



project: syntropy (Germany/Sweden/Shanghai-Singapore-Taiwan/USA) creates technologies and solutions for professional simulation- and training environments, interactive immersive media based attractions, xD theatres, planetariums and multimedia experiences.

Project

Visual display system for the AVES motion flight simulator of DLR e.V.

Customer

DLR e.V., Institute of Flight Systems, Department of Flight Dynamics and Simulation, Braunschweig/Germany

Project

Visual display solution upgrade incl. dome and mounting structure modification, 9-channel 4k solid state LED-projection system and auto-alignment system for the motion simulator at AVES (Air Vehicle Simulator) simulator centre.

Project Details

We have won the tender for the obsolescence removal of both visual display systems of the motion simulator and the fixed base simulator (the latter we have delivered ourselves in 2013) of the simulation centre AVES (Air Vehicle Simulator) operated by DLR Department Flight Dynamics and Simulation in Braunschweig. The two simulation cockpits of an Airbus A320 ATRA - Advanced Technology Research Aircraft and Eurocopter EC135, are designed to Level D quality and feature a sophisticated Roll in Roll out (RoRo) cockpit exchange system.

Our work included the technical design of the new visual solution for the motion simulator as well as installation, integration and initial calibration of the complete visual display system including meticulous modification of the mounting structure including the dome ceiling of the 6m dome having a H-FOV -120°/+120° and V-FOV -55°/+40°. The challenge of the modification was not to compromise the motion system itself even though no design documents were available.

The new system comprises a 9-channel 4k solid state LED-Projection upgrade with the latest domeprojection.com ProjectionTools solution and its color calibration feature. With the upgrade, the DLR Institute of Flight Systems ensures that the AVES simulator centre is ready for the next decade with a state-of-the-art visual system requiring next to zero maintenance.



Leading Provider of Next Generation Visual Display Systems

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About the Simulator Centre Braunschweig

The DLR Institute of Flight Systems in Braunschweig/D works on the dynamic characteristics of aircraft and their interaction with the cockpit crew. For this purpose, the institute applies different research methods from theory through experiments in high fidelity flight simulators in real flight.

The expert group on Simulation Technology is capable in the construction and operation of real time simulators, the development of new soft- and hardware concepts, the development and operation of visualisation techniques for displays and synthetic outside view. The group is involved in the continuous optimisation of the existing simulation technologies, e.g. the motion simulation. Operating the simulation centre AVES as well as smaller simulation systems, like the gyrocopter simulator, is part of the group's tasks. In addition to the flight test preparation for the test vehicles ATRA and FHS, the real time simulators are offered to be used to explore further scientific issues such as the evaluation of active operating devices or the human-machine interaction, by internal and external clients.

Videolink: <https://youtu.be/F5dB0g2zd4k>



project: syntropy's visual display solutions for

- FMS FULL-MISSION-SIMULATORS
- FFS FULL-FLIGHT-SIMULATORS
- CT COCKPIT SIMULATORS
- HELICOPTER SIMULATORS
- TARGET SIMULATION
- JFST ACTION TRAINERS
- JTAC TRAINERS
- ATM TOWER SIMULATORS
- DRIVING SIMULATORS
- SHIPS BRIDGE SIMULATORS
- INDUSTRIAL SIMULATORS
- RESEARCH SIMULATORS

full-service for S&T visual display solutions

project: syntropy offers turnkey solutions and full-service throughout your entire project:

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- APPLICATION DEVELOPMENT
- CONSTRUCTION AND INSTALLATION
- ADVANCED SOLUTIONS FOR NVG STIMULATION
- FULLDOME SYSTEMS
- TURNKEY DIGITAL CINEMA
- AFTER SALES SERVICES
 - training
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 - spareparts supply

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