

# German Firms Primed Iraq's War Machine

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Second of two articles

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BONN—In the late 1980s, German export officials noted that Iraq's state-run industrial complex was hungry for gas bottles, lampposts and milk separators—and approved exports of metal presses and other equipment necessary to produce them.

At the time, Iraq was a country that Germany and other Western nations had reason to be worried about. But what harm was there in gas bottles, lampposts and milk separators?

The question was woefully naive. Iraq needed the German-designed metal presses not to produce missile combustion chambers and equip plants that were churning out, among other things, uranium centrifuges for making nuclear weapons.

In the wake of last year's Persian Gulf War against Iraq, United Nations inspectors and Ger-

man prosecutors are learning just how easily German firms circumvented their country's weak export control mechanisms to sell Iraq the technology, parts and advice it needed for nuclear, missile, poison gas and germ weapon programs.

What they have discovered is that a laissez-faire official attitude, bolstered by a desire for export-related profits, allowed German companies to supply Iraq from 1986 to 1990 with an estimated \$198 million of so-called dual-use items. These are products that theoretically had civilian uses, but, according to German prosecutors, were often clearly meant for military use.

Companies located in other countries, including Switzerland, Britain, France, Italy and the United States, contributed to the buildup of Iraqi President Saddam Hussein's military machine, and German firms sold no armaments more dangerous than pistols and hunting rifles. But investigators have found documents and other physical evidence im-

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## IRAQ, From A1

plicating German companies as Iraq's most reliable and useful source of the technology and materials for the frightening weapons of mass destruction that would cement Iraq's reputation as a dangerous regional power.

Evidence turned up so far, and described in a series of unpublicized German, U.N. and U.S. reports, indicates that:

- A half-dozen German firms sold Iraq equipment, such as sophisticated lathes and presses, needed to enrich uranium for a nuclear bomb or helped Iraqi scientists overcome key technical problems.

- Officials of a German firm designed four plants capable of turning out hundreds of tons of deadly poison gases, while at least three other German firms made equipment Iraq needed to fill chemical rockets, bombs and ballistic missile

warheads.

- Six German firms supplied some of the equipment Iraq needed to make botulin toxin and mycotoxin germ weapons, including devices that allow germs to grow in laboratories, concentrate pathogens, protect workers from contamination and allow technicians to traverse a contaminated battlefield.

- Sixteen German firms contracted to supply equipment used in Iraq's ballistic missile program, including turbopumps, rocket motor nozzles, high-pressure air intake systems, special welding components, high quality steel rods and pipes, and fuel systems.

Some of the firms knowingly supplied Iraq with the machinery it needed to make its own missile combustion chambers and fuel injectors. Others helped redesign and manufacture Iraq's missile gyroscopes, supplied plans for a complete fuel storage facility and helped create and equip a complete missile quality assurance program.

German firms also supplied the chassis, motors and electrical distributors for mobile missile launchers, and shipped missile-related tractors and semitrailers equipped with lighting and other features for military operations. U.N. inspectors in Iraq have found German names on Scud missile pressure lines, gauges, electrical parts, fuel tanks and air bottles.

- Eleven German firms earned a total of roughly \$50 million for equipment and advice used to extend the range and improve the accuracy of Scud missiles eventually fired at Israel and Saudi Arabia in the Gulf War, according to U.N. documents.

Many of the German firms provided help in more than one type of weaponry and had business dealings with each other on Iraq's behalf, the documents state. "It was a pattern of activities by specialized firms that do this kind of work and have a history of dealings" with rogue nations, said a U.S. official who has tracked the Iraqi purchasing operation.

To date, only one German company has been convicted of helping Iraq, according to Eckhard Fischer, a staff expert on export controls for the German legislature. Four firms are now on trial for export violations, 37 others are under investigation, and several executives have been arrested and are awaiting trial, he said.

Much of the information detailing the activities of these firms is con-

tained in reports that have been shielded from official release by the United Nations, Germany and the United States because of what some authorities say are political sensitivities.

The documents include a classified report to the German legislature on the full range of German-Iraqi ties, a report to the German government by the International Atomic Energy Agency, a report by a German member of a U.N. inspection team and a German government report for the U.N. Special Commission on Iraq.

Some details have also emerged in interviews with German officials about the many criminal investigations Germany started last year, using evidence derived from U.S. intelligence reports, seized Iraqi procurement records and the observations of inspection teams roaming Iraq under the authority of a U.N.-backed cease-fire resolution agreed upon last spring.

### A Lack of Oversight

Aside from the lure of impressive technology, Germany offered Iraq a system designed to protect private businesses from government interference. Pakistanis, Brazilians and Libyans had already used the German connection for bomb and missile projects, according to U.S. and German officials; Iraq simply followed the beaten path.

Since the Carter administration, U.S. businesses have confronted export controls motivated by human rights and other policy concerns. But German business has always operated, as one U.S. official said, on the "assumption that you can sell anything not specifically prohibited"—a practice motivated partly by Germany's economic dependence on exports for 60 percent of its gross national product.

In contrast to what happens in the United States, exports in Germany are subject to mandatory li-

censing only in exceptional cases," German authors Holger Koppe and Egnont R. Koch said in a recent book about weapons-related exports to the Third World.

U.S. officials in the 1980s frequently passed intelligence to Germany about the involvement of German firms in Iraq's development of deadly weapon systems. But they were repeatedly frustrated by what they described as Bonn's excruciatingly slow response.

It took extreme political embarrassment—after a stream of revelations in 1990, Chancellor Helmut Kohl called German business activities "a source of shame"—to force a toughening of export controls. German officials now describe their revamped export control system as among the tightest in the world.

But U.S. officials said no other country trading extensively with Iraq before the Persian Gulf War came close to matching Germany's contribution. "My understanding is . . . that a very high percentage of the stuff Saddam Hussein got came from Germany—like maybe 80 percent of it," said House Armed Services Committee Chairman Les Aspin (D-Wis.).

"The German role was overwhelming" in Iraq's development of chemical weapons, said Fischer, "out of proportion to all the others." Moreover, he said, German parts accounted for about 25 percent of the Iraqi missile program, the largest portion not produced by Iraq itself.

### Dealing by Word of Mouth

German companies were selected and courted by technology-literate, German-speaking Iraqi government agents. In Baghdad, the overall direction of the country's nuclear-weapon-related purchases was provided by the secretive Department 2000, part of Iraq's so-called PC-3 program run, according to German and U.N. officials, by Abd Hamilm Ibrahim Hajaj, a physicist who became fluent in German while studying at Goettingen University.

"There's no doubt that he made good use of" his language skills, one investigator said.

Working through Iraq's Embassy in Bonn, which served as headquarters for Iraqi procurement efforts throughout Europe, Iraqi agents used written orders from the embassy's chief commercial officer to purchase dual-use equipment worth millions of dollars through German banks, U.S. officials and legislators said.

Rep. Henry B. Gonzalez (D-Tex.), the House Banking Committee chairman who is investigating U.S. policy toward Iraq before the gulf war, said the Iraqi acquisition program operated through a chain starting with military factories' request for parts. The Iraqi Military

Industrialization Board would send the request to Baghdad's embassy in Germany. The embassy would then forward the orders to front companies controlled by the Iraqi Secret Service Organization, Gonzalez said.

"It was all done by word of mouth," said a German prosecutor examining the records of several firms. "They'd find one company, hear about another and approach them. They would put out word of what they were looking for and go get it . . . They would seek out the one engineer in a firm who knew a particular part could be used for other than civilian purposes. Specific things were desired and sought. One knew who one was dealing with."

A careful study of German industry led Iraq to, among other firms, H&H Metallform, a toolmaking firm in the sleepy Westphalian town of Drenseinfurt. A key figure in Iraqi dealings with H&H, according to the company, was Anees Mansur Wadi, a purchasing agent whose operations have been blocked in England and the United States for alleged export law violations.

Fischer said investigators have concluded that officials of two London-based Iraqi front companies linked to Wadi contacted H&H in 1985, bearing a credit note for \$3 million provided by the Iraqi government.

By the following year, H&H was selling Iraq material needed for the production of poison gas, Fischer said. H&H has denied shipping anything for nefarious purposes.

No U.S. criminal charges have been brought against Wadi, according to a Treasury Department spokesman. Wadi did not return phone calls, and his attorney, Victoria Toensing, declined to answer questions about any contacts between Wadi and H&H. But she said that "the business transactions he performed in the late 1980s with Iraq . . . were licensed by the appropriate European government." She also said Wadi "has not violated U.S. law."

From 1986 until 1989, according to U.N. and German documents, H&H executives also sold eight sophisticated metal presses for \$16 million to the Nassr State Establishment and helped Baghdad obtain crucial molds and sheet steel for rocket production and special

lathes for making centrifuge parts.

H&H has maintained that the presses—devices for shaping cylinders—“cannot be used for production of centrifuges” but were to be used to make lampposts, industrial gas bottles or milk cans. At the time of the sales, German export officials ruled the equipment was not covered by export restrictions and granted H&H a total of three permits for the shipments, accord-

ing to the German Export Control Office.

U.N. inspectors visiting Taji last December found one of the machines equipped with a device for making centrifuge parts, and an unpublished U.N. inspection report alleges that the firm's prior sales of similar equipment to Brazil's missile program leave no doubt that “the accused parties knew the claimed application [in Iraq] was false.”

H&H's reported assistance to Saddam's regime did not stop with the presses. Following an infusion of several million dollars in cash from an Iraqi trading company, H&H officials escorted two German centrifuge experts on a visit to Taji, a key Iraqi weapons-research center, where the experts helped fix Iraqi blunders in fitting the centrifuge parts, according to remarks in a London newspaper by one of the experts, Bruno Stemmler. Stemmler declined to comment to *The Washington Post*.

“There was an information network among German technicians who helped solve Iraqi problems,” Fischer said. “H&H played a key role in providing not just parts but know-how,” functioning in effect as an Iraqi base of operations in Germany.

Last January, German prosecutors ordered the arrest of H&H owners Dietrich Hinze and Peter Hutten for export law violations. Hinze and Hutten, still in jail awaiting formal charges, say nothing they shipped to Iraq was for nefarious purposes.

H&H Metalform said in a written statement issued last year in response to press reports that its dealings with Iraq began in 1987, not 1985, that Iraq's investment in the company of several million dollars was only a down payment for services and that the company's assistance to Iraq was limited to innocuous exports and technical help on a memorial arch at the en-

trance to Baghdad. The arch celebrates the outcome of the 1980-88 Iraq-Iran war, incorporating in its design dozens of helmets taken from dead Iranian soldiers.

### Surreptitious Shipment

Investigators also have determined that H&H officials helped the Iraqis purchase three computer-controlled lathes from Neue Magdeburger Werkzeugmaschinenfabrik, again with the approval of German export officials. The manufacturer said the lathes were standard ones intended solely for civilian use. U.N. inspectors have since found them in crates at Taji equipped with “fixtures” precisely sized for centrifuge work, according to a published U.N. report.

U.N. investigators have concluded that Iraq obtained the lathes and H&H presses partly to process

900 tons of aluminum tubing ordered from Vereinigte Aluminiumwerke in Bonn—enough to make roughly 5,000 casings for centrifuges intended to enrich uranium for a nuclear weapon.

In a German government report to the United Nations, authorities have identified the C. Plath company of Hamburg as an intermediary in the tubing shipments.

A separate German government report to the U.N. Special Commission on Iraq also has linked the firm to illicit shipments to Iraq of \$1.8 million worth of gyroscopes, motors and other missile components. Officials from Plath, a wholly owned subsidiary of the Arlington-based defense contractor Litton Systems, told German export authorities the devices were intended for oil exploration, according to the German report to the United Nations. The claim prompted official inquiries, which in turn led Plath to withdraw its license application and send the equipment surreptitiously, the report said.

“All blueprints of the delivered systems can clearly be tied to the Scud B navigation systems,” the German report said. The report named two company officials who, witnesses claimed, “had to have known that the exported components were destined for missile launcher applications.”

Iraqi officials have acknowledged that Plath and two other firms manufactured small components for a “centrifuge prototype,” according to a separate report last May by the

International Atomic Energy Agency.

But Litton spokesman John Georg denied that Plath collaborated with the Iraqi nuclear program and said only “purely commercial products” such as machine components, flow switches and pressure-measuring devices were exported to Iraq under three contracts signed in 1988 and 1989. He said Plath did not deliver gyroscopes ordered by Iraq because an in-house lawyer said such exports would violate German law.

Georg denied that Plath helped Iraq obtain centrifuge tubing. He said reports of Plath's involvement came from “an agent of some sort” whose efforts “looked as if they were coming from our company.” Georg refused to identify the agent, saying only that he “did do some work for us but did not do work you described.”

### Suppliers ‘Had to Know’

The business between Iraq and H&H—recruiting, trade, delivery and maintenance—occurred with a stamp of approval from German export authorities. “Exporters as a rule gave a plausible civilian use in their applications,” said Hans-Peter Cruse, a top official of Germany's

Export Control Office. “Only through U.N. inspections in the last few months have we learned of military uses in some sites.”

German export regulators—often the same officials who once approved the exports to Iraq—now say they are convinced the companies knew what they were doing.

“They had to know,” said Hans-Dieter Corvinus, a department head at the Export Control Office in Eschborn. “The engineer who made the machine knew what it was for. Usually the German exporter would install the equipment.”

On paper at least, Germany has considerably tightened its enforcement abilities in the past two years. What it took to push German authorities into action is a subject of debate.

The Germans maintain that as soon as they learned the scope of illegal exports, they moved to put teeth in their laws. Some U.S. of-

nials confirm that account.

German officials "were horrified," one U.S. diplomat said. "The notion that [Iraqi poison gas weapons] might be used against the Israelis was an absolute nightmare to the government."

But Fischer and others say U.S. intelligence reports detailing the German involvement with Iraq were made available to Bonn officials long before the government took any action.

For example, Washington first warned of German corporate involvement in Iraqi chemical weapons projects in 1984, but inspectors dispatched from Bonn concluded the projects were benign. Not until 1990, when a Swiss technical consultant affirmed the original U.S. view, did Bonn take action against the firms. Progressively tougher regulations of poison gas-related exports were imposed by Bonn in 1984, 1986, 1989 and 1990.

Regarding germ weapons, the German government was first warned of Iraq's interest in them in 1984 and was informed of German corporate involvement with Iraq in this area in January 1988, according to German documents. But Bonn did not caution potential German suppliers until May 1990 and did not amend its regulations to cover systems suited for germ weapon production until July 1990.

One U.S. official said tips to Bonn sometimes provoked government inquiries that in turn led to feverish efforts by German firms to halt leaks about their activities. A former U.S. diplomat said Washington complained to Germany about Iraqi purchasing efforts at least monthly between 1989 and 1990. "It remains to be seen whether they have developed a sense of how wrong this is," one U.S. investigator said recently.

### Germany Toughens Controls

The strain between U.S. and German officials reflects differences in approach to export controls and criminal justice. U.S. officials complain that German prosecutors are moving at a snail's pace, but prosecutors note German law requires hard-to-get proof that executives knew the eventual use of

products they shipped to Iraq.

Prosecutors also say their efforts were hampered by tight restrictions on wiretapping and other surveillance useful in economic crime investigations. Until early last year, "our laws did not enable us to stop exports that we later learned were dangerous," said Hans Rümmer, president of Germany's Federal Export Control Office. "The new law is the strictest in the world, including the American rules."

Flying in the face of centuries of tradition and law, Germany has expanded criminal statutes to cover activities by German citizens outside national borders, enlarged the list of goods subject to export controls and permitted police surveillance of suspect companies. Its export control staff has been enlarged from 70 to 430.

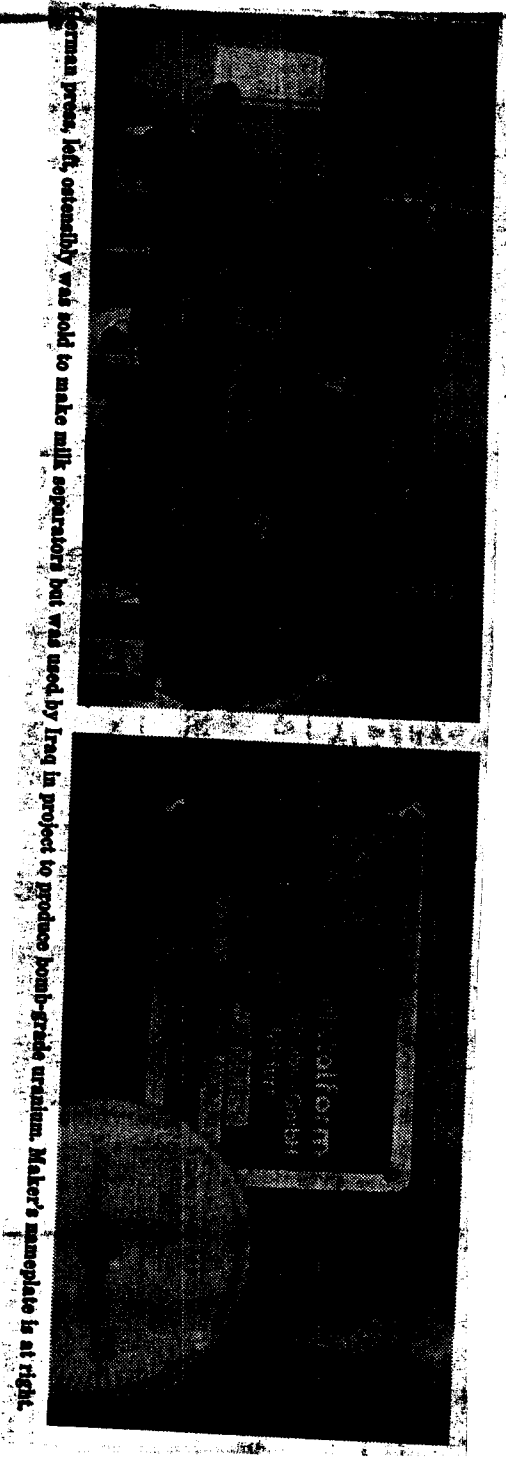
Proposed exports to be used for military or strategic purposes, even exports of dual-use equipment, must now be reported to Germany's Foreign Ministry. And a company's top executive must sign every application, so management can no longer claim ignorance of questionable deals.

In January, the Economic Ministry also won the right to halt exports without cause. Germany used its new authority almost immediately by confiscating a U.S. request for a U.S. missile system being sent through Holland and Germany to Libya.

Similar measures have not been enacted in other European countries that actively trade with "rogue" nations, and U.S. officials note that the planned elimination of trade barriers within the European Community is bound to complicate the West's tracking and prosecution of export violations.

With dual-use products, "there comes a point where you just can't know, where it becomes a political question of who can we trust in the importing country," Corvinus said. "Dual use is a nearly unsolvable problem. A plant's use can always be changed. The only absolute answer to it is total embargo."

Special correspondents Michael Wist in Vienna and Steve Vogel in Bonn contributed to this report.



German press, left, ostensibly was sold to make milk separators but was used by Iraq in project to produce bomb-grade uranium. Maker's nameplate is at right.

## EXAMPLES OF THE GERMAN-IRAQ CONNECTION

### COMPANY

Karl Kolb

### ALLEGED INVOLVEMENT

Principal contractor for construction of chemical weapons plant at Samarra, according to secret U.S. government report on Iraq, which said the firm "produced materials, supplied technical experts, trained Iraqi technicians, installed equipment and generally was instrumental in the startup of Iraq's production lines for chemical weapons agents." The report added that "hundreds of German advisers, many of whom were Karl Kolb subcontractors, were present at Samarra through the mid-1980s."

### COMPANY REPLY

Company officials deny allegations they helped build chemical arms factories in Iraq.

Rhein Bayern Fahrzeugbau

Supplied equipment for manufacturing of botulin toxin and mycotoxin germ weapons along with five other firms, according to German government report to German legislature. Seized company documents included drawings of missile parts containing a notation "SK" linked to the Scud B missile improvement program.

Company spokesman says he was unaware of any exports of biological-related equipment. No official charges filed yet in an investigation that has lasted more than 18 months, though some officials are currently in jail. Company lawyer Wilhelm Seitz says clients are not guilty.

Thyssen GmbH

A September 1990 search of offices found evidence showing company officials were aware that turbojet units sold to Iraq could be used in rocket motors, according to a German government report. Company also played major role in constructing and equipping conventional manufacturing plant at Tall.

Company spokesman says firm exported pumps but did not know how they would be used. No official charges filed but investigation is continuing. Spokesman Hans Peter Schreiner says when company turned over plant in 1986, it was not foreseen that Iraq would later use it to make gun barrels.

Inwako Corp.

Seized company documents list nine Iraqi organizations as purchasing, ordering or billing agents in missile parts transactions. "In some cases, the Iraqi organizations change several times in a single transaction," said a German government report to the United Nations.

Attorney Richard Eyrer says company sold "small pumps" to Iraq but they were for general use. Company chief Friedrich Simon Heiner has pleaded not guilty.

Gildemeister Projects

Served as general contractor at a major missile and nuclear facility, Saad-16, coordinating purchase of electronic equipment and other gear. German government report to legislature says firm gave false information to obtain export licenses.

Company spokesman Axel Kemna denies firm obtained export licenses by giving false information, says firm built plant according to Iraqi specifications and had insufficient "technical know-how" to reach an independent conclusion about its purpose.

Messerschmitt-Boelkow-Blohm

Served as chief German subcontractor at Saad-16, according to German government report. Separately sold helicopters to Iraq that other firms equipped with sophisticated military gear, according to the report.

Spokesman Hans-Juergen Wieland says the laboratories and equipment supplied to Iraq could be used to test rocket fuels and measure missile trajectories but could not be used to make or test rockets themselves. He says the Iraqis provided assurances the equipment was to be used exclusively for scientific research.

GERMANY

IRAQ

COMPILED BY R. JEFFREY SMITH AND STEVE VOGEL.

GRAPHIC BY JOHN ANDERSON—THE WASHINGTON POST