



**project: syntropy (Germany / KSA / Sweden / Singapore)**  
*creates dvLED- / projection-based visual technologies and solutions for professional simulation and training environments, immersive XR environments, XR-CAVES, media based attractions and much more.*

## Project

### Four Visual Display Systems - EUROFIGHTER FMS Simulators for German Air Force

#### Customer

Luftwaffe (German Air Force), on behalf of Carl Zeiss AG, Jena.

#### Project

Upgrade of four 360° 7.5m full dome projection systems to 17-channel WQXGA-projection for EUROFIGHTER Full Mission Simulators (FMS) at the air bases Wittmund, Laage, Neuburg, Noervenich, where the Tactical Air Force Wings are stationed.

#### Project Details

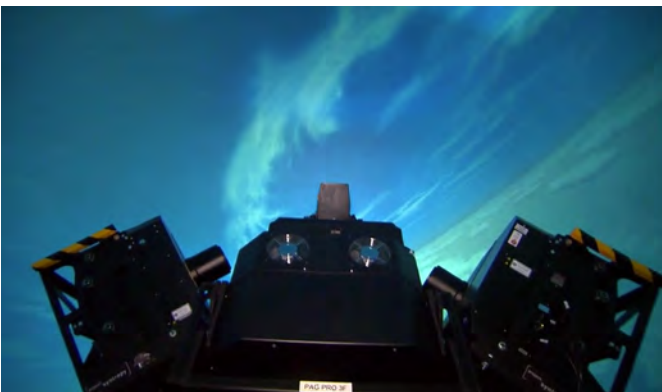
In the course of the complete renewal of the visual display system of four German Eurofighter Full Mission Simulators (ASTA FMS) and of four Cockpit Trainers (ASTA CT) by the main contractor CAE we have been commissioned as systems integrator to develop the immersive dome projection based on ZEISS VELVET WQXGA-projectors.

domeprojection.com ProjectionTools auto-calibration has been especially adapted to this projector type together with the semiautomatic color calibration. The immersive visual display system represents now the reference of what was technically possible at the time of the order.

Our tasks consisted of the complete visual display system layout, mounting stage construction and integration of the 17 projectors and of the corresponding warp & blend hardware per each FMS.

Special project challenges were on the one hand the restricted space inside the only 7.5m wide 360° Full dome concerning the large number of projector channels and on the other hand the tight timeframe for project planning and upgrading: finally, we have realized the four FMS – upgrades as well as the construction and implementation of the four cockpit trainer (ASTA CT) visuals at the air bases Wittmund, Laage, Neuburg, Noervenich within only 24 months.

After the upgrade, the air force pilots are excited about the terrifically raised immersion of the simulation thanks to the highly



Leading Provider of Next Generation Visual Display Systems

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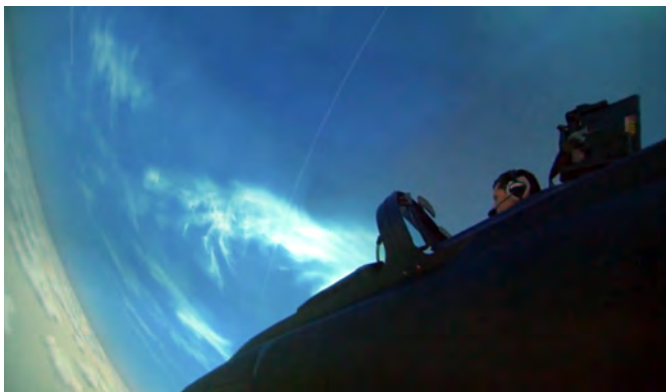
project:syntropy



increased resolution and contrast values, a perfect calibration and the possibility to support realistic night vision by projection of an absolutely black picture. The auto calibration guarantees drastically reduced maintenance downtime, weekly automated re-calibration to preserve the perfect picture within minutes as well as simplified maintenance in case of hardware trouble.

**Videolink:**

<https://vcdn01.spiegel.de/players/8cSfjWoy-9QTGcSm3.html>



**project: syntropy's visual display solutions for**

- FMS FULL-MISSION-SIMULATORS
- FFS FULL-FLIGHT-SIMULATORS (EASA Level D)
- CT COCKPIT SIMULATORS
- HELICOPTER FLIGHT SIMULATORS
- FNPT / FTD TRAINING SIMULATORS
- COMBAT 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:

- CONSULTING
- CONCEPT AND DESIGN
- APPLICATION DEVELOPMENT
- CONSTRUCTION, MANUFACTURING, INSTALLATION
- ADVANCED SOLUTIONS FOR NVG STIMULATION
- FULLDOME SYSTEMS
- tailor-made dvLED-/Projection-based VISUAL DISPLAY SYSTEMS
- AFTER SALES SERVICES
  - training
  - maintenance and support
  - tailored service-level-agreements (SLA)
  - spareparts supply

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