

Recruited by West Germany

Former Stasi Cryptographers Now Develop Technology for NATO

By *Marcel Rosenbach* and *Holger Stark*

After the fall of the Berlin Wall, the West Germans were desperate to prevent the Stasi's top codebreakers from falling into the wrong hands and set up a company to hire the East German cryptographers. Now the former Stasi scientists develop technology used by Angela Merkel and NATO.

Every morning, while going to his office in Berlin's Adlershof district, Ralph W. passes a reminder of his own past, a small museum that occupies a room on the ground floor of the building. The museum could easily double as a command center run by the class enemy in an old James Bond film. A display of coding devices from various decades includes the T-310, a green metal machine roughly the size of a huge refrigerator, which East German officials used to encode their telex messages.

The device was the pride of the Stasi, the feared East German secret police, which was W.'s former employer. Today he works as a cryptologist with Rohde & Schwarz SIT GmbH (SIT), a subsidiary of Rohde & Schwarz, a Munich-based company specializing in testing equipment, broadcasting and secure communications. W. and his colleagues encode sensitive information to ensure that it can only be read or heard by authorized individuals. Their most important customers are NATO and the German government.

Rohde & Schwarz is something of an unofficial supplier of choice to the German government. Among other things, the company develops bugproof mobile phones for official use. Since 2004, its Berlin-based subsidiary SIT, which specializes in encryption solutions, has been classified as a "security partner" to the German Interior Ministry, which recently ordered a few thousand encoding devices for mobile phones, at about €1,250 (\$1,675) apiece. Even German Chancellor Angela Merkel has used phones equipped with SIT's encryption technology. In other words, the Stasi's former cryptographers are now Merkel's cryptographers.

Secret Operation

The transfer of Ralph W. and other cryptologists from the East German Ministry for State Security, as the Stasi was officially known, to West Germany was handled both seamlessly and discreetly. West German officials were determined to make sure that no one would find out about the integration of East Germany's top cryptologists into the west. The operation was so secret, in fact, that it has remained unknown to this day.

Only a handful of officials were involved in the operation, which was planned at the West German Interior Ministry in Bonn. In January 1991, Rohde & Schwarz SIT GmbH was founded. The company was established primarily to provide employment for particularly talented Stasi cryptologists that the Bonn government wanted to keep in key positions.

Ralph W. is one of those specialists. W., who holds a doctorate in mathematics, signed a declaration of commitment to the Stasi on Sept. 1, 1982. By the end of his time with the Stasi, he was making 22,550 East German marks a year -- an excellent salary by East German standards. And when he was promoted to the rank of captain in June 1987, his superior characterized W. as one of the "most capable comrades in the collective." While with the Stasi, W. worked in Department XI, which also boasted the name "Central Cryptology Agency" (ZCO).

Looking for the Top Performers

The story begins during the heady days of the East German revolution in 1990. Officially, the East German government, under its last communist premier, Hans Modrow, had established a government committee to

dissolve the Ministry for State Security which reported to the new East German interior minister, Peter-Michael Diestel. In reality, the West German government was already playing a key role in particularly sensitive matters. Then-West German Interior Minister Wolfgang Schäuble (who is the current German finance minister) had instructed two senior Interior Ministry officials, Hans Neusel and Eckart Werthebach, to take care of the most politically sensitive remnants of the 40-year intelligence war between the two Germanys.

The government of then-Chancellor Helmut Kohl was interested in more than just the politically explosive material contained in some of the Stasi's files. It also had its eye on the top performers in the former East German spy agency. The cryptologists were of particular interest to the Kohl government, which recognized that experts capable of developing good codes would also be adept at breaking them. The Stasi cryptologists were proven experts in both fields.

Documents from the Stasi records department indicate that the one of the Stasi cryptologists' achievements was to break Vericrypt and Cryptophon standards that had been used until the 1980s. This meant that they were capable of decoding encrypted radio transmissions by the two main West German intelligence agencies -- the Office for the Protection of the Constitution and the Federal Intelligence Service (BND) -- and the West German border police. The East Germans even managed to decode the BND's orders to members of the clandestine "Gladio" group, which was intended to continue anti-communist operations in the event of a Warsaw Pact invasion of Western Europe.

The West German government was determined to prevent these highly trained East German experts from entering the free market. The idea that specialists who had spent decades working with West German encryption methods and had successfully cracked West German intelligence's codes could defect to Middle Eastern countries like Syria was a nightmare. Until then, the BND had had no difficulties listening in on intelligence communications in the Middle East, an ability the potential defection of Stasi experts would likely have compromised. Bonn also hoped to use their skills to break into regions where its own agents were making no headway. All of this meant that the Stasi experts had to be brought on board in the West -- even if it involved unconventional methods.

Cherrypicking the Stasi's Top Brains

The government officials in Bonn turned to an expert for advice: Otto Leiberich, a cryptologist and mathematician who had headed the Central Office for Cryptology, the equivalent of the Stasi's ZCO at the West German BND, until the mid-1970s. Leiberich's task, after he was brought in as a member of the secret operation, was to evaluate the professional abilities of the Stasi experts.

Leiberich still has vivid memories of his first official trip to the town of Hoppegarten, next to Berlin. One of the East German cryptologists at the meeting greeted the members of the West German delegation as "comrades," Leiberich recalls. He was impressed by the East Germans' expertise, says Leiberich. "They were excellent mathematicians who were not personally guilty of any misconduct."

Leiberich says he would have liked to hire them, particularly the Stasi's then "chief decoder," the ZCO department head, Horst M. A gaunt chain-smoker who wore horn-rimmed glasses, M. was born in 1937 and had earned a degree in mathematics at East Berlin's Humboldt University. But the West was also interested in younger people, in the expectation that they would be of greater value in the nascent computer age.

A Free-Market Solution

Leiberich could have used the extra manpower, especially after 1990, when the West German Central Office for Cryptology was spun off from the BND and a law was enacted to form the new Federal Office for Information Security (BSI). Leiberich, who was named the BSI's first president, headed a team consisting mainly of former intelligence colleagues.

But Neusel, the senior official from the West German Interior Ministry, dismissed the idea as too precarious. Firstly, the government had decided not to integrate former Stasi officials, because of their past activities, into the bureaucracy of a unified Germany. Additionally, as one person involved in the operation recalls, concerns about potential traitors gave rise to a "sacred principle," namely that "no one from the Stasi was to be transferred to the West German intelligence agencies."

It also didn't help that the Stasi's Central Cryptology Agency had been hastily spun off into the East German Interior Ministry, because the West German cabinet had decided not to allow any members of the East German Interior Ministry to work in federal agencies.

But the free market was not restricted by any government resolutions. A creative solution was needed, and no one was better suited for coming up with the necessary fix than Hermann Schwarz, one of the two founders of Rohde & Schwarz.

A Soft Spot for the East

Founded in 1933, the company, a provider of radio, measuring and security technology, was dependent on government contracts and was a reliable supplier to the West German intelligence agencies. Besides, Schwarz had a soft spot for the East. He had earned his doctorate in 1931 in the eastern city of Jena, where he had also met his eventual business partner, Lothar Rohde.

But to Schwarz, who was already elderly at the time and has since died, allowing his company's name to be used as a cover for a Stasi connection seemed too risky. According to someone familiar with the operation, the West Germans must have applied a bit of soft pressure on Schwarz, who was "extremely worried that it would be made public one day."

But the officials eventually did manage to convince Schwarz to play along. His change of heart was probably due in part to the prospect of additional research and federal contracts, which were in fact showered on his company.

In the end, BSI head Leiberich and a senior Interior Ministry official decided which former Stasi experts were to be transferred to the front company. Former Stasi department head Horst M. was seamlessly integrated into the market economy at SIT, where his wife also began working as a secretary. Ralph W., who was in his 30s at the time and had been with the Stasi for eight years, also fitted the desired profile, as did his colleagues Wolfgang K. and Volker S. In total, about a dozen former Stasi employees, most of them mathematicians, were given the chance to embark on a second cryptology career in post-reunification Germany.

The federal government provided whatever assistance it could, but only with the utmost discretion. SIT was initially headquartered in the town of Grünheide in the eastern state of Brandenburg, in a former Stasi children's home.

'Cosmic Top Secret'

An episode from the 1990s shows how conspiratorially the operation was handled, even within the West German intelligence community. When the BND needed a "D-channel filter" -- a precursor to today's firewalls -- to protect communications networks, it contacted the Federal Office for Information Security (BSI). But BND officials pricked up their ears when they discovered that the work was being done by SIT. A private company protecting the computers of Germany's foreign intelligence agency? Nevertheless, the BND officials were told that it was "totally OK," and that the BSI would take responsibility for SIT.

For the parent company Rohde & Schwarz, the former problem child in Brandenburg soon became a success story. SIT took over the cryptology division of German engineering giant Siemens, and the company now employs about 150 mathematicians, engineers and computer scientists at its three locations. SIT, which proudly refers to itself as the "preferred supplier of high-security cryptography" for NATO, even includes in its product line devices classified as "Cosmic Top Secret," NATO's highest secrecy level. SIT's Elcrodac solution, standard equipment on NATO submarines, frigates and military helicopters, has provided the company with orders worth millions for years.

When approached by SPIEGEL, Rohde & Schwarz declined to comment on this previously unknown part of its company history.

To show its gratitude for the company's efforts, the federal government did more than just provide it with lucrative contracts. Eckart Werthebach, the Interior Ministry official, awarded the former managing director of SIT, a senior Rohde & Schwarz executive originally from West Germany, the Order of Merit of the Federal Republic of Germany for his services. The executive received the decoration in a formal ceremony at Villa

Hammerschmidt in Bonn, the former official residence of the German president.

Translated from the German by Christopher Sultan

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