A DISORIENTATION TRAINER FOR PILOTS

Perfect simulation saves costs and can save lives.

Spatial disorientation is often caused by inconsistent visual and vestibular perceptions of the pilot and poses a risk to safe flight operations.

„AMST is a global leader in solutions for flight simulation, pilot training and aeromedical applications.

With the AIRFOX DISO disorientation trainer, pilots can be prepared for extreme situations to make flying even safer.

Venturetec Rotating Systems is a competent partner for us, enabling us to fulfil the complex requirements of our international customers in high quality and on time.“

Ing. Franz Pflug, Managing Director
AMST-Systemtechnik GmbH

The rotary transmitter specially developed for this application in Bavaria, enables the pilot cabin - in addition to the existing motion simulation in six degrees of freedom - to also continuously rotate around an additional yaw axis.

This allows real-life flight situations to be simulated realistically for pilot training in terms of acceleration and vestibular impressions.

Worldwide, there is a growing need for training for pilots to familiarise them with the drastic effects of disorientation in complex flight situations.

The need for such training becomes clear when you take a closer look at the possible consequences of disorientation in untrained crews.

Apart from the potential danger to bystanders, trained pilots can demonstrably improve risk management.

This can significantly reduce existing risks such as loss of aircraft and crew.

The operational challenges of modern, highly agile aircraft can then be mastered much more safely.

Technical requirements

To realise continuous rotation of the simulator, power supply, image and sensor data as well as various media must be exchanged between the cabin and the motion platform.

For such requirements, so-called rotary feedthroughs / slip rings have been developed in the industry, which can be designed on a project-specific basis.

In the application described here, control signals (X2X Link), data connections (Ethernet), optical signals and media (breathing air, oxygen) had to be routed through the rotating system in addition to the electrical energy.

Project planning and implementation

Based on a more detailed technical requirement, the mechanical design engineers at Venturetec developed a prototype, which was subjected to extensive functional tests at AMST under the required environmental conditions.

After analysing the test results and implementing the necessary corrections, the final product was manufactured in Kaufbeuren in the Allgäu region and delivered to AMST.

Use of the simulator

The disorientation trainer custom-built by AMST will be used in an aeromedical institute.

Other similar projects are set to follow in the near future and will make an important contribution to safety in air traffic.

„Our customers expect us to deliver customised solutions of outstanding quality.

In addition to excellent project management, the realisation of such complex systems requires reliable partners and suppliers.

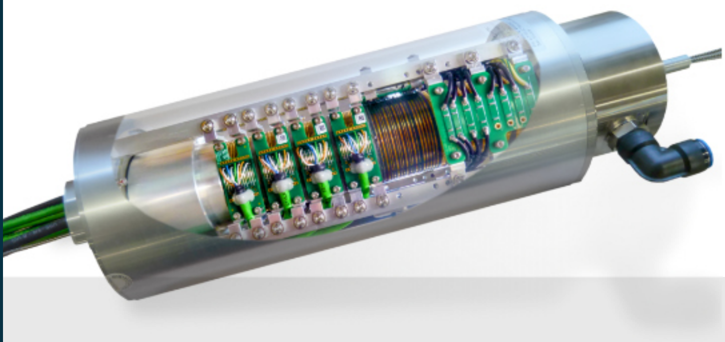
We can rely 100% on Venturetec for project planning and implementation"

Karl Bermannschlager, Dept. Manager Purchasing
AMST-Systemtechnik GmbH

„As a medium-sized company, we can fully utilise our strengths in our partnership-based cooperation with AMST.

The in-depth technical knowledge of our engineers combined with the flexibility and quality in the realisation of individual projects bring our business partners the decisive added value for their customers."

Dennis Elzer, Head of Mechanical Design
Venturetec Rotating Systems GmbH



Venturetec Rotating Systems GmbH specialises in the development and manufacture of slip rings and hybrid rotary transmitter. As a recognised partner of leading high-tech companies in the fields of medical technology, defense, industrial automation, surveillance and propulsion systems, Venturetec is based in Germany and has commercial agencies in China, France, Israel, Italy, Sweden, Spain and USA. Since 2014, Venturetec has been part of the successful Berndorf AG, a company based in Austria.

VENTURETEC ROTATING SYSTEMS GMBH
Johann-Georg-Weinhart-Straße 2
87600 Kaufbeuren I Germany
E: sales@venturetec.de
T: +49 8341 9005 0
W: https://venturetec.de