



## Fly Rocket Fly

“With machetes to the stars”  
Documentation by Oliver Schwehm, 2018.

*“Under certain economic conditions, the construction of such machines (rockets) may even become profitable. Such conditions might arise within a few decades”.*

Hermann Oberth declared in his book  
“A Rocket into Planetary Space” (1923):

As Ulrich Walter (D-2 astronaut and aerospace professor) says in the film, "If you want to build rockets, you need a lot of money, and you need a lot more of money to be successful. There was a lot of money available, but it takes two other ingredients to be successful: a team committed to the project, with a technically brilliant manager, which was also there, and the most important ingredient - the political support, that unfortunately was missing and therefore ultimately the first private "low-cost" rocket AG, OTRAG failed.

The film depicts the breathtaking path of Lutz Kayser mainly by using documentary original recordings, but also with retrospect accounts of participating engineers, technicians and companions. Lutz Kayser was the first "rocket" engineer trying to develop affordable, commercial liquid-fuel rockets. The story begins in the 1950s with a young rocket enthusiast experimenting with fuel and performing propulsion tests, first on his father's premises, later as a student, in Lampoldshausen (DLR-Germany). Then he became a consultant for the official German Society for Space Research (GfW), won a substantially funded study contract. However, after the rejection of his low-cost proposals to GfW and the German Research Ministry he decided to create his own company and finally became the founder and operator of the first private missile test site in Zaire (Central Africa), the "Orbital Transport and Missiles - AG" (OTRAG).

You had to experience the time of the Cold War yourself to understand how it was possible to excite young engineers so much, that they were ready to move into the African bush to develop missiles for satellite launches. Most of the engineers and technicians had graduated in the 1960s - a decade in which NASA was preparing to land humans on the Moon - in competition with Russia - thereby triggering a global "space fever". All aerospace engineers at that time were convinced that they were part of something big and that they must participate in more space dreams after the Moon landing.

The documentary mentions in a neutral way all of Lutz Kayser's sometimes "obscure machinations" published at the time and presents them as they were likely to be - the activities of an engineer obsessed with his idea, who did everything to reach his goal - supported by the talent to convince people of his suggestions and win them over.

On the other hand, during the 1960s and 1970s East and West laid in wait on all political levels in order to prevent any surprise use of secret, nuclear ballistic missiles under all circumstances. One merit of the film is to document credibly that, despite many different reports, Lutz Kayser has never considered the use of his rockets as weapons.

After the failure of the third launch from the Zaire test range (summer 1979), which took place in the presence of President Mobuto, and unfortunately hit the Shaba province in Zaire, fought over by the insurgent FNLO (Congolese National Liberation Front), the end of the enterprise was sealed. That Lutz Kayser had no ambitions to use his missiles for military conflicts, is documented by the film sequence of the launch failure: Lutz Kayser does not seem to have expected in the farthest a failure, nor did he seem to have been aware of the explosiveness of such an event. After a moment of shock and the "trés bon" by Mobuto, Kayser briefly explains the cause of the failure and then unimpressed invites with "well, let's go lunch" Mobuto and his whole staff to lunch ... with a coolness that expresses - "next time the bug is fixed - no problem".

Politics saw things differently, and a few months later the Shaba-North missile launch site was history.

The outstanding documentary - with a somewhat catchy subtitle - shows in a thrilling, uncomplicated manner the technical talent of Lutz Kayser and the unconventional dedication of his team to the project. A "German Elon Musk", who was far ahead of his time and introduced methods that were only later given a name, such as "disruptive design" or "crowd funding", not to mention Kayser's many patents and inventions that are still valid today, such as the shown "radial injection head", which enabled better injection and intensive mixing of the fuel with the oxydizer.

The film "Fly Rocket Fly" is an essential part of German rocket history and is highly recommended for "rocket veterans" of contemporary past, but also for young engineers because it shows that out-of-the-box thinking and less career-oriented career choices can lead to the realization of dreams.

Lutz Kayser has confirmed the Oberth quote from the introduction "... under certain economic conditions, the construction of such machines may even be profitable". But what Oberth should have said was "... under certain economic and *political* conditions ...". This was the reason why Lutz Kayser ultimately failed - which is clearly shown by the documentary, but it also brings back the importance of Lutz Kayser as a vibrant, ingenious personality and rocket pioneer, and helps to keep this image undiminished in our memory.

#### Reference:

Summary of all Zaire-test launches

1Z 17.May.1977 Shaba (Zaire) 20 km altitude

2Z 20.May.1978 Shaba (Zaire)night launch, 30 km altitude.

3Z 05.Jun.1978 Shaba (Zaire) launch failure, rocket deviates from its trajectory and crashes.

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