

SMALL SATELLITE MISSIONS SYMPOSIUM (B4)  
Design and Technology for Small Satellites (6A)

Author: Dr. Clemens Kaiser  
OH System AG - Munich, Germany, (*email is not specified*)

Mr. Stefan Foeckersperger  
OH System AG - Munich, Germany, stefan.foeckersperger@kayser-threde.com  
Mr. Klaus Lattner  
OH System AG - Munich, Germany, Klaus.Lattner@kayser-threde.com  
Mr. Silke Eckert  
Astro- und Feinwerktechnik Adlershof GmbH, Germany, s.eckert@astrofein.com  
Mr. Wolfgang Baerwald  
Astro- und Feinwerktechnik Adlershof GmbH, Germany, w.baerwald@astrofein.com  
Mr. Swen Ritzmann  
Astro- und Feinwerktechnik Adlershof GmbH, Germany, s.ritzmann@astrofein.com  
Mr. Michael Turk  
Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany, michael.turk@dlr.de  
Dr. Robert Axmann  
Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany, robert.axmann@dlr.de

THE TET-1 MISSION - CURRENT PROJECT STATUS OF THE SMALL SATELLITE MISSION AND  
OUTLOOK FOR A ONE YEAR MISSION OPERATION PHASE

**Abstract**

The TET-1 mission is a national program funded by the German Space Agency. The TET program started with Phase A in January 2005 and ended October 2006. The TET-1 Phase B started in June 2007, followed by a successful SRR in August 2007 and was completed after the PDR beginning 2008. The CDR took place end of 2009. The launch is scheduled for end of 2010.

The goal of TET is the support of German industry and research institutes with the On-Orbit Verification (OOV) of new and innovative satellite technologies. For this purpose regular and reliable flight opportunities shall be offered which can be realized on short notice. TET shall provide the required verification platform and shall be based on a satellite bus which was qualified on orbit during the BIRD mission. In total, 11 different payloads were selected to be demonstrated on TET-1. These include optical experiments such as an infrared camera as well as novel solar cells, batteries, on-board computers, GPS receivers and a propulsion system. Finally, TET with its new standardized bus and modular payload supply system shall also serve as standardized platform for On-Orbit-Verification purposes in the future. The payload compartment is large enough to accommodate even complex experiments, and the bus performance is powerful enough to provide challenging mission requirements, too, as it will be demonstrated for the IR-payload onboard TET-1. With the TET concept Kayser-Threde is able to enlarge its possibilities to offer flight opportunities for in-orbit demonstration which are based up to now only on the KAP concept for short missions. KAP offers the feature of access to space with the experiments staying attached to launcher upper stages using remaining launcher payload capabilities and upper stage performances. The KAP concept has been developed for Ariane 5 and VEGA as well as for SOYUZ/FREGAT recently. A demo-mission is planned parallel to the TET-1 mission in 2010. Based on the two concepts TET and KAP Kayser-Threde defines its role meanwhile as flight opportunity broker and invites experimenters to

directly contact Kayser-Threde to assess possibilities for access to space for technology and/or scientific experiments in-orbit demonstration with various mission durations.