

Editorial

During the first semester of 2010, the Berlin Transport Technology Systems Network is involved in a variety of topics. Electromobility in the pilot region of Berlin-Brandenburg and its future direction set at the summit with Chancellor Merkel on the 3rd of May 2010 is certainly one of them, while the field of aeronautics also receives its share of the spotlight: The topping-out ceremony of the new BBI-airport terminal on the 7th of May 2010 constitutes an important milestone on the way to the new airport, which is rapidly approaching operations of BBI in only another year and a half.

The ILA Berlin Air Show 2010 - International Aerospace Exhibition and Conferences (June 8 - 13) is drawing a crowd of visitors both from amongst industry professionals and the interested public to the Berlin capital region. The ILA comprises all aspects of aerospace technology. This Newsletter only covers a few selected topics: The EU-project AAS has left its development phase and embarks on its demonstration activities in Berlin-Tegel and Porto in May 2010. The institutions and enterprises who joined in the Aerospace initiative BerlinBrandenburg are working on a new type of small satellite for a number of missions. They are also presenting their range of key competencies at the ILA Aerospace Exhibition in 2010.



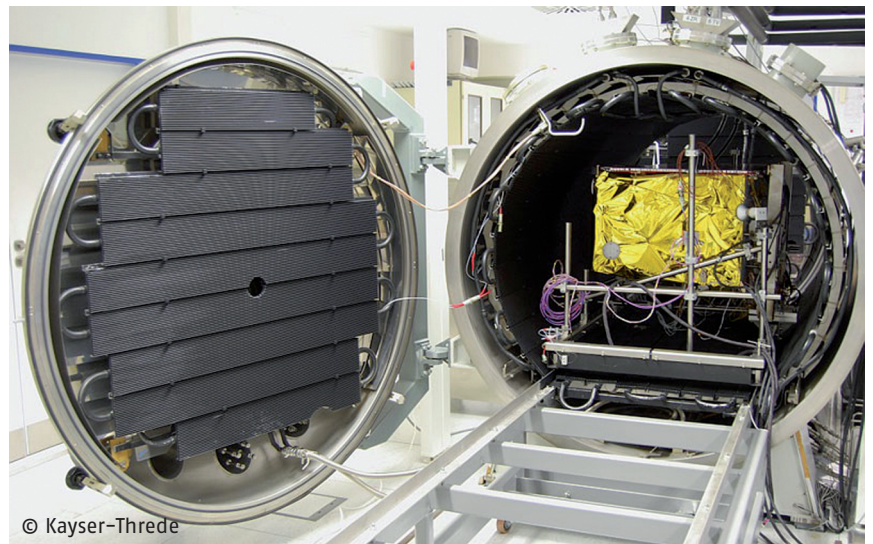
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Small Satellites made in Berlin-Brandenburg

Aerospace

The tenth TET-Satellite built in Berlin-Brandenburg awaits launch at the end of 2010



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Qualification of the TET-Satellite for space environment

Germany's Capital region is one of world's centers of excellence in small satellite technology. Nine satellites have been developed and successfully operated in space since 1991. The launch of the tenth satellite is planned for the end of 2010 on board a Russian Soyous Fregat rocket.

In preparation of the indented launch the Astro- und Feinwerktechnik Adlershof GmbH has delivered the satellite bus of the TET-1 satellite to the Kayser Threde GmbH. Kayser Threde is the industrial main contractor of the DLR TET mission.

TET-1 is part of the „On-Orbit-Verification“ (OOV) program. OOV was initiated by the German Aerospace Center (DLR) and is financed by the Federal Ministry of Economics and Technology (BMWi) to qualify innovative space technologies developed by German companies and therefore foster their market introduction.

The TET satellite is approximately sized like a washing machine with a weight of 120kg. It offers a large payload compartment of 0.1m³ and 50kg. TET is the first micro satellite to be fully developed, built and qualified according to highest ECCS standards. As a result TET offers a globally unique reliability of 0.95 over a 14 month mission life.

It's high performance and outstanding reliability combined with its high modularity makes TET a favourable tool for scientific and commercial earth observation missions. The planned MicroGEM mission of the German Research Centre for Geo Sciences (GFZ-Potsdam) is a good example.

MicroGEM Mission a Successor of TET

Precise climate data are essential for our modern society. These data not only help to mitigate the effects of climate change and natural disasters; moreover it is the basis of a successful business model of the capable geosciences industries in Brandenburg. Berlin Satellites like the modern TET are a tool to generate the required data. Therefore Germany's Capital region can cover the whole value added chain in satellite based earth observation.

The MicroGEM mission based on TET will deliver improved climate data, measure the sea level (Tsunami Warning) and ice cover after its launch in 2012. Micro-

GEM therefore stands in the tradition of the successful German Missions Champ and Grace.

Visit us at the Berlin AirShow 2010

The Raumfahrtinitiative BerlinBrandenburg (RiBB) is the Berlin Space Industry. Founded by space industry and research institutes of the region, co-financed by the Berlin government and managed by TSB-FAV it is the task of RiBB to foster economic growth based on the innovative space technologies developed in the region.

RiBB and its partners will be present at the Berlin Airshow 08-13. of June 2010. You'll find us in Hall 9, Stand 211 at the TSB booth. Models of all Berlin Satellites will be exhibited in 1:1 scale.

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Project AAS: First Test Run in Berlin-Tegel

EU Project

The need to improve safety on airport aprons results from a lack of up-to-date information for all Ground Support Equipment (GSE) performing a wide range of tasks, from passenger transport and baggage handling to refuelling, cleaning and aircraft maintenance in the phase between landing and take-off.

The absence of information on the actual position of these vehicles negatively affects both cost efficiency and safety. Accidents and incidents involving Ground Service Equipment (GSE) result in costs of \$4 billion a year.

Twelve European partners from Germany, Austria, Italy, Spain, Portugal and Finland are collaborating in the project AAS – Integrated Airport Apron Safety Fleet Management (coordinator TSB-FAV) to develop a system providing real-time resource allocation through positioning (GPS, EGNOS) and communication (GPRS, Wi-Fi) technologies. The increase in efficiency will coincide with an increase in safety, primarily through dynamic geo-fencing and innovative vehicle access controls for all tasks performed.

The first test of the AAS system was presented to a group of experts consisting of airport and ground handling operators and airlines at Berlin-Tegel on the 6th of March 2010. Visitors had the chance to find out more about the AAS approach at the company head-quarter of project partner GlobeGround Berlin.

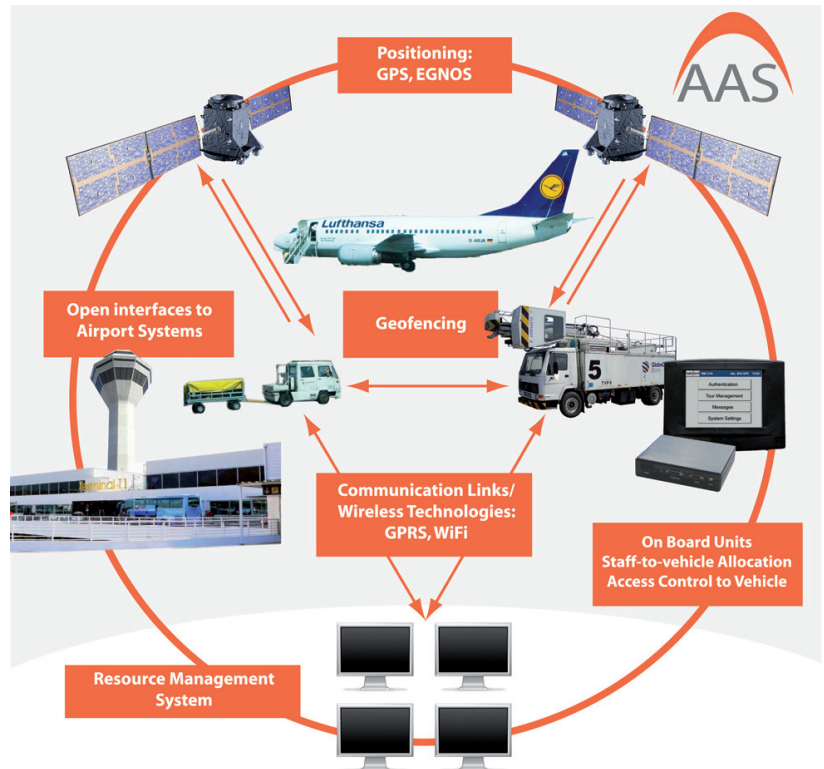


Handling of the human-machine interface

Results from the showcase at Berlin-Tegel will influence the design of a respective test system at the second test side. Demonstrations integrated into day-to-day operations at both airports over a period of 6 months has been started on the 1st of May 2010.

AAS is one of the first projects within the 7th EU framework program. In a larger thematic context, AAS is part of the Single European Sky ATM Research program (SESAR), which aims at a series of new technologies, systems and standards towards total airport management within Europe, thus improving efficiency, safety, energy consumption and emissions.

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Project FluSS: Airport Security System

EU Project

The subject of security in airports is becoming increasingly important for airport operators. This is firstly due to security requirements being drastically tightened following the terror attacks in New York and London and secondly due to the concomitant restrictive impact on airport processes.

In view of the forecasted growth of the number of passengers from 50 million to 88 million passengers



Increasing number of passengers at Frankfurt-Airport

by the year 2020, the Frankfurt airport sees itself faced with the challenge of adapting security management systems to new threats while developing efficient, scalable and customer-oriented process architectures.

In order to meet such challenges the FluSS research project, funded by the Federal Ministry of Education and Research (BMBF), has been launched at Frankfurt airport in 2008. This project, involving TSB-FAV and further partners from Berlin-Brandenburg region is concentrating on the following core objectives:

- ▶ Definition and implementation of a consistent, integrated security management approach to airport infrastructure which is incorporated seamlessly in the system
- ▶ Expansion of the security management concept to the area surrounding the airport so that observation and evaluation of security at an airport site can be performed in coordinated and structured security levels
- ▶ Revision of the practicability of selected grouped procedures using a demonstrator installed at the Frankfurt airport

On completion of the project a well-founded security management concept will be available for implementation to counter new threats and risks.

Especially addressing the newly developed Berlin Brandenburg International Airport (BBI), there could be the chance to incorporate measures into workflows when BBI will start operations in October 2011.



Increasing significance of security for airport operators

In order to benefit from experiences in other transport modes, the project partners currently undertake some expert interviews with operators of critical infrastructures and respective research institutes.

The results shall contribute to the development of security measures for airports. Furthermore this shall help analysing and evaluating the implementation of measures. For the evaluation of security measures a set of some 100 criteria has been developed. They are covering the following topics:

- | | |
|------------------------|-----------------|
| ▶ Protective effect | ▶ Restrictions |
| ▶ Level of application | ▶ Flexibility |
| ▶ Relevance | ▶ Costs |
| ▶ Feasibility | ▶ Cost-benefits |

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Upcoming Events

- ▶ TSB Booth at ILA 2010
Hall 9, Stand 211
08 – 13 June 2010, Berlin
www.ila-berlin.de
- ▶ „Call for Papers“ – 5. Future Security Conference of Fraunhofer Group for Defense and Security
07 – 09 September 2010, Berlin
www.future-security.eu
- ▶ InnoTrans 2010 – Brokerage Event
“Connecting Railways”
21 – 24 September 2010
www.fav.de/innotrans