



## DLR cooperating with Polish space research centre; universities jointly developing two small satellites

12 September 2012

Poland is the official partner country of the ILA Berlin Air Show 2012, and is in the process of becoming the twentieth member state of the European Space Agency (ESA). With this in mind, Germany and its eastern neighbour laid the foundations for cooperation in space at ILA on 12 September 2012.

On the German Aerospace Center (Deutsches Zentrum für Luft- und Raumfahrt; DLR) stand at ILA, and in the presence of Philipp Rösler, the German Federal Minister of Economics and Technology, Gerd Gruppe, the DLR Executive Board Member for the German Space Administration, and Marek Banaszekiewicz, Director of the Space Research Centre (Centrum Badań Kosmicznych; CBK) at the Polish Academy of Sciences (Polska Akademia Nauk; PAN) signed a declaration of intent for their first bilateral satellite mission. The name of the university project is 'German-Polish Formation Flying Technology Demonstration Mission', a technology demonstration in which two small satellites will orbit in close formation in 2016. "This is a symbol of the strong relations between these two neighbouring countries. Twenty years after the German-Polish neighbourhood contract entered into force, this collaboration is now being extended and deepened into spaceflight," stated Space Administration Director Gerd Gruppe. "With this project, we are setting a precedent regarding the expansion of our cooperation in Europe. Poland will soon be a member of ESA and is our largest neighbour in the east. I look forward to addressing talented young scientists with this exceptionally attractive topic, which involves working together on a technologically challenging project," Gruppe continued.

Separate university teams, one in Germany and one in Poland, are each building one of the two small satellites. On the German side, this work involves the Technische Universität Berlin (TUB) and the University of Würzburg. In Poland, the CBK will be responsible for coordinating the work being carried out by the universities of Kraków and Łódź. These satellites will serve as technology demonstrators.

To make formation flying at an altitude of about 500 kilometres possible, the two large, autonomous nanosatellites – measuring 20 by 20 by 35 centimetres – will be equipped in such a way that they maintain a defined distance from one another. The German satellite will feature active, three-axis attitude control and a propulsion unit. "With this project, we face the big challenge of housing the attitude control system and the propulsion unit in a small space. To accomplish that, we will be using new attitude control technologies that will be tested on the BEESAT-2 (**B**erlin **E**xperimental and **E**ducational **SAT**ellite) cubesat. This is scheduled to launch early in 2013," explained Klaus Briess, Head of the Space Technology Section in the Aerospace Institute at TUB. In addition, there will be optical instruments and radio equipment on board. An instrument for monitoring the distance between the two satellites will complement the technical components.

On 13 September, in the ILA Space Pavilion, DLR, CBK and the German Aerospace Industries Association (Bundesverband der Deutschen Luft- und Raumfahrtindustrie; BDLI) will hold the first Polish-German space research symposium – 'Neighbours on the Ground, Partners in Space'.

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## German-Polish small satellite project



On 12 September 2012 at the ILA Berlin Air Show, Germany and Poland laid the foundations for cooperation in space. Gerd Gruppe, the DLR Executive Board Member for the German Space Administration, and Marek Banaszekiewicz, Director of the Space Research Centre (Centrum Badań Kosmicznych; CBK) at the Polish Academy of Sciences (Polska Akademia Nauk; PAN) signed a declaration of intent for their first bilateral satellite mission in the presence of Germany's Federal Minister of Economics and Technology, Philipp Rösler (2nd from the right), Andrzej Szyuka, Chargé d'Affaires at the Polish embassy in Berlin (2nd from the left) and the Chairman of the DLR Executive Board, Johann-Dietrich Wörner (centre). The signing took place on the DLR stand at ILA. The name of the university project is 'German-Polish Formation Flying Technology Demonstration Mission', a technology demonstration in which two small satellites will orbit in close formation in 2016.

Credit: DLR (CC-BY 3.0).

## Nanosatellites in space



Germany and Poland will jointly launch into space.

Credit: TU Berlin.

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