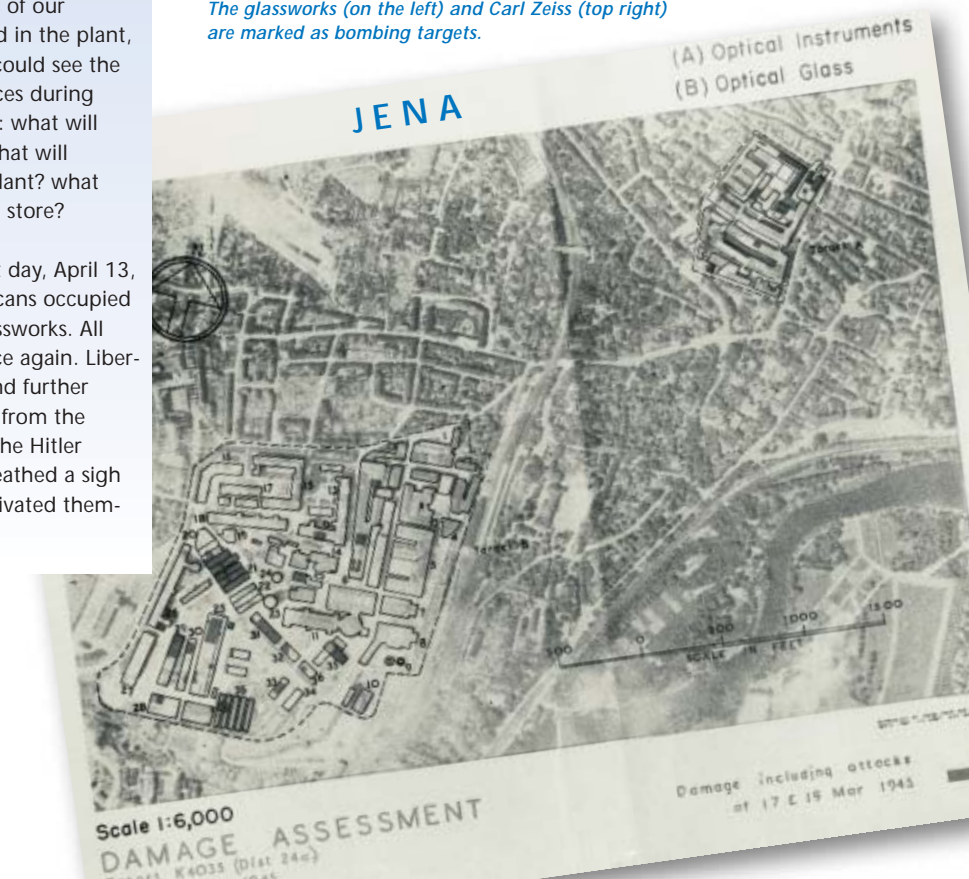
Personally, I had dealings with the Americans three times ... On the second visit, they demanded the charter of the Carl Zeiss Foundation. They wanted to know whether the charter in its current form was indeed put to use in practice, and shook their heads when I assured them it was. Not even in America did they have something like this, they said.

## Erich Schott

President and one who took part in the "Odyssey" as told on June 7, 1945 to his brother, Gerhart, member of the Board of Management of the German subsidiary, Spiegelglas AG, in Grünenplan

The latest news appears to confirm my fears that Thuringia will be part of the Russian zone of occupation. I don't yet know whether this will prevent us from completing Zwiesel and relocating machines and materials there, as the Americans desired. We are also considering relocating to Grünenplan or Mitterteich; at present, however, the situation is anything but clear.

Aerial photograph taken by the American Air Force. The glassworks (on the left) and Carl Zeiss (top right) are marked as bombing targets.



The start of an odyssey

# “We take the brain”

At first, the staff of Jenaer Glaswerk learned nothing of the American relocation plans. The Americans were thinking over several different variations: a partial relocation of production to the West; the deportation of selected managers into the American zone of occupation: or even the forcible relocation of certain SCHOTT employees to the USA.

At the order of the Americans, secret preparations were undertaken for the relocation of production. The management had extensive lists prepared of the necessary employees, machines, materials and technical documents.

## Relocation to Zwiesel?

Everything pointed to a relocation to Zwiesel. After all, the subsidiary there, Vereinigte Farbenglaswerke AG, had already begun setting up alternative production facilities for optical glass at the order of the Nazis in 1943 – in case the main plant in Jena should be destroyed. Now, the facilities in Zwiesel could have been completed in a very short time.

On June 14, 1945, the US officers in charge sent Erich Schott an order to start loading the machines and materials required for the relocation of production facilities onto 50 railway cars which would soon be made ready for the trip.

## Message over the works' loudspeaker

In connection with the loading of these cars, the staff first got wind of rumors regarding the American plans around June 16–17. The Americans made their intentions known officially on June 20, when the works' loudspeaker called roughly 50 employees to a meeting. At this meeting, US Colonel Stone read aloud to the specialists gathered there a list of persons adopted by the Allied Supreme Command in Paris and informed them of the coming departure. Since it was not possible to dismantle the factory in the short time left, which moreover would have infringed the agreements of the victorious powers, the Americans decided to enter upon an “intellectual dismantling program.” “We take the brain” (meaning the best minds in the glassworks) soon became a familiar saying in Jena.

The American Air Force Colonel Hubert (“Hub”) Zemke brought the deportation order to Jena. On June 20, 1945, Allied Headquarters in Paris (SHAEF) issued an order to deport managers of the Stiftungsunternehmen (foundation enterprises) Jenaer Glaswerk and Carl Zeiss to West Germany.

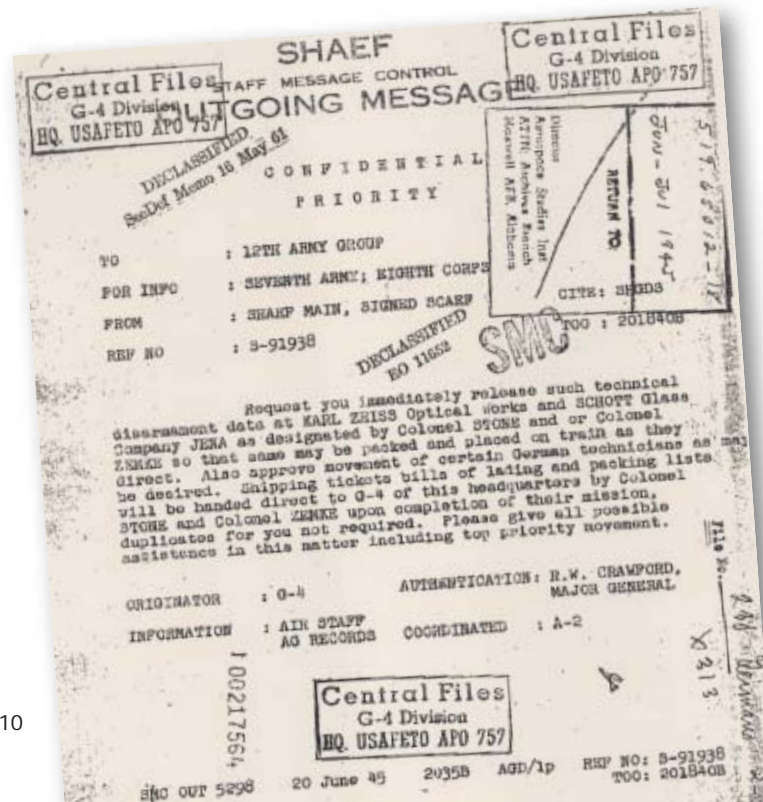


The reaction of the selected employees ran from relief at escaping the impending Soviet occupation on the one hand; and on the other, dismay at having to leave behind their homes, possessions, and many old friends of long standing. There were even isolated cases of resistance to the deportation order. At the last minute, some of the employees on the list managed to avoid being deported.

## Departure for an unknown destination

A few days later, all was ready. On June 25 and 26, the “Odyssey of 41 Glassmakers” began – destination unknown. It was with heavy hearts that the selected managers and their families boarded the American trucks. At the head of the line was President Erich Schott, the son of the company's founder. Among the 41 scientists, technicians and specialists, most were from the Optical Department, although there were also several from other production divisions. Along with the “41 Glassmakers,” the deportation also affected 84 managers of the affiliated company, Carl Zeiss; numerous scientists from the University of Jena; and a few employees of a Siemens branch.

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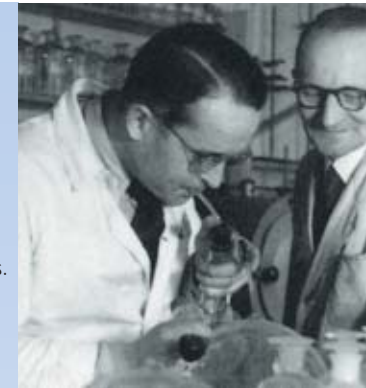
## Dr. Karl Rehm

One who took part in the “Odyssey”; Head of Chemical Laboratory (diary entries)

6/20 Wednesday 3:30 p.m., ordered by Pers. Dept. to Schott exhibition room together w. ca. 50 others. Roughly 4:15 p.m., American Air Force Colonel, Stone, appeared and explained that the ca. 50 persons on the list he read aloud were, by order of the Allied Command, to be deported with their nearest relatives and their possessions to the South (perhaps the vicinity of Munich) in American trucks within 24 hours at 6–12 hours notice. If we refused, the matter would be handed over to “another section.” No refusal was expected, however.

The US Army assured us that we would be given room and board. There was no intention of deploying us for hard manual labor. We were not considered to be war criminals. After arriving in Southern Germany, a decision would be made concerning our future deployment, whether in the USA or England, or whether we would be granted permission to return. The names were allegedly compiled by the Intelligence Service and the list was made up in Paris. No information could be given regarding the continued existence of the plant and its unique foundation. The list contains the management, department heads, many scientists, foremen and specialists. I myself (as well as Dr. Pausnitz and Dr. Kratz) have recently been added to this list. So I started packing in the evening and throughout the night.

6/23 Saturday Informed in the evening that we can expect the deportation to begin on Sunday or Monday. We will be given 2 hrs. time to pack.



6/26 Tuesday Departure 8:00 a.m. met at Zeiss plant. By car to Humboldtstrasse. 8:00 a.m. assigned to cars, driven home. 8:45–9:15 a.m. together with Helmut Rötger and 4 others, loaded 8 boxes, 3 suitcases, a child's bed, laundry basket, playpen, backpack, briefcase 10:05 a.m. said good-bye to father, mother and dad 12:25 p.m. departure, canned food (16 units) additional box from Schott Drove in the splendid, warm weather through Kahlaische Strasse, Lobeda, Reichsautobahn, Devil's Bridge, Hermsdorf Crossing, 15 min. rest 1:15 p.m. journey continues. Our driver and Spehr's driver (Detroit) were very friendly to Uta. Drove between the Saale Valley Dam and Schleiz. Hirschberg, back to autobahn. 15 min. rest. Bayreuth, Nuremberg 6:00 p.m. (hit very hard) Ansbach, Crailsheim (hit very hard), Aalen 7:30-8:00 p.m., break. 11:25 p.m. arrival Heidenheim (1st letter). Accommodations in police barracks, very good weather as far as Heidenheim. Streaming rain at night. Dr. Calsow (Zeiss chemical lab) welcomes us and finds us a place to sleep. Prof. Bauersfeld in same room.

## Marga Faulstich

Youngest member of the “41 Glassmakers.” Was at the time an assistant in the Chemical-Physical Laboratory of the Optics Department

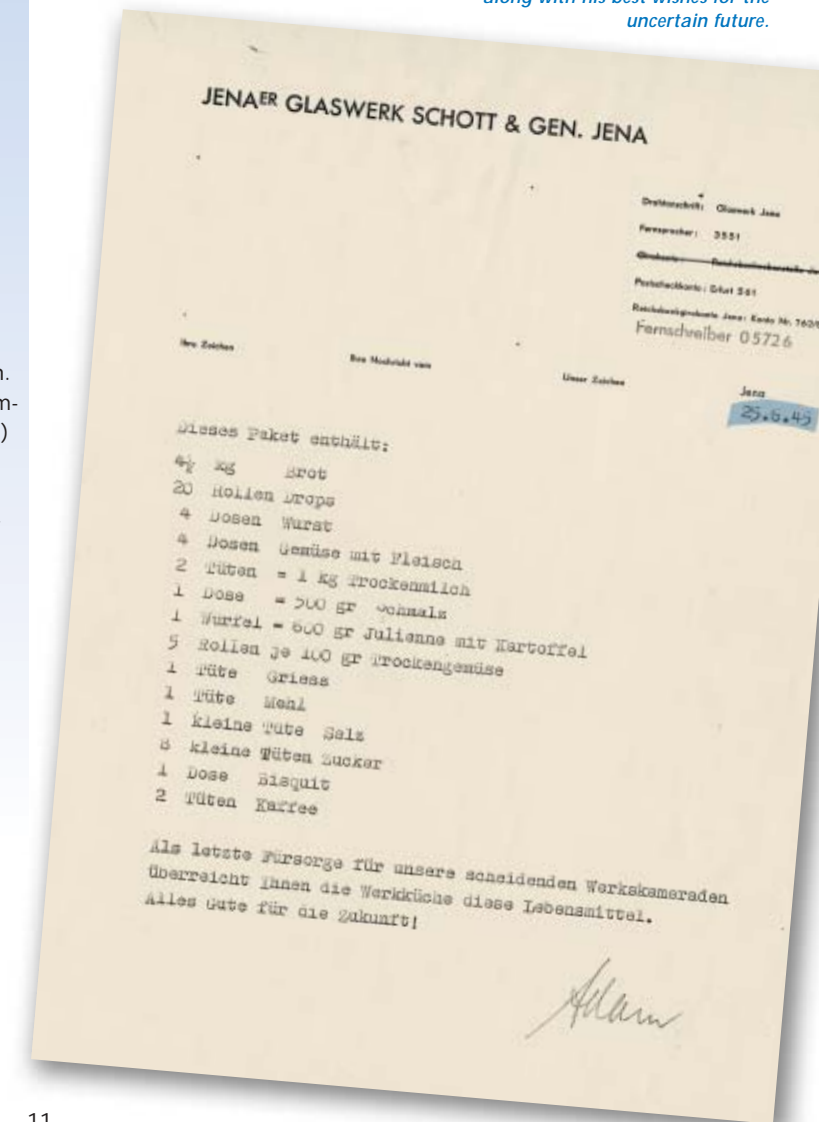
We were only able to take with us absolute necessities with us, packed in a few boxes. That was all. Everything else, along with the furniture, we left behind for refugees from East Prussia, who were quartered in our homes. One morning, a US Army truck was waiting at the front door. Friends, neighbors and relatives said “good-bye” with tears in their eyes, and we drove away. Nobody knew what the future would bring.

## Otto Freundel

One who took part in the “Odyssey”

I was myself assigned to the second convoy, which left Jena on Tuesday, June 26. No one knew where we were going. The Americans had managed to keep our destination for the day a secret. After only an hour, however, some young girls, the daughters of one of the employees, were able to find out from the American officers that we were headed for Heidenheim on the Brenz. This destination ran like wild-fire throughout the convoy.

When leaving Jena, the canteen keeper gave the “41 Glassmakers” a package of provisions, along with his best wishes for the uncertain future.



Heidenheim, Zwiesel, Mitterteich, Landshut

# First stations

The first stop in the Odyssey was not – as is often assumed – the Munich region, but rather Heidenheim on the Brenz in Wuerttemberg. The reason: this is where the American unit in charge was able to make accommodations available.

The “41 Glassmakers” were placed under temporary arrest in a barrack camp for the purpose of interrogation regarding their political and occupational activities. After a few days, nearly all were released with a clean record and given lodgings with private households in Heidenheim and the neighboring villages. This marked the beginning of a period of uncertainty. No one knew what the future would bring.

## A fresh start in the West

This inactivity did not last long, however. As early as August 2, 1945, the two managers, Erich Schott and Richard Hirsch, as well as the head of the Optical Department, Edwin Berger, were ordered by the Americans to come to their Bavarian Headquarters in Munich. This was part of the American plan to run production of optical glass at Schott’s subsidiary in Zwiesel.

On August 23, Erich Schott asked the Industry Department of the military government, via the Bavarian Economics Ministry, to provide the Schott staff with support in preparing the Zwiesel plant for handling the large production runs required by the Americans. Since Zwiesel would be the only place outside the Soviet zone of occupation where optical glass could be produced, the military government in Munich commanded US Headquarters in Regen, which was responsible for Zwiesel, to give all necessary support to Schott.

## Another reversal were of fortune: the death of Dr. Berger

As a result, Erich Schott sent Edwin Berger to Zwiesel to supervise the preparations. But Berger never arrived in Zwiesel. On the way there, his car collided with a truck and he died two days later of the injuries he incurred in the accident. For the “41 Glassmakers,” Berger’s death was a bitter loss. In October of 1945, a portion of the “41 Glassmakers” began preparing the plant in Zwiesel for



In early June of 1946, the “41 Glassmakers” started production in Zwiesel.

production. They found themselves confronted with forbidding problems: owing to the widespread postwar shortages, it turned out to be extremely difficult to procure the required raw materials and other necessities. Long delays resulted from the fact that the 50 railroad cars loaded with important machines, raw materials, tools and other requisites before leaving Jena never reached the “41 Glassmakers.” Hence, improvisation became the watchword of the team reconstructing the Zwiesel plant.

## June 1946: first cast

In early June of 1946, things are finally ready: production began with the first cast of optical glass. For a long time, the “41 Glassmakers” still hoped to return soon to their homeland in Thuringia. However, their hopes faded increasingly in view of the growing conflict between East and West. So the deportees gradually began manufacturing the other types of special glass they had formerly made in Jena; at the same time, this idea also began to spread to the DESAG branch plant in Mitterteich in the Upper Palatinate and to the Landshut plant. These products included:

- laboratory glass (Zwiesel, November 1946)
- optical glass blanks for lenses (Mitterteich, early 1947)
- household glass (Mitterteich, early 1947)
- tubes for thermometers, ampoules and syringes (Mitterteich, April 1947)
- calibrated tubes, glass blowing articles (Landshut)

JSr

## Belated discovery

## The fate of the 50 railroad cars

Erich Schott: “A train of 50 cars which we had loaded in the last few days with important documents, materials and equipment never reached us. Thus we were forced to get by with what we had in our heads.”

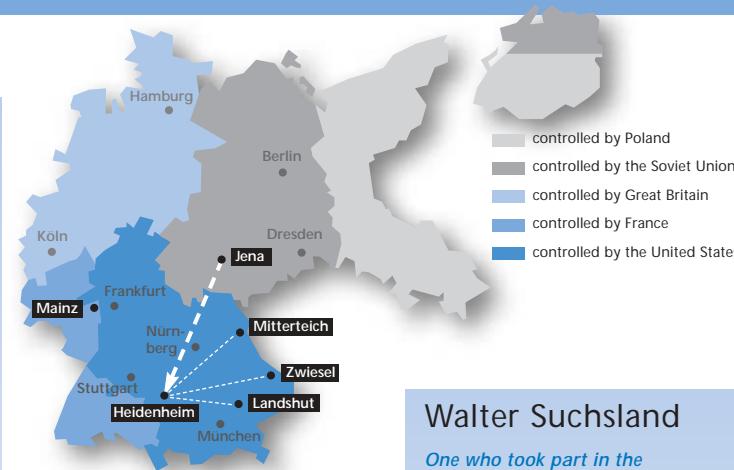
What had happened to these railroad cars? For a long time, the “41 Glassmakers” assumed that the train had never left Jena. Some gave the explanation that the railroad lines were disrupted in many places. Others claimed to have heard that advance units of the Soviets had stopped it. Another version, circulated in Jena, held that Communist forces in the glassworks saw to it that no locomotives were made ready for the trip.

## Gerhard Adam

*Canteen keeper in the Jena glassworks, reporting on a visit to Heidenheim a few days after the “41 Glassmakers” arrived there*

Friday, 6/29/45

I met Mrs. Schott on the street in front of the Military Government building. We drove with her to camp in the hills (former police academy). Starting today, the deportees are allowed to go into town if they have a pass. The families were released to private quarters in the vicinity after answering a questionnaire with 131 questions. They were not allowed to leave the places they were assigned to. There are 16 to 20 people living in one room, sleeping on wooden beds filled with straw and wood shavings. Some of the beds were infected with bedbugs, since Russians had stayed there on the day before the rooms were re-assigned. Daily board: approx. 200 grams of bread, 5 grams of fat, some sausage, 2 x not quite liter of thin soup. The camp holds 1000 to 2000 people. Long lines to get food. Many were suffering from diarrhea owing to the change in diet. Dr. Schott was stuck in the infirmary with severe diarrhea and fainting spells. The difference between Jena and the mammoth



camp in Heidenheim was tremendous. The refugees were living in abject misery! I had the impression that nearly all of them are managing to adjust to the altered situation. The prospect of getting private quarters is a gift in itself! The joy at my unexpected arrival was enormous. My wife was in the forecourt collecting the many letters for Jena when no one was looking. Postal messages were prohibited! On his questionnaire, Dr. Prausnitz noted that he wanted to return to Jena. The fate of all is uncertain. There is no more talk of America.

## Walter Suchsland

*One who took part in the “Odyssey”, Foreman in Zwiesel, General Foreman in the “optical glass cutting shop” in Mainz as of 1952*

We were left alone for roughly three years down there in Zwiesel. The family was still in Wuerttemberg. We only visited our second home in Wuerttemberg on holidays and when we had vacation, then it was back to Zwiesel, our third home, and here in Mainz we now have a fourth. Yes, that’s just how it was. I must say, we got along well with the Bavarians. Anyone who wasn’t a Bavarian was a Prussian. But later they learned to work quite well together. We had gotten used to one another and it was good working with the Bavarians.

## Dr. Paul Prausnitz

*One who took part in the “Odyssey.” Beginning in 1946, acting head and later Member of the Board of Management of Vereinigten Farbenglaswerke AG in Zwiesel*

In Zwiesel, we slept at first in a long hall on cots with straw mattresses and bedbugs. Laundry and work clothing or shoes were, for us, unattainable luxury articles. Although the provisions in the District of Heidenheim were regal for those times, we told our families in Heidenheim tales of malnutrition and dissatisfaction. There were initially but a few workers available in Zwiesel, since most wanted to wait for the reconstruction of the facilities for producing crystal glass. A roller’s shop was busy for many months regrinding the large stocks of raw crystal glass so that we might at last have a small number of objects to barter. American officers were constantly descending upon us and wanted all the glasses that we needed so desperately for barter.

ID card issued by the American Military Government to Alfred Geiling.



The former US Army Colonels Hubert Zemke (left) and Carl Nelson visited SCHOTT in Mainz in 1989.



Dr. Edwin Berger, Chief of the Optics Department.

Dismantling and expropriation

# Jenaer Glaswerk under Soviet control

On June 30, 1945, the American troops left Jena. One day later, the "Red Army" moved in. Even before the Americans departed them, the managers of Jenaer Glaswerk – Erich Schott, Richard Hirsch and Paul Henrichs – had already appointed three people to represent them during their absence: the trained clerk and authorized signatory Fritz Dunger; the plant general foreman and member of the works council Albert Heintz; and the scientist Dr. August Klemm. It was not long at all before differences of opinion arose between the "41 Glassmakers" and Jena regarding who was to be considered the rightful management of the Stiftungsunternehmen (foundation enterprise). These differences became more and more apparent each time representatives from the plant in Jena visited their counterpart in the West.



Soviet soldiers completely dismantled the production facilities, even some of the buildings.

## Reparations and dismantling

After the arrival of Soviet troops in Jena, the glassworks was placed under the command of Major Gantmann, who immediately ordered the employees to start running production again. In the following months, the greatest portion of the glass produced was sent to the Soviet Union as reparations payments. On the force of order No. 124 of the Soviet Military Administration (SMAD) of October 30, 1945, the military government in Thuringia appropriated Jenaer Glaswerk Schott & Gen. on December 31, 1945 and sequestered it. Owing to its high scientific and technical standards, the Soviets put the glassworks into the class of plants to be dismantled. Thus the production facilities began to undergo dismantling in October 1946.

## 15 "Schottians" deported to the USSR

On October 22, 1946, right at the start of the dismantling, in a surprise action the Soviets deported a total of 15 employees and 4 apprentices to the USSR to rebuild the production facilities there. The specialists involved were conscripted for five years. At the end of March/beginning of April 1947, the Soviets had finished the dismantling. Many employees could not help feeling that this was the end. However, they



Eleven of 15 SCHOTT specialists in the Lytkarino glassworks near to Moscow.

rolled up their shirtsleeves and got production running again in the course of the year. According to a resolution of the Thuringian State Assembly of March 25, 1947, the company was supposed to be given back to the Carl Zeiss Foundation once it had been released by the occupying powers. This never came to pass, however.

## Expropriation without compensation

On the basis of Order No. 64 of the SMAD of April 17, 1948, Jenaer Glaswerk was expropriated by the State of Thuringia without compensation on June 1, 1948, and deleted from the Register of Companies at the instance of the Prime Minister of Thuringia on November 30, 1948. In the legal viewpoint of the management in West Germany and – as coming years would show – that of the courts in many other Western countries, this meant the end of the Stiftungsunternehmen (foundation enterprise) Jenaer Glaswerk Schott & Gen. in Jena.

JSr

## Otto Henneberg

Chief Bookkeeper

During the night from June 30 to July 1, the Americans disappeared from Jena; and on Sunday, July 1, the city was occupied by Russian troops. The two plants of the Foundation were the first things that they took over. The commander for the Schott works was a certain Major Gantmann. In contrast to the Americans, the Russians ordered production to start up again immediately...

Expect for the quartz melting shop, all departments started running production again, provided they had the necessary materials. Of course, the plant was sequestered. Suddenly – in the autumn of 1946 – the dismantling order arrived. Everything we had built up with so much effort was dismantled and taken away – not only machines and equipment, but above all, the expensive laboratory equipment with its precious metals such as platinum; the entire gas line for the melting shop; and even some buildings were taken apart, packed into large boxes and shipped to the Saale station (Jena West). About 90 % of our plant was dismantled. It took until April of 1947, more than three-quarters of a year.

This expropriation document finalized the removal of Jenaer Glaswerk from the Carl Zeiss Foundation.





Jenaer Glaswerk as a VEB (state-owned factory)

# A secondary role in the combine

After being expropriated in 1948, the company was first a part of the VVB, "Vereinigung volkseigener Betriebe" ("Association of Publicly Owned Factories"), to be exact: the Optics VVB. This comprised companies in the fields of control engineering, equipment manufacturing and optics. The central organization was directly subordinate to the Ministry of Mechanical Engineering. The Optics VVB reviewed investment plans, frequently rejecting or postponing them. East Berlin took every penny of the profits.

However, the products made in the Jena glassworks were so important to the economy of the German Democratic Republic, founded in 1949, that the state provided support for the construction of the company. In 1952, it was proudly reported that: "Jena glass" was finding buyers in 35 countries.

In the meantime, "VEB Jenaer Glaswerk Schott & Gen." had been entered in the Register of Companies (effective November 30, 1948). This was intended to document a certain amount of de jure independence – de facto, all VEB's were merely operating units of the VVB.

## Frequent scarcities of material and energy

In Jena, it was first necessary to create the conditions required for producing according to demand, a tedious, time-consuming job, especially since the required materials or energy supplies were often lacking. The works were constantly trying to catch up with international standards. Credit for keeping it going at all was mainly due to the staff's ingenuity and talent for improvisation, not to mention the hope of better times to come.

Postwar changes in the managerial staff weakened its technical expertise. However, the "second string" – experienced specialists and master craftsmen – saw to it that the glass got melted and the appropriate products were manufactured.

As the 1950's wore on, a new generation of specialists made its way into the technical and scientific divisions of the company. Many of these were men whose course of study had been interrupted or made impossible by the war. Others were young gradu-



At the only rally held on June 17, 1953 within the plant grounds, an SED functionary tried to make an impression with phrases that were already old hat: "Maybe you'd rather go over to that capitalist Erich Schott in Mainz – is that it?", Enthusiastic cries of "Yeah! Yeah!" came from many in the crowd.

ates of the newly founded technical colleges and professional schools. In addition, the glass specialists who had been deported by the Soviets to work in factories in the USSR returned.

During this phase, the plant was plagued by disputes, tensions and rifts. Instead of the rapid upswing demanded by the SED (Socialist Unity Party of Germany), insoluble problems turned up, mainly due to lack of materials. Furthermore, the government's anti-intellectual policies offended many dedicated workers. Standard quotas were often set and raised arbitrarily, thereby angering the employees.

## Party arrests "reactionaries"

The "Schottians" and "Zeissians," who felt bound by the social ideas set out in the foundation's charter by Ernst Abbe, were suspected of being "reactionaries" by the SED regime and its Stalinist version of socialism. The party thought it could become more influential by eliminating the management of both VEB factories. So in March of 1953, in a dead-of-night operation, 24 managers were arrested. The accusation read: consciously hindering reconstruction in the East in order to promote reconstruction in the West. Those arrested were physically and mentally worn down by wearisome interrogations, some of which lasted up to one year, conducted by the State Security Police ("Stasi"). In the end, they were condemned to long stints of penal servitude; for some, this amounted to a death sentence.

One of the only two "Zeissians" to elude the long arm of the Stasi was Dr. Wilhelm Schacht. Since 1942, he had been heading Zeiss' Legal Department in Jena. Shortly before the arrests took place, he fled with his family to West Germany. (In 1953, Erich Schott hired him as permanent legal advisor. Thereafter, Dr. Schacht represent-

Wearisome work for the women in postwar Jena: helping to rebuild the glassworks.



## Dr. Wilhelm Schacht

Legal Advisor to Zeiss/Schott in Jena from 1941 to 1953, and at Schott in Mainz from 1953 to 1978, on the situation leading up to his flight

We were all convinced that the fundamental principles of the Carl Zeiss Foundation, which had proved their worth for decades, could not but earn the respect of the SED, with its socialist convictions. Hence no ideological conflict was noticeable at first. The postwar situation in the West was not exactly rosy, either. Moreover, the "Communists" at Zeiss were anything but Stalinists, so that many of us saw no reason for leaving our home town of Jena. Furthermore, the victorious powers had repeatedly emphasized the fact that Germany was to remain an economic unit despite the demarcation line between East and West.

ed Schott in all legal disputes with those in power in the East. Although he did not learn of it until after German unification, he had at that time already been officially sentenced to many years of penal servitude in the GDR.)

## June 17, 1953: reticent "Schottians"

Dissatisfaction among the working class was on the rise. This led to the conflicts of June 17, 1953, when workers took to the streets in protest – the "Zeissians" went on strike. However, only a few "Schottians" joined in the strike. With the help of the Soviets, the workers' uprising was soon quelled.

## Duphorn's resistance

The only "Schottian" to be arrested was Paul Duphorn, who was apprehended as one of the alleged ringleaders before the end of June 1953. Inspired by the liberal ideas of the likes of Otto Schott and Ernst Abbe, he was particularly adamant in refusing to join the SED. The coercive pressures applied to this "enemy of the state" culminated in ten years of hard labor and the loss of all rights to the foundation. (These were returned to him on August 16, 1991 – on his 90th birthday – along with his accrued pension rights, thanks to the efforts of the management of Jenaer Glaswerk, the SCHOTT Board of Management and friends in Mainz and Jena.)

In spite of all this political harassment, the reconstruction of Jenaer Glaswerk forged ahead. Moreover, the SCHOTT works continued to be run in an informal, family-like manner, as had always been the case.



The Jena glassworks was unable to fend off political influence.

## Zeiss controls the SCHOTT prices

In August of 1977, the SED passed a resolution which was to have far-reaching consequences: VEB Jenaer Glaswerk Schott & Genossen was made a member of the Kombinat (combine) VEB Carl Zeiss Jena. All at once, the "Schottians" only made up a small portion of the roughly 60,000 employees in the combine. Nevertheless, a great deal of money was invested during this period – less in the traditional fields of business than in other areas. For instance, the head of the combine, Wolfgang Biermann, intended to make optical wave guide technology internationally marketable, and had an entire new plant built for this purpose. The only function left for Jenaer Glaswerk was that of a reliable supplier for Zeiss in Jena. And so the inevitable came to pass: the glassworks lost its standing as an independent export company and thus its close contacts with international partners, as well.

## A modest but dignified centennial

The centennial in 1984 is also celebrated in Jena – in a modest, but dignified manner. A great sensation was the international glass symposium, which had renowned scientists traveling to Jena from East and West alike. For a few days, Jena took the spotlight; but soon the dull, everyday routine settled back in – the difficult economic situation and the thankless role of a small player in the huge Zeiss Combine.

hjb/Günter Bresack

Notables of the SED (the GDR's only political party) at the inauguration of the wave guide plant in Jena-Burgau.



Emotion and irritability

# The case of "Schott" vs. "Jena"

Eleven years before the unexpected unification of Germany, the companies agreed to a separation they presumed to be final: on November 17, 1980, the legal representatives of an unequal couple sharing the same company name finally signed the divorce certificate in the SCHOTT Guest Casino in Mainz.

This confirmed the separation by mutual agreement of the company names and trademarks between the "Jenaer Glaswerk Schott & Gen.", with headquarters in Mainz, and "VEB Jenaer Glaswerk Schott & Gen." in Jena. The special glass manufacturer in the West, which had meanwhile achieved the rank of an international corporation, was careful to obtain a contractual right to the "Schott" portion of the name and its exclusive use all over the world. This also included the traditional pictorial trademark consisting of a circle inside a square and a number of important trademarks. The leading special glass producer of the GDR acquired exclusive rights to the "Jena" portion of the name and the trademark "Jena Glass", which was known far and wide.

Once this divorce was completed, the Stiftungsunternehmen (Foundation enterprise) in Mainz, going under the name of Schott Glaswerke, and the Jena glassworks, now a member of the state-owned Zeiss Combine, made a clean break with years of disputes concerning the name of the company and product trademarks. The simultaneous use of both names had already caused annoyance and confusion among customers.

## Four million D-marks from GDR currency reserves

"Schott's breaking off from Jena Glass will result in injured feelings," remarked the then Chairman of the Board of Management, Dr. Heinrich J. Klein, after the signing ceremony. As compensation for "this extraordinary sacrifice to ensure the conclusion of the contract," the Mainz contingent allowed itself to be paid a grant of DM 4 million (from the GDR currency reserves) to cover the costs of changing tools and corporate stationery. (In 1991, the popular brand name was returned to SCHOTT along with the Jena glassworks, as is well known. Although "Jena Glass" was handed over to Mainz at no charge, a transfer payment had to be made to rehabilitate its partner in Jena, which had been forced to lead the life of a Cinderella under the socialists and had lost its market base in the East, to top it all off.)

Of course, the employees of the two competing companies from differing social systems were yet unaware of these upheavals in November of 1980. Instead, they continued to have the feeling of being at a "parting of the ways in the nearly hundred-year history of our company" and were appreciative of the fact that, "despite all the prominent difficulties, at least the chance was



JENA<sup>ER</sup> GLASWERK  
SCHOTT & GEN. JENA

### Company name until 1945



VEB JENA<sup>ER</sup> GLASWERK  
SCHOTT & GEN., JENA



JENA<sup>ER</sup> GLASWERK  
SCHOTT & GEN., MAINZ

### Company names after 1945



VEB JENA<sup>ER</sup> GLASWERK



Schott Glaswerke

### Separate names as of 1981



Jenaer Glaswerk GmbH



Schott Glaswerke

### 1994: Schott returns to Jena

## SCHOTT

### 1998: Corporate brand

not passed up to hold talks, negotiate, and conclude a contract that is in the interest of both companies."

For the Mainz team, the many years of disputes and negotiations were managed primarily by the SCHOTT attorneys Dr. Wilhelm Schacht, Dr. Otto Lange and Anne-Marie Ittstein. Together with the members of the Board of Management Dr. Carsten Eden and Dr. Heinrich J. Klein, as well as Dieter Kappler, the "Chief Keeper of the Minutes," they formed the SCHOTT delegation. There was also a "Chief Keeper of the Minutes" in the six-person GDR team, which included not only representatives from Jena, but also a deputy from the office of the Council of Ministers.

The delegates of the GDR state-run economy met the proponents of the socially oriented free market economy with a great deal of self-assurance. This was particularly true in the case of Dr. Wolfgang Biermann, General Director of the Zeiss Combine, whose reputation for treating subordinates in the manner of Manchester capitalism hastened ahead of him. When the time finally came, he had to be called from his room at the Mainz Hilton Hotel to sign the contract.

## No flags of any kind anywhere

Everything which bound the two companies together historically was excluded at their separation. The watchword was: get it over

August 13, 1961

### Construction of the Berlin Wall

In order to halt the flight of hundreds of thousands of people to the West ("voting with the feet"), the GDR erected a checkpoint in 1952, later the "death strip" along its western border. At the height of the "Cold War," it closed the last open crossing by building the Berlin Wall in 1961.



March 19, 1970

### Chancellor Brandt in Erfurt

Against the backdrop of détente between the "super-powers," the USA and the USSR, the West German government introduced a new policy for Germany and the East. The first outward sign of this policy was the meeting of Chancellor Willy Brandt with the Prime Minister of the GDR, Willy Stoph, in Erfurt and Kassel. For the first time since 1945, the unyielding relations between East and West began to soften. The subsequent "policy of small steps" facilitated contacts between people on both sides of the "Iron Curtain." This also paved the way for the long-awaited agreement between Schott and Jenaer Glaswerk with respect to the company name and trademark in 1980.

with, but without losing sight of propriety. German sensibilities at that time were expressed in symbols and distrust. Hence the note giving instructions to the Mainz glassworks for the program of events: "Pick up delegation with Schott/GL vehicles at Hilton. GDR car and driver must stay there! (Notice: traffic jams are expected, since the Pope is still visiting Mainz)." In another memo, we read: "No flags of any kind on tables! No flags at Schott!" Even the flagpoles at the plant entrance were removed – "sent into the workshop for repairs," was the official explanation.

Those responsible intended in this way to avoid any embarrassing questions the guests might have raised. After all, it was completely out of the question to have the GDR flag – the "flag of division," as it was then known – waving over the SCHOTT headquarters.

## An apolitical game of cards and one ditch too many

Despite all efforts, one symbol of the GDR did manage to pass through the SCHOTT gates, however. The head of the Zeiss Combine insisted on driving up in his own car, bearing the sign of a "Member of the Central Committee of the SED." The organizers in Mainz saw to it that the car was guided by the shortest possible route to invisibility in a garage. Once there, the SCHOTT drivers followed their orders conscientiously, which required them to involve their East German colleagues in a totally apolitical game of cards with the purpose of avoiding any further complications.

On that dark November day, the short way from the plant road to the casino was especially laden with symbolism: the hosts and their guests had to pass a point at which an excavator driver was going about his business of laying a cable across the path. Only under orders from the Board of Management did the determined employee agree to break off his work before the arrival of the delegation from the GDR. An observer commented: "As if the ditch weren't deep enough already ..."

In order to preserve the historic moment on film, SCHOTT kept a photographer on call in a nearby room. However, he was only supposed to go into action if the GDR officers also pointed a lens at the scene. Result: there is not a single photograph of this memorable event!

The mood was much more relaxed that evening, when the contracting parties from opposing camps met at Vollrads Castle in the Rhinegau for a stint of "culinary wine sampling." Count Matuschka-Greifencloau, the host, led the guided tour through the historic walls and astounded all with this rather free translation of his family's Latin motto: "Always set your principles high enough that you can still pass underneath."

While tasting the noble wines, one member of the delegation from East Berlin amazed those present with his detailed knowledge of Rhinegau vineyards and vintages. In the kind of socialism practiced in Eastern Europe, it would seem that not all comrades were perfectly equal ...

Dieter Kappler



## Takeoff in the West

## From Mainz out into the world

When building the new headquarters in Mainz, it was clear from the start that this was not to be a copy of the outmoded facilities in Jena. Erich Schott and his companions wanted to erect a modern, automated production plant.

The plans were drawn up from the autumn of 1950 to June of 1951. Ten months after work started, the optics plant was already standing, and the administration building followed in the autumn of 1952. By April 1954, the research laboratory, too, was ready.

The important thing now was to make some money and catch up with the competition from the West.

Again, the Americans were of help: a US company granted Schott a license to produce glass picture tubes for television sets. The screens and funnels for these were now being made in fully automatic presses. This also applied to borosilicate glass hollowware, i.e. laboratory and household glassware. SCHOTT had entered a new era in manufacturing.

The sphere that SCHOTT really considered its own, optical glass, was booming again too. In 1957 SCHOTT supplied optical glasses for the first time for America's burgeoning space travel program. Since then glass from SCHOTT has been represented on the majority of American and Western European space travel and satellite projects.

The rebuilding of SCHOTT in Mainz is inseparable from the person of Erich Schott. With his life's work he was one of the fathers of "Germany's economic miracle" after the Second World War.

## Technology dominated the 1960's

With new products breaking records over and over, SCHOTT became again a sign of quality. A 1960's milestone was the window for the bubble chamber in the European Nuclear Research Center, CERN, the largest of its kind in the world, with a length of 2.17 meters (1960). The optical glass of SCHOTT was also used in photographic lenses for manned space flights (starting in 1962). The production of glass fibers for light and image guides began (1964). Then – in step with the changing times – SCHOTT started manufacturing glass screens and funnels for color television sets (1967).

In 1968, "Zerodur" marked the beginning of a new era in glass-ceramics. With its virtually zero coefficient of expansion it was especially well suited for the construction of the telescope mirror carriers required by astronomers.



*Within a very short time, the works in Mainz was designed and built up as if by magic in 1951-52.*



*Since 1955 fully automated: Television glass manufacture in the main works in Mainz.*



**Dr. Erich Schott**

*in 1984 at the age of 93 years*

Only when we put all our heart into it, will that which we produce be enduring and successful.

The year of the first manned landing on the moon by the Americans, 1969, marked a "great step" in the SCHOTT history, too. The photographs and television pictures of the moon's surface came from high-powered cameras whose lenses were made of optical glass from Mainz.

## The market orientation phase

The company's innovative power persisted into the 1970's, if on a different footing. The focus of attention shifted to an increased market orientation. No longer was technical feasibility the decisive aspect, but rather the problem of finding product solutions for specific markets.

A typical example of this change in orientation was the "Ceran" glass-ceramic cooking surface. After its highly successful premiere in 1972 at the DOMOTECHNICA household goods trade fair in Cologne, in 1973 began a march of triumph through the kitchens of the world. SCHOTT gradually began to take an increased interest too complete solutions involving hot plates.

The SCHOTT image as the reinstated market leader for special glass in Europe was substantiated by further examples of top performance. In 1972, it succeeded in making a four-meter mirror carrier out of "Zerodur" which had been commissioned by the Max Planck Institute. In addition, in 1973 the "IR 100" award was given to the scientist Marga Faulstich (one of the participants of the "Odyssey of 41 Glassmakers") for the lightweight glass she invented for eyeglass lenses, and to the SCHOTT UV fiber optics. This prize is awarded each year by the American Industrial Research Council for the 100 most significant new technical products.

In 1984 SCHOTT achieved the change from a technology-driven corporation to a market-driven one. Proof of this was provided on the occasion of the centenary of SCHOTT when it received the German Marketing Prize – one of German business's most coveted awards.

## SCHOTT extends its horizons

In parallel with the setting up and expansion of the new works in Mainz the internationalization of SCHOTT began. The Vitrofarma glass tubing plant in Brazil, acquired in 1954, was the first foreign production subsidiary. An event of special importance for SCHOTT was the opening of an own sales office in New York in 1963 – as a springboard into North America, the largest special glass market in the world. Little by little production and sales companies were also set up in other countries in Western and Southern Europe. In 1966 the first sales company in Asia followed in Japan and the first production company in Asia in Malaysia in 1974.

## On the way to an international group

With the reunification of Germany and the collapse of the socialist systems in Eastern Europe the "Cold War" came to an end and there was a radical change in world economic background conditions. "Globalization" has been the challenge for internationally aligned corporations since the beginning of the 1990s. It offers both opportunities and risks. SCHOTT has adapted to it and aims to use globalization as an opportunity.

The goal is to develop further into a global group that thinks and deals increasingly in components and systems. Its guiding framework for this since the end of 1999 has been its **Vision 2010**. This places customer orientation in the very center of all its activities – as the basic prerequisite for its own success. With the employees breathing life every day into the core values **Accountability, Market Driven Innovation, Technological Expertise, Integrity and Reliability, Entrepreneurship**, SCHOTT intends to make itself fit for the future.

Innovation is a special success factor on the path into the future: SCHOTT is aiming with new materials and technologies to open up new, future-oriented businesses. SCHOTT can already point to a number of successes in this connection:

- Progress in the field of coating technologies for the treatment of glass and plastic products,
- The development and manufacture of thin glasses for flat display technology,
- World market leadership in optical materials for microlithography
- and entry into photovoltaics in 2002.

50 years after the opening of the new main works in Mainz SCHOTT is now in the midst of the change to a multinational, technology-based group.

hjb/JSr

## Jens Beutel

*Lord Mayor of Mainz, on the occasion of the "50 Years of SCHOTT in Mainz" anniversary celebrations in 2002*

SCHOTT has made Mainz a center of the special glass industry known all around the world.



*Product in a class of its own: "Ceran" brand glass-ceramic cooking surfaces. In April 2002 the 50 millionth cooktop panel came off the production line.*



*A crowning achievement: an eight-meter mirror carrier. Four of these "Zerodur" mirror carrier form the core component of the world's most powerful telescope, the Very Large Telescope (VLT) in Chile.*



*Since 1989 the ideas forge for innovations has been the Otto Schott Research Center – Europe's most advanced glass research unit.*



*SCHOTT Glas in Mainz – the SCHOTT Group's headquarters and main works. In the 2001/02 fiscal year SCHOTT achieved worldwide sales of just under 2 billion euros with almost 19,900 employees in some 100 production and sales companies in 38 countries.*

# The story of reunification

**Late 1989:** As a result of political developments in the GDR, a representative of VEB Jenaer Glaswerk made contact with the Board of Management of SCHOTT Glaswerke in Mainz.

**February 7–8, 1990:** Helmut Fahlbusch and Erich Schuster, Members of the SCHOTT Board of Management, visited the Jena glassworks for the first time. They found a factory employing 4,300 people that was technologically 10 to 15 years behind the west:

“It felt as though any moment Otto Schott would be looking over your shoulder.” As they travelled back to Mainz one thing was clear to Fahlbusch and Schuster: “We must help the people in Jena.”

**April 9–11, 1990:** A delegation from Jenaer Glaswerk visited Mainz to gather information.

## The Biebelried Declaration

**May 29, 1990:** The state-owned factories, Carl Zeiss Jena and Jenaer Glaswerk, as well as the Stiftungsunternehmen (foundation enterprises) Carl Zeiss (Oberkochen) and SCHOTT Glaswerke (Mainz) signed a declaration of intent stating that they would join ranks in a Carl-Zeiss-Stiftung (Foundation) after a period of transition.

## VEB privatization

**June 29, 1990:** “VEB Carl Zeiss JENA” and “VEB JENAer GLASWERK”, were transferred to “Carl Zeiss JENA GmbH” or “JENAer GLASWERK GmbH.” Now the sole shareholder in the incorporated companies was the Treuhandanstalt (holding set up to privatize East German businesses) of the still-existent GDR. It appointed the Carl Zeiss Foundation as assign for the shares it holds.

**July 1, 1990:** When the economic, social and currency union took effect in the GDR, the Jena glassworks submitted an initial balance sheet in deutsche marks. Wolfgang Meyer was appointed Managing Director of Jenaer Glaswerk GmbH.

**September 1990:** Under political pressure from the People’s Chamber of the GDR, the Treuhandanstalt transferred 20% of its shares in each of the now renamed Jenoptik Carl Zeiss Jena GmbH and Jenaer Glaswerk GmbH to the Carl Zeiss Foundation in Jena.



After unification, SCHOTT in Mainz was host to a delegation from Jenaer Glaswerk for the first time on April 9, 1990.

## Wolfgang Meyer

*then provisional Production and Technology Director at Jenaer Glaswerk*

We recognized quite soon after the fall of communism that the only chance of survival that Jenaer Glaswerk had would be to be involved in a cooperation with SCHOTT in Mainz.

## Outline agreement

**November 7, 1990:** The two companies in Jena consent to basic agreement with SCHOTT Glaswerke (Mainz) and Carl Zeiss (Oberkochen) regarding the measures to be taken in the course of their reunion in a Carl Zeiss Foundation and their cooperation in the reconstruction of the plants in Jena.

**December 1990:** SCHOTT Glaswerke and Jenaer Glaswerk GmbH concluded a contract on consultancy services, the transfer of know-how and utilization of patents. It formed the basis of the reconstruction concept for Jenaer Glaswerk.

**January 10, 1991:** Helmut Fahlbusch and Erich Schuster, Members of the SCHOTT Board of Management, were appointed to Members of the Supervisory Board of Jenaer Glaswerk.

## “A serious obstruction”

**Late March 1991:** The announcement of plans by the Treuhandanstalt to transfer the remaining 80% of shares to the corporations in Jena to the Carl Zeiss Foundation in Jena represented, in the opinion of the Stiftungsunternehmen (foundation enterprises) in Oberkochen and Mainz, a serious obstruction to the efforts they had made to reconstruct and safeguard the livelihood of the companies in Jena. Moreover, the Treuhand scheme was supposed to be carried out against the will of the management and portions of the staff in Jena.

## Reconstruction concept for Jenaer Glaswerk is approved

**April 29, 1991:** In Berlin, SCHOTT Glaswerke, Jenaer Glaswerk GmbH, the State of Thuringia and the Treuhandanstalt agreed to the reconstruction concept for Jenaer Glaswerk:

- SCHOTT is to take over 51% of the shares and the management;
- The Treuhandanstalt is to become co-proprietor and sell its 49% stake to SCHOTT in 1995;
- Transfer of SCHOTT know-how to Jena;
- Development of new product lines in Jenaer Glaswerk

## Breakthrough in the problem of the Foundation

**June 12, 1991:** After tough negotiations among all involved (the state governments of Baden-Wuerttemberg and Thuringia, Jenoptik Carl Zeiss Jena GmbH and SCHOTT Glaswerke, as well as the Treuhandanstalt), the open questions had all found an answer. The way was now clear for SCHOTT and Zeiss to take over operations in Jena.

## Basic agreement

**June 25, 1991:** A basic agreement was signed concerning the reconstruction of the companies in Jena on the basis of the negotiations, whose results were announced on June 12.

1985

## Perestroika and Glasnost

Mikhail Gorbachev, recently elected secretary-general of the Communist Party of the Soviet Union, responds to the ongoing crisis in the Soviet economy by propagating a radical restructuring (perestroika) of the economy and society, as well as public discussion (glasnost) of the country’s ailing circumstances. The new ideas also find an echo in other Eastern Block countries.



November 9, 1989

## The Berlin Wall tumbles

On November 7, 1989, the entire government of the GDR steps down. On the evening of November 9, a member of the SED Politbüro makes an announcement to the effect that, starting immediately, citizens of the GDR will be free to travel wherever they wish. Late that same evening, the guards at the border crossings leave their posts.

Summer-fall 1989

## Mass exodus from the GDR

The mass exodus of GDR citizens to Hungary and the West German consulates in Warsaw and Prague shows the world how unstable the GDR had become. In Leipzig and other GDR cities, more and more people are taking part in demonstrations against the GDR regime. The “Peaceful Revolution” begins to run its course.

October 3, 1990

## Unification

The Unification Treaty goes into effect on October 3, 1990. The five States of the GDR join the Federal Republic of Germany. Hundreds of thousands of people gather in front of the Reichstag in Berlin to celebrate unification.

Carl-Zeiss-Stiftung (Foundation):

- only one foundation in the future, with seats both in Heidenheim and Jena;
- integration of Jenaer Glaswerk GmbH and the new Carl Zeiss Jena GmbH into the Carl Zeiss Foundation “as soon as we have the right economic conditions”;
- the duties of the Foundation Administration will be discharged by a Board of Trustees in the future;
- the supervision of the Foundation will remain in Baden-Wuerttemberg; the laws of Baden-Wuerttemberg regarding foundations and endowments will apply;
- a non-profit, non-commercial Ernst Abbe Foundation is to take over the non-industrial assets of the Carl Zeiss Foundation in Jena. Jenaer Glaswerk GmbH
- SCHOTT is to take over a majority of shares (51%);
- the State of Thuringia, rather than the Treuhandanstalt, is to hold the other 49% of shares as co-proprietor until 1994.

**October 16, 1991:** The State of Thuringia temporarily appropriated all the shares in the Jenaer Glaswerk GmbH.

## Jenaer Glaswerk in the SCHOTT Group

**November 14, 1991:** SCHOTT Glaswerke, the State of Thuringia, Jenaer Glaswerk GmbH and the Treuhandanstalt signed a deed of sale and partnership in accordance with the basic agreement of June 25. The glassworks thus became a company of the SCHOTT Group. The Treuhand made 122.5 million euros (240 million DM) available, the State of Thuringia 30.6 million euros (60 million DM). This initial aid served as payment for the joint stock and to deal with outstanding liabilities such as unpaid debts and pension rights, to finance social plans and losses, a proportion of which the State of Thuringia had to bear as a joint stockholder until the end of 1994.

*Historic moment on May 29, 1990 (from left to right): Wolfgang Adolphs (Chairman of the Board of Management of SCHOTT Glaswerke), Dr. Klaus Gattnar (General Director of VEB Carl Zeiss, Jena), Dr. Horst Skoludek (Chairman of the Board of Management of Carl Zeiss, Oberkochen) and Dr. Dieter Altmann (Chief Operating Officer of VEB Jenaer Glaswerk) sign the “Biebelried Declaration.”*



## Only one Carl Zeiss Foundation left

**January 8 and 14, 1992:** The Minister Presidents of Baden-Wuerttemberg and Thuringia, Erwin Teufel and Josef Duchac, signed a treaty “on the legal status of the Carl Zeiss Foundation”.

**March 20 and September 29, 1992:** The State Parliaments of Baden-Wuerttemberg and Thuringia approved the treaty.

**August 31, 1994:** The two Ministers of Science, Klaus von Trotha (Baden-Wuerttemberg) and Dr. Ulrich Fickel (Thuringia), in their capacity as Administration of the Foundation, signed an agreement reuniting the two Carl Zeiss Foundations in Heidenheim and Jena.

## Jenaer Glaswerk became a wholly-owned SCHOTT subsidiary

**January 1, 1995:** The State of Thuringia’s remaining shares in Jenaer Glaswerk GmbH became the property of SCHOTT Glaswerke.

**July 2, 1998:** Change of name from Jenaer Glaswerk GmbH to SCHOTT Jenaer Glas GmbH.

**September 30, 1999:** In the 1998/99 fiscal year SCHOTT Jenaer Glas was “in the black” for the first time.

**January / February 2000:** A company pension scheme known as “VO 2000” and a profit-sharing scheme were introduced for the employees at SCHOTT Jenaer Glas. This concluded integration in the Carl Zeiss Foundation.

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Upheaval, demolition, reawakening

# Major investment safeguards Jena site

Even before SCHOTT took over its management in 1991, Jenaer Glaswerk was making efforts to improve its initial situation. The operations in Gehlberg, Schleiz and Burgau were spun off in 1990.

May 23, 1991. Four months after its constitutive meeting, the Supervisory Board cleared an investment volume of 12.75 million euros (DM 25 million). This marked the start of an investment and reorganization program of a magnitude never before seen at a single location. Money was poured into improving efficiency, future-oriented technologies, the construction of modern production facilities and – last but not least – environmental protection.

At times, the entire glass-works looked like a construction site. Fifty buildings were being renovated or newly built. If all the twenty-ton trucks needed to carry away the rubble from the plant grounds were placed end to end, it would make a convoy 51 km long.

## The only ampoule production plant in Germany

The first production to get off the ground, in August of 1991, consisted of packages for pharmaceuticals by using SCHOTT technology. Eighty years after Otto Schott and his staff began to manufacture "Fiolax" glass tubes for the medical industry, ampoules to be used as primary packaging material for the pharmaceutical industry were rolling off the line. This made Jena the only location in Germany where SCHOTT produced these high-precision glass parts.

## Further processing for "Ceran"

In July 1993 the starting shot was fired for the production of the most successful product of SCHOTT to date since 1945: the "Ceran" glass-ceramic cooking surface. Where only one year earlier



*Aesthetic and stylish: "Jenaer Glas" with a new design.*



*More than 175 million euros have been invested at SCHOTT Jenaer Glas since 1991.*

optical glass had been pouring from the pot, now the workers were cutting, drilling, grinding, printing and commissioning raw glass supplied by Mainz. Nine months of strenuous reorganization had paid off.

## "Borofloat" is introduced to the world

In November 1993, another ambitious Jena project was put into operation: the microfloat plant. This was the result of mutual research and development work between SCHOTT and the Japanese glass manufacturer, Asahi.

SCHOTT contributed its know-how in melting borosilicate glass; Asahi its experience in the float technique. From the tank, the vitreous mass flows onto a tin bath. There it hardens largely without stress and with a good surface quality. Thus was born a type of glass the world had never seen before: "Borofloat." Owing to its excellent chemical and thermal properties, this flat glass is suited to a wide variety of applications. For example, it can be used (after the proper processing) as fire-resisting glass, as glass for the front panels of kitchen ranges, or as a baking dish.

*Attractive: "Ceran" processing.*



## Relaunch of the "Jenaer Glas" brand

On February 2, 1994, Europe's most modern production plant for household glass officially began operations in Jena. Shortly thereafter, it premiered at the "Ambiente" trade fair in Frankfurt. "Jenaer Glas" stepped up and introduced itself in a new design, with up-to-date communications. The glassworks' traditional brand was intending once again to become a synonym for high-quality, elegant and practical kitchen-ware made of heat-resistant glass. Since 1997 the Jena glassmakers have also again been producing the famous Wagenfeld teapot.

## "Break-even in the East"

The rebuilding of SCHOTT Jenaer Glas was one of the biggest corporate adventures in the whole SCHOTT history. It was bound in with some tough and, to some extent, dramatic incidents. Far-reaching personnel changes and the shutting-down of traditional areas of production were unavoidable. The financial aid available for the start-up from the Treuhand and the State of Thuringia fell far short of what was required for survival, let alone for shaping the future. For SCHOTT Jena's economic situation had been catastrophic for a long time. Then, in 1995, came the first success. SCHOTT achieved what is referred to as "Break-even in the East". In other words: for the first time sales were higher than the losses.

Finally, in 1999, German newspaper readers were able to read in the press that "Reunification has been a success at Schott". SCHOTT Jenaer Glas GmbH was in the black for the first time. Refurbished buildings, efficient technologies and high quality products were visible proof for visitors that SCHOTT had successfully rebuilt itself in the east – even if, at the end of 2002, ampoule production was transferred to Hungary for strategic reasons.

*Maximum purity and highest quality: Calcium fluoride monocrystals for the chips of the future. Here SCHOTT is the world market leader.*



Balance sheet figures since the reunification: Investment of more than 175 million euros (45 million euros of which came from public development funds), 600 employees, plus safeguarding of a further 870 external jobs through the establishment of new companies.

## Innovation for the future

The economic commitment of SCHOTT in the east of Germany was not restricted to the old parent company. In 1998 the Mainz group set up a second company in Jena, SCHOTT Lithotec AG. The company, which has plans to go public in the future and which has further facilities in Eisenberg and Meiningen, is the only complete supplier of advanced optical materials for microlithography in the world. In April 2000 SCHOTT Lithotec in Jena took the world's most powerful calcium fluoride monocrystal plant into service. Calcium fluoride crystals are used in wafer stepper objectives and, in this duty, are making a decisive contribution to the manufacture of the next generation of microchips. With more than 115 million euros invested to date and 350 people employed in Thuringia at the current time SCHOTT Lithotec is now the world leader in this forward-looking sector as regards technology, quality and production capacity.

## Dr. Udo Ungeheuer

*Member of the SCHOTT Glas Board of Management; since 1996 Member, since 1999 Chairman of the SCHOTT Jenaer Glas GmbH Supervisory Board*

There were highs and lows in the restructuring of SCHOTT Jenaer Glas and quite often doubts about whether even what were trying to do had any chance of succeeding. Yet the SCHOTT people in Jena had a vision that could move mountains: They were determined that their factory should survive and they had an unwavering will to rebuild it.

But that's not all. In the summer of 2003 SCHOTT Displayglas Jena GmbH, which was founded in 2002, will be taking the world's most modern float plant for high quality thin glass into service. The company is currently investing 49 million euros in this and will be creating 70 new jobs. The thin displayglass is used in mobile telephones and organizers, notebooks, PC monitors and flat television screens.

It can be seen that in Jena tradition and the future are merging: the place where SCHOTT was founded is not only an example of successful reunification but also an important piece of the mosaic in safeguarding the future of the SCHOTT Group.

*hjb/JSr*



*From left to right: Federal Chancellor Gerhard Schröder is obviously extremely impressed by his visit to Jena. SCHOTT Management Board Members Leopold von Heimendahl and Udo Ungeheuer explain to him how the microfloat plant works. Also listening in are Jena's Lord Mayor Peter Röhlinger and Thuringia's Prime Minister Bernhard Vogel.*