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Flying for research: Jens Heider, test pilot

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By Jasmin Begli

Jens Heider, DLR test pilot

"Hard work, great fun, not much sleep, but really fascinating". This is how Jens Heider describes his time in the USA. Just a short while ago, he was receiving training at the National Test Pilot School (NTPS) in the Mojave Desert. Whenever he talks about it, his eyes light up. On 12 different aircraft, he learned how to plan and evaluate flight tests, and how to fly each one of them. He will now be able to put what he has just learned to good use in the research aircraft operated by the German Aerospace Center (Deutsches Zentrum für Luft und Raumfahrt; DLR). And the 31-year old freshly-trained test pilot is really looking forward to it.

The aim: A workplace in the cockpit

Jens Heider first learned flying while he was studying to become a flight systems engineer. When writing his undergraduate dissertation at Lufthansa Flight Training on the subject of turbulence drag, Heider established contact with the German Aerospace Center and became familiar with the work of the Flight Technology Institute in Braunschweig. "I was lucky, in that a position became vacant at DLR just as I completed my studies, and it was a perfect fit for my skill set," recalls Heider with pleasure.

That was in August 2004. For about eighteen months, he worked at the Flight Systems Technology Institute on the simulation and modelling of airborne noise propagation from aircraft and helped to develop processes that enable transport aircraft to make less noise when landing.

Although he enjoyed this work at the institute, his vocational goal was clear to him from day one, and he never made a secret of the fact. "My wish was always to apply my training to technical flying and, at some point, to have a seat in a cockpit," he says. "However, there is never a great deal of scope in this area, so I am also genuinely fortunate to find a position of this kind." Mind you, Heider did get lucky: In early 2006 he seized the opportunity to apply for a post as Technical Aviation Manager at the DLR Flight Operations Center in Braunschweig and got the job.

"My work: advising, planning, supporting! And flying!"

Aim: A workplace in the cockpit

Since then, he has been responsible for a wide range of tasks. "That's the way things are in flight operations," he explains. "You really need to be a jack of all trades." Primarily he is called upon to deal with specific projects of scientists who use the Flight Operations facility for their experiments. For example, he was involved as a test pilot when experimental displays were being tested for flight management, when antennas were installed on research aircraft to conduct measurements, and when 3D aerial photographs of geological formations in Spitzbergen and Iceland were being taken. Often enough, these researchers have no practical connection to the world of flying, and that's where Heider is able to help. They discuss what the experiment is setting out to establish, and what outcomes are anticipated. The kind of questions that need to be clarified prior to an experiment include the type of flight test, the number of flights and even the kind of modifications to an aircraft that may require official approval. Step by step, Heider proceeds jointly with the scientists to devise the optimum plan for each flight test, and is also in attendance during the implementation phase.

His co-workers view Jens Heider as a friendly and straightforward colleague to work with. They say he is a true professional in his field, that he is ambitious and that he is results-driven. He seems content and laughs a lot, but knows exactly what he wants, and is diligent and conscientious. He needs to be those things because he is not just responsible for ensuring that flight tests are planned and conducted safely - he also has administrative duties to deal with. Maps need to be updated, critical installations need to be approved for flight tests and flight schedules need to be written. "But then of course, there is the flying too!", says Heider with a big smile, and then it becomes immediately apparent: this is where he is in his element.

In America to become a test pilot

Jens Heider during his training at the NTPS (National Test Pilot School) in the USA

During his four years in Flight Operations, Heider has never ceased to engage in further training to complement the tasks assigned to him. “It’s really great that DLR gave me the opportunity to undergo this training course to become a test pilot for small aircraft,” says Heider. "This kind of opportunity doesn't come along all that often!" To this end, he spent almost four months in the Californian Mojave desert, North of Los Angeles. Along with a pilot from South Korea’s KAI (Korean Aerospace Industries) and four other colleagues from DLR, he underwent thorough training in everything that test pilots and flight test engineers need to know. "We were a great team, with half comprising future flight test engineers and the other half my group of aspiring test pilots," reminisces Heider. A flight test engineer and a test pilot are paired up in changing teams – at least during the practical training phases. "During

the flights, engineers led the flight tests and we pilots focused entirely on the aircraft. We then all covered the same ground together in terms of theory."

To teach the 'pupils' the correct way to plan, carry out, evaluate and write up reports on tests, the National Test Pilot School employs a range of different types of plane, from gliders to multi-engined turbine aircraft. During his training course, Heider had a seat in twelve different cockpits. In doing so, he was fulfilling a dream. When asked which aircraft he most wanted to fly, he says: "I have no firm notion of a model that I must fly at any cost. Instead, my dream is to have flown as many different aircraft as possible."

Turning a hobby into a profession

"My dream: to fly as many different aircraft as possible."

At the age of 31, Jens Heider has achieved something that most people spend their lives dreaming about: he has turned his hobby into a profession. Since the age of fifteen, he has been an enthusiastic glider pilot, and has never lost sight of this passion. It was this that prompted him, during his time at the Flight Systems Technology Institute, to involve himself and collaborate with Idaflieg (Shared interest association of German academic flying groups; Interessengemeinschaft deutscher akademischer Fliegergruppen e.V.). Then as now, Idaflieg is supported by renowned aviation bodies such as the Technical University of Braunschweig and DLR. "Through its support for Idaflieg, DLR benefits from tremendous opportunities to train and develop new talent in the aerospace sector. Many great inventions, such as the use of carbon fibre composites in the building of load-bearing structural components in aircraft, first saw the light of day in student-based groups."

Despite the fact that Heider has already achieved his dream professionally, he still has other goals – for aerospace in general and also for himself. He knows that one of the greatest challenges facing the future of aerospace is the need to discover alternative sources of energy. He believes that this will take some time. But his personal objective is no remote goal, "My dream is to fly the ATRA, our research airbus, on behalf of DLR one day."

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