

JUN 81

*Can private rocketeers  
in Africa survive pernicious  
Communist propaganda?*

## OTRAG

BY JAMES OBERG

**R**usting rocket stages lie tangled in the vines of a jungle in Zaire. The launch-control bunker where engineers once aimed for outer space is now a lair for snakes and bats. A long runway cut into the top of a lush plateau is concealed under a strip of fresh brush. These are the vestiges of a private rocket company founded by a group of West German engineers whom the Communist press has tried to link with Adolf Hitler's Peenemünde, the famed guided-missile research and testing station built on Germany's Baltic seacoast during World War II.

Begun in 1975 as a space transportation company, OTRAG (an acronym for Orbital Transport and Rockets, Aktiengesellschaft) leased a sparsely inhabited region of Zaire in exchange for an annual payment of \$50 million and a cut of the profits. But OTRAG's efforts to develop a commercial space transportation system that would compete with NASA's shuttle and Western Europe's *Ariane* became ensnared in political maneuvering, international propaganda campaigns,

PHOTOGRAPH BY  
PETE TURNER

espionage, and outright warfare that led to the deaths of thousands of people.

Now the embattled space company opens a new arena for its unconventional rocketry. According to Théo Pirard, a European space expert, OTRAG, after being expelled from Zaire, has set up a launch site in Libya and is already test-firing its bargain-basement missile there. Within two years OTRAG may test its ability to put satellites into orbit; a year or so later service will be available to paying customers, that is, if OTRAG's connection with Libyan head of state Muammar el-Khaddafi does not turn into another disaster.

The fledgling rocket company claims it can build cheap, expendable launch vehicles that would lure private, paying customers away from government monopolies. Because there is a growing commercial market for space operations, many corporations have been buying cargo room on government space carriers. The unprofitable rocket operations are gladly left to NASA and to the European space agency. Now OTRAG's rocket engineers are designing, building, and launching test models that could offer attractive alternatives to space industrialization.

Its technical credentials beyond reproach, this little West German company nevertheless became the focus of international controversy after a massive and dismayingly effective smear campaign was unleashed by the Moscow-based disin-

formation bureau of the KGB. The Soviet operation managed to make fools of many leading Western journalists and editors, and ultimately tricked Western governments into trying to strangle the privately owned rocket company.

The guiding force behind OTRAG is Lutz Kayser, a talented and charismatic rocket engineer in his mid-forties. He is a spiritual successor to the German scientists and technicians who built the V-2s and the Saturn 5s. Kayser's rocket work reflects the same bold innovations without regard for politics or precedents.

While working on a West German government research grant in the early 1970s, Kayser investigated the potential of low-cost expendable rockets as an alternative to such high-cost reusable rockets as NASA's space shuttle. His study convinced him that low-cost vehicles could compete with the contemporary expendable boosters and the anticipated reusable ones, too.

Kayser angered most European experts by claiming that government-built systems were oversized, poorly managed, and ill suited to many commercial space projects. He also inveighed vociferously against the monopoly the United States and the Soviet Union exercise over such important space applications as military reconnaissance satellites.

But when the West German government agreed to join Europe's expendable-space-booster program, Kayser's funding

was canceled. He then decided to solicit money from private sources. Aided by unusually favorable West German tax provisions that encourage investment in high-risk technology, Kayser raised enough money to set up his corporation in 1975. During the next five years he spent close to \$100 million in venture capital provided by some 400 investors who were never identified publicly. Such unconventional actions increased the hostility of most leading European space experts. Industry specialists came to see the project as just another tax dodge or as an ego trip for an eccentric inventor with an impossible dream.

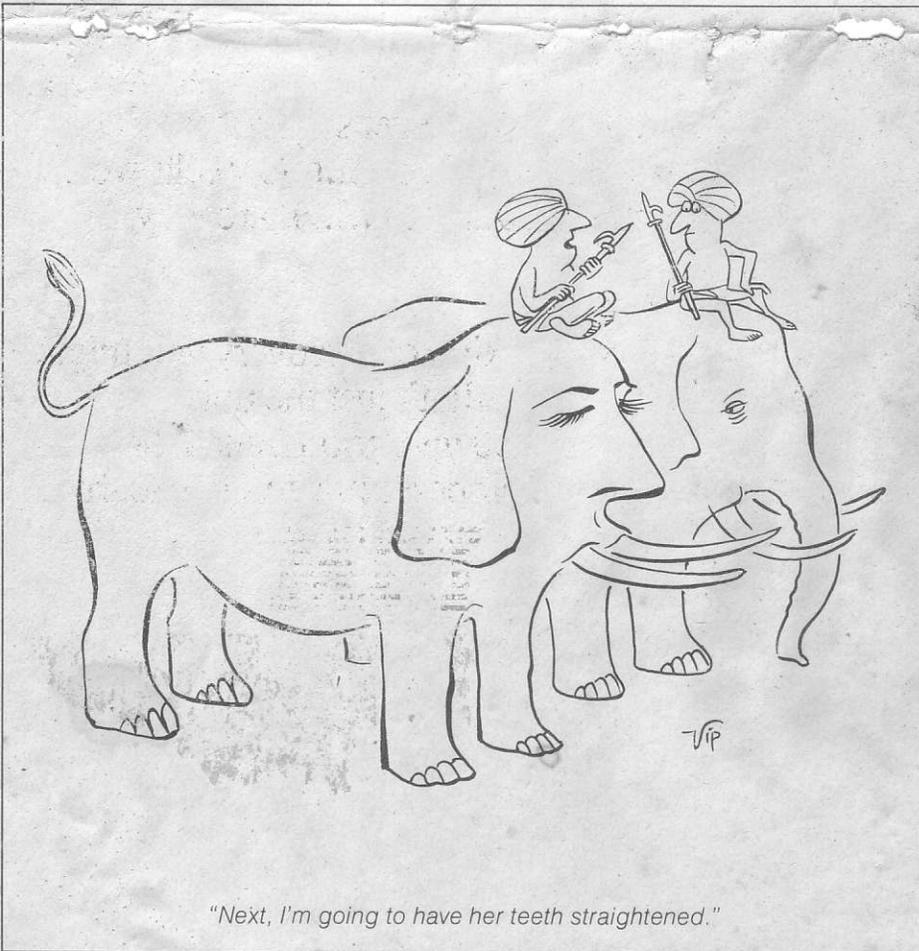
So, even before OTRAG's space hardware had been given a chance to prove itself, the rocket group was in disrepute. Established rocket engineers claimed that Kayser's concept was completely impractical, either because of honest incompetence or because it was merely a plan to bilk investors.

Some foreign officials were afraid the project could develop into a competitive space transportation system that might entice paying corporate customers away from government monopolies. Such fears were widespread in Paris and in Washington. Borrowing from the Amtrak and U.S. Postal Service experience, American bureaucrats suggested two predictable strategies: Either make such competition illegal by forbidding U.S. corporations to use less expensive alternatives to the space shuttle, or make it unprofitable by oversubsidizing monopoly programs until any private competitor went bankrupt.

If American and Soviet military authorities objected, both had reason: In order to obtain launch sites in the nonaligned countries, OTRAG proposed to loft photographic spy satellites for anyone and to publish the pictures openly. Some of OTRAG's fans did more than hope the company would fail; they drew up their plans and prepared to make their move.

The OTRAG booster concept is simplicity itself. A team of 40 engineers and technicians, working near Stuttgart, West Germany, has designed, built, and tested booster modules constructed from low-cost, commercially available equipment. The tanks are steel pipe. The fuel valves are operated by windshield-wiper motors. The rocket engines are lined with ablative ceramic coatings, with a unique fuel-injector system that is OTRAG's main trade secret. The propellant combines kerosene and commercial-grade white fuming nitric acid. No complex turbines are needed; the propellant is forced into the engines with compressed air. The vehicle is steered by throttling the engines instead of by a complex gimbaling nozzle.

Boosters of nearly any size and complexity can be constructed by simply strapping these units together. Successive stages are accomplished by wrapping a picket fence of add-on units around the outside of a central cluster instead of stacking them the way other rocket engineers do. Each stage can be shed like an onion skin when its fuel



is exhausted. The result is a squat, un- gainly booster that resembles a bunch of asparagus but promises half the cost of any other launch system.

To ready such a rocket, OTRAG required an area remote from crowded Europe. The company needed room for the spent stages to fall harmlessly back to Earth. Near-equator sites provide a velocity bonus contributed by Earth's rotation and eliminate the maneuvering needed to reach targeted space orbits, further reducing launch costs. Kayser began looking for the right place even while he was drawing up the corporation's papers. After checking with government officials in a dozen countries, he found his site in Zaire.

Construction began in the fall of 1976 with a base camp and the launch site itself some 80 miles away, atop a grass-covered plateau surrounded by thousand-foot-high cliffs. Below the plateau the Luvua River winds, and deep jungle presses in. A 6,000-foot dirt airstrip was cleared, and several prefab aluminum-and-glass buildings were airlifted in. The launchpad was constructed of logs packed with dirt, and the support gantry consisted of several tree trunks lashed into a tripod.

The first launch of a basic tank/engine section was made successfully on May 17, 1977, when the 20-foot-long module reached an altitude of seven miles. Seven miles may not seem like very much, but experts had repeatedly proclaimed that such an engine could never fly at all. The hop was only the first small step, but it demolished most of the arguments of skeptics and cynics.

After OTRAG's successful first test flight, Kayser added to his corporate credibility by hiring Kurt Debus, former head of NASA's Kennedy Space Center and a longtime colleague of Wernher von Braun, as chairman of the board. But while Kayser tried to make all the right moves, he was no match for the KGB, which put into motion a plan to turn OTRAG's activities into a tool for Soviet diplomacy.

The Moscow-directed propaganda offensive against OTRAG and Zaire began in August 1977, three months after the first launch, with the publication of what was purported to be a secret treaty between the West Germans and Zaire's President-for-Life Mobutu Sese Seko. The alleged text appeared in the leftist magazine *Afrique-Asie*, published in Paris. According to editor Simon Malley, the document had been provided by an anti-Mobutu Zairian patriot named Nathaniel M'Bumba. Some European press sources, however, claim that the original document had been stolen from Zaire's embassy in Bonn—probably by East German agents—and then modified to appear more insidious.

Relying on the allegedly stolen and forged documents and on other "informed sources," *Afrique-Asie* asserted that missiles were being developed in Africa and that OTRAG was a front for Neo-Nazis.

Once this story had been published in

France, the Soviet press began trumpeting it. Eastern European countries picked up the theme with remarkable unanimity. The new Marxist regime in Angola protested formally to the West German government. A cartoon in *Pravda* showed a NATO general and a South African colonialist, whip and all, gleefully surveying a map of Africa with a rocket marked OTRAG piercing the heart of the continent. Before Kayser realized what was happening, he had been portrayed worldwide as the leader of a Neo-Nazi faction planning to sell missiles to South Africa to carry nuclear bombs. The story was a complete fabrication, but one that turned out to be useful to Moscow.

*Noticias da Beira*, a newspaper in Mozambique, editorialized in December 1977 that "the tests being carried out in Zaire by OTRAG on new rockets capable of carrying nuclear warheads are evoking serious concern in African countries.

The peace-loving public justly regards OTRAG's activities in Zaire as a serious threat to peace and security in Africa." The president of the Malagasy Republic, Dr. Didier Ratsiraka, charged foreign powers with criminal intent: "A military *place d'armes* in the heart of the continent is to be used as an instrument of pressure on the neighboring African states."

"We will not carry bombs or warheads or anything like that," explained OTRAG's chief engineer, Frank Wukasch, in reply to the accusations. "We don't have the technology. And the market is not interesting."

Wukasch said that the profit motive weighed strongest and that any deals with the South African government would undoubtedly lead to a worldwide boycott that could ruin OTRAG. But OTRAG's explanations were of no avail. The political storm caught the Germans by surprise, and they reacted with puzzlement.

Kayser said, "I don't know why the Russians are ignorant of what we are really doing. Their spy planes fly over us regularly." Later Kayser asked the United Nations to inspect the launch site, but Soviet-sponsored legwork in New York scuttled any action by the world body.

The anti-OTRAG campaign gained momentum when a story almost identical to the original *Afrique-Asie* piece appeared in a prominent American magazine. In this version, the Pentagon and the CIA were implicated in the machinations against black Africa. The author sought to reveal "that 37 years after Wernher von Braun's rockets rained death on London, West Germany is secretly testing deadly cruise missiles in the heart of Africa—missiles designed to carry nuclear warheads." Tass immediately spread the story around the world. Even the American media carried items about it.

Why should the Russians promote such a campaign? Western observers have suggested several theories. The Soviet campaign helped arouse new anti-German anxieties inside the Soviet Union and new anti-Western feelings throughout Africa. It

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# OTRAG

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also helped hobble OTRAG's rocket plans, particularly its Third World spy satellite.

But the full scope of Soviet skulduggery did not become evident until early in 1978, when Radio Moscow announced that the peaceful inhabitants in the vicinity of the test range were being attacked on orders from OTRAG, that their villages were being burned, and that their livestock was being destroyed. "Employing the most ruthless methods," Radio Moscow broadcast, "the Zaire army has already evicted from the territory of the testing range almost two hundred twenty thousand of the three hundred thousand inhabitants of this region, who have fled to Angola." This claim was a total fabrication.

On April 5, 1978, Angola formally complained to the United Nations about a new series of "Zairian attacks." Angola referred to "the dangerous nature of the recurrent hostile acts by Zaire and [to] the present concentration of Zairian troops stationed along the border."

That same month the *Daily Times*, Nigeria's leading newspaper, published a lengthy anti-OTRAG report. The article ended with a sweeping indictment: "It is quite evident that the creation of the nuclear rocket potential, together with the revenge-seeking aspirations of the West German

militarist circles, create[s] a real threat to the cause of peace throughout the world."

Suddenly the Zairian government was confronted with a rebellion in the province of Shaba, formerly Katanga. The insurgents had been armed and trained by East German "advisers" while they were "guests" in Angola. They were led by none other than "General" M'Bumba. Because of the propaganda blitz about Zairian and OTRAG atrocities, most African countries were only too willing to consider the conflict a purely internal affair brought on by President Mobutu's tolerance of a European military base in his country.

Ultimately the Katangan forces fell apart and turned to looting and murdering instead of liberating their homeland. What had been planned as another "spontaneous national liberation uprising" degenerated into the vicious Kinshasa massacre, in which hundreds of Europeans and thousands of Africans died.

Aided by Belgian paratroopers, the French Foreign Legion, and American transport planes, Mobutu's regime survived. But OTRAG was in even deeper diplomatic trouble because of the controversy that now swirled around its presence in Zaire. The company conducted two more rocket test firings in May and June 1978, one reaching an altitude of 20 miles. Multi-stage tests were scheduled for later that year, and an actual satellite launching was supposedly only a year or two away. But

time was running out for the rocketeers.

Using political surrogates, the Russians continued to press for the removal of OTRAG. Angola obediently stepped up its denunciations. In a statement issued June 1, 1978, Angolan Prime Minister Lopo do Nascimento complained, "The West German testing range is the barrel of a pistol aimed at the heart of Angola. OTRAG is part of the unified plan drawn up in NATO to step up military-political penetration into Africa and to suppress the national liberation movement of the peoples of the continent, and Washington directs the fulfillment of this task." Remarkably similar statements were uttered by the governments of Tanzania and Zambia. To blame OTRAG on Washington was ironic, since the U.S. government wished as much as anyone that the project should fail.

When West German Chancellor Helmut Schmidt toured Africa in June 1978, he heard outraged complaints about OTRAG at nearly every stop. The Nigerians were particularly insistent that Schmidt stop OTRAG, and the German leader had to admit that OTRAG had become an embarrassment. Returning to Bonn, he told newsmen, "These activities are jeopardizing our foreign policy." Later in 1978, it is said, Soviet President Leonid Brezhnev personally put pressure on Schmidt, who in turn finally threatened to stop West German aid to Zaire if Mobutu did not annul his contract with OTRAG. Mobutu realized that OTRAG was not going to pay off as handsomely as promised and that the project was a lightning rod for hostility from neighboring countries. In early 1979 he ordered Kayser to suspend all further rocket experiments.

The USSR continued to use the Zaire incident. Its rabidly anti-Western station Radio Peace and Progress broadcast a news analysis on April 14, 1979. It claimed that OTRAG missiles now carried chemical warheads and that South Africa had been allowed to build an air base and an atomic-bomb testing range in Zaire. "The creation of the OTRAG missile-testing base is part and parcel of the general plan of imperialist powers aimed at destabilizing the progressive nations of the continent," Radio Peace and Progress maintained.

Kayser meanwhile tried various legal moves, including an unsuccessful appeal to the World Court, in the Hague, to force Mobutu to honor the 1976 contract. But by the end of 1979 Kayser was hunting desperately for a new equatorial host country. The Zaire chapter had closed; the Libyan chapter was about to begin.

OTRAG's new alliance may prove rewarding. But it may simply reenact the Russians' successful campaign of slander and subterfuge. A story is now circulating that Libya has signed a contract with OTRAG to buy missiles. According to a familiar-sounding accusation—this time emanating from Morocco—the missiles will carry nuclear warheads developed in a separate Libyan research project. It is a report Wukasch quickly dismisses. ∞

