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**Cover photo:** At its site in Billerica, MA, the joint venture RWE SCHOTT Solar, Inc. uses a cost-effective edge-defined film-fed growth (EFG) silicon octagon technology to produce wafers that are processed into solar cells. Photovoltaics is one of the most important innovative fields of the SCHOTT Group, which has been present in North America for 40 years (see pages 2–5).

Photograph: SCHOTT/Jens Meyer

Christine Fuhr  
Mainz

  
**40 Years**  
**SCHOTT**  
**in the USA**

## Continuing to Develop Growth Opportunities

SCHOTT generates one-quarter of its world sales of two billion euros in the United States. Dr. Leopold von Heimendahl, Chairman of the Board of Management, and Dr. Johannes Hain, President of SCHOTT Corporation, spoke about the 40-year U.S. presence of the international technology company, its strategy and plans for the future.

► In 1963 SCHOTT set up a sales office in Manhattan. Is the claim in Frank Sinatra's tribute to New York, "If you can make it there, you can make it anywhere," also true for SCHOTT?

**Dr. von Heimendahl:** Yes, I believe so. The fact that we have been so successful in North America is documented by our presence in the United States, in Canada and Mexico. With 3,300 employees at 16 production facilities, three sales organizations and the corporate office, SCHOTT Corporation, SCHOTT is a top supplier in many areas with its special materials and high-tech solutions. The commitment to the United States four decades ago also marks the beginning of our

consequent internationalization. Today, the SCHOTT Group consists of production facilities and sales offices in 38 countries around the world.

*How important is the U.S. market for SCHOTT?*

**Dr. von Heimendahl:** It is very important. In no other country other than Germany is SCHOTT as a global player so strongly committed as in the United States. The North American Free Trade Agreement (NAFTA) in 1994, which removed the trade and investment barriers between Canada, Mexico and the United States, further strengthened this position by opening up a highly industrialized economic region for us with some 380 million people. With a gross production value of more than 3.5 billion euros, North America is the most important special glass market in the world and is thus vital for our business.

*Were there business contacts to the United States before SCHOTT established its own companies there?*

**Dr. Hain:** The beginning of our activities in North America can be traced all the way back to the early days of our company. In 1893, just nine years after the company was founded, SCHOTT presented its optical and technical glasses for the first time at a World Exposition in Chicago. In the fiscal year 1905/06 our export quota was an astounding 63 percent, and 23 percent of the exports went to the U.S. There were also contacts to customers in these early days. Company founder Otto Schott traveled to the States in 1909 and 1911.

After World War II SCHOTT supplied special optical glasses for aeronautical applications to NASA. In 1963 we opened our first subsidiary on the North American continent, a sales company in New York. SCHOTT Glass Technologies Inc., the first manufacturing company in the United States, began operations in Duryea, Pennsylvania, in 1969. This facility initially manufactured optical glasses and then later introduced the production of eyeglass lens blanks, color filters, glasses for astronomy and modern laser glass for fusion research.

**Dr. Leopold von Heimendahl:**  
"With a gross production value of more than 3.5 billion euros, the special glass market in North America is vital for our business."

**Dr. Johannes Hain:**  
"We want to consolidate and expand our position in the United States and within the NAFTA zone overall."



Some 125,000 mask blanks are produced every year at SCHOTT Lithotec in Poughkeepsie, New York. These mask blanks consist of high-purity, coated quartz substrates and are important components in the wafer steppers required for the fabrication of semiconductor chips.



Fiber optic light guides made by SCHOTT Fiber Optics, Southbridge, Massachusetts, are used in many applications in medicine, industry, research and science.

Over the years, SCHOTT has expanded successfully in the U.S. through acquisitions and joint ventures.

*Which products are supplied to which U.S. markets?*

**Dr. Hain:** Our markets include household appliances/white goods, automotive, lighting technology, photovoltaics, electronics, optics, semiconductors, pharmaceuticals, biotechnology and the medical field. The product portfolio is highly diverse and comprises, for example, "Ceran" glass ceramic cooktops, processed flat glass products, glass-to-metal seals, electronic packaging, fiber optic light guides, anti-reflective flat glasses, colored glass, photovoltaic systems and components, coated glass substrates for microarrays, optical materials for microlithography and pharmaceutical tubing and ampoules.

*Are you planning any important investments in the coming years?*

**Dr. von Heimendahl:** Yes, SCHOTT Pharmaceutical Packaging will soon move to a new manufacturing facility in Lebanon, Pennsylvania, where we have invested some 12 million dollars in the world's most modern plant for the production of pharmaceutical packaging. Here, some 150 employees

will produce two million pharmaceutical packaging products such as vials and syringes per day. Other investments are planned to set new technological milestones in microlithography at SCHOTT Lithotec USA and to strengthen the good market position of Electronic Packaging at the Golden, Colorado site. Capacities in photovoltaic production will be expanded in line with market developments. We also intend to invest around 25 million dollars in the expansion of production of solar cells and modules at RWE SCHOTT Solar Inc., in Billerica, Massachusetts. In addition, we are developing a new "Biochip Solutions" business segment for the pharmaceutical research sector. Since the most important research trends in this field are in the U.S., we have introduced our own research here. Two million dollars will be spent in the coming years on products developed in-house and to set up a sales organization.

*An R&D Center modeled on the multifunctional concept of the Otto SCHOTT Research Center in Mainz was recently opened at SCHOTT Glass Technologies. What is behind this move?*

**Dr. Hain:** The R&D Center in Duryea documents both the wider global approach of our research activities and also the stronger

focus on the U.S. market. Our manufacturing companies in these markets as well as our North American customers will benefit from shorter distances and faster service.

*What are SCHOTT sales in the U.S.? What is the outlook for this market?*

**Dr. Hain:** Last year we generated sales of \$543 million, which constitute about 25 percent of SCHOTT's worldwide sales. To exceed the \$500-million mark early in the new millennium was the ambitious goal that we had set for ourselves in North America. By developing new products within the Group, concentrating on our core businesses and extending our product portfolio to include complete systems, we will further consolidate and expand our position in the United States and within the NAFTA zone overall. This goal is also laid down in our recently formulated corporate strategy.

*What is your vision and/or your strategy for the U.S.?*

**Dr. von Heimendahl:** To better prepare for the future, SCHOTT has set itself ambitious goals in our Vision 2010. For example, we want to be the Number One or Number Two in all our markets. We also want to build up at least two new businesses with a leading position in our respective markets

SCHOTT Glass Technologies in Duryea, Pennsylvania, is specialized in melting and processing optical glasses.



"Ceran" glass ceramic cooktops are produced at SCHOTT Ceran Inc. in Vincennes, Indiana.





Plastic-encapsulated refrigerator shelves are one of the main products of Gemtron Corporation, Vincennes, a joint venture of SCHOTT Corporation and AFG Industries.

by the end of the decade. Another goal is to achieve 30 percent of our sales with products that have been on the market for less than five years. With our Vision 2010, we have declared that a primary task is to help secure our customers' success with our products and services. We are convinced that this is the surest way to our own success. This Vision is valid for all our business segments, and thus also for North America. I am certain that our business in North America will make a decisive contribution to this success, and thus also to the realization of our Vision.

*And so for SCHOTT an "American dream" has really come true in the past 40 years?*

**Dr. Hain:** Yes, in retrospect you could sum it up that way. With our highly motivated and competent employees, we have been able to establish ourselves successfully by attaining business with appealing customers in an extremely interesting market. The activities in these markets together with the sales generated from products exported from SCHOTT's European facilities represent an impressive presence. And our potential in this "country of unlimited possibilities" is far from exhausted. ◀

RWE SCHOTT Solar is a technological leader in solar modules, just one of the products manufactured at the site in Billerica, Massachusetts.



## An overview of the U.S. sites



40 years  
**SCHOTT**  
in the USA

### Holding/Corporate Office

- 1 SCHOTT Corporation, Yonkers, NY

### Manufacturing sites

- 2 Duryea, PA SBU Advanced Optical Materials and Components, BS Optics for Devices, Ophthalmic; SBU Pharmaceutical Systems, BS Labware
- 3 Poughkeepsie, NY SBU Advanced Optical Materials and Components, BS Microlithography
- 4 Dalton, GA SBU Home Tech, BS White Goods
- 5 Holland, MI SBU Home Tech, BS White Goods
- 6 Louisville, KY SBU Home Tech, BS White Goods, SO
- 7 Madisonville, KY SBU Home Tech, BS White Goods
- 8 San Clemente, CA SBU Home Tech, BS White Goods, BS Electronics, BS Electronic Packaging, SO
- 9 Sweetwater, TN SBU Home Tech, BS White Goods
- 10 Vincennes, IN SBU Home Tech, BS White Goods
- 11 Wheaton, IL SBU Home Tech, BS White Goods
- 12 Billerica, MA SBU Solar
- 13 Rocklin, CA SBU Solar
- 14 Golden, CO SBU Electronics, BS Electronic Packaging
- 15 Westborough, MA SBU Electronics, BS Electronic Packaging, SO
- 16 Auburn, NY SBU Electronics, BS Fiber Optics
- 17 Southbridge, MA SBU Electronics, BS Fiber Optics
- 18 Parkersburg, WV SBU Pharmaceutical Systems, BS Tubing
- 19 Lebanon, PA SBU Pharmaceutical Systems, BS Pharmaceutical Packaging

SBU = Strategic Business Units

BS = Business Segments

SO = Sales Office