



**project: syntropy (Germany/Sweden/Shanghai-Singapore-Taiwan)**  
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 DFS GmbH (German Air Navigation Services) ATM Tower Simulator

#### Customer

DFS Deutsche Flugsicherung GmbH, Langen (near Airport FRA)/Germany.

#### Project

Turnkey tower simulator (for simulation and training) display solution w. 18 projection channels, 360° horizontal coverage, diameter: 12 m, height: 3.8 m and a patented domeprojection.com ProjectionTools auto-alignment system.

#### Project Details

DFS Deutsche Flugsicherung GmbH (German Air Navigation Services) is responsible for air traffic control in Germany. At its headquarter in Langen near Airport Frankfurt/Main DFS operates a tower simulator for simulation and training purposes. The display system had to be renewed.

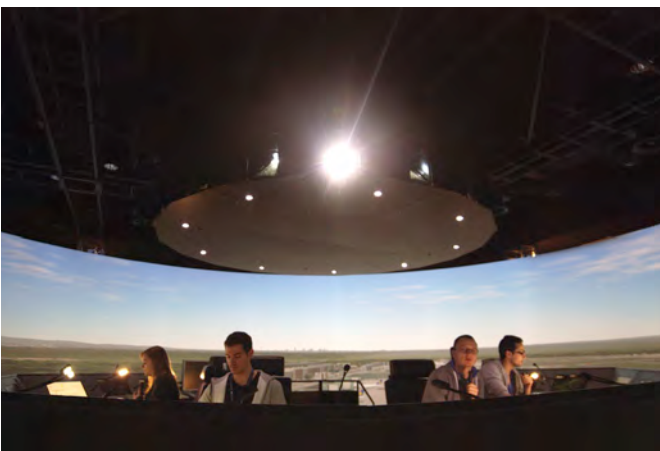
We won the public tender for the renewal of the display system of the simulator. The challenge was to plan, deliver and implement the new display system as a turnkey solution in only twelve weeks. The solution finally included 18 projectiondesign F32 WUXGA projectors with WB1920 warp units to cover the 360° cylindrical screen with a diameter of 12 m and height of 3.8 m.

Important requirements were:

- Consistency of projection quality / immersion over a long operating period
- Minimal downtime due to maintenance
- Original quality of the projection shall be quickly recoverable

As a solution a domeprojection.com ProjectionTools auto-alignment system with six alignment cameras was installed and a color-calibration system integrated.

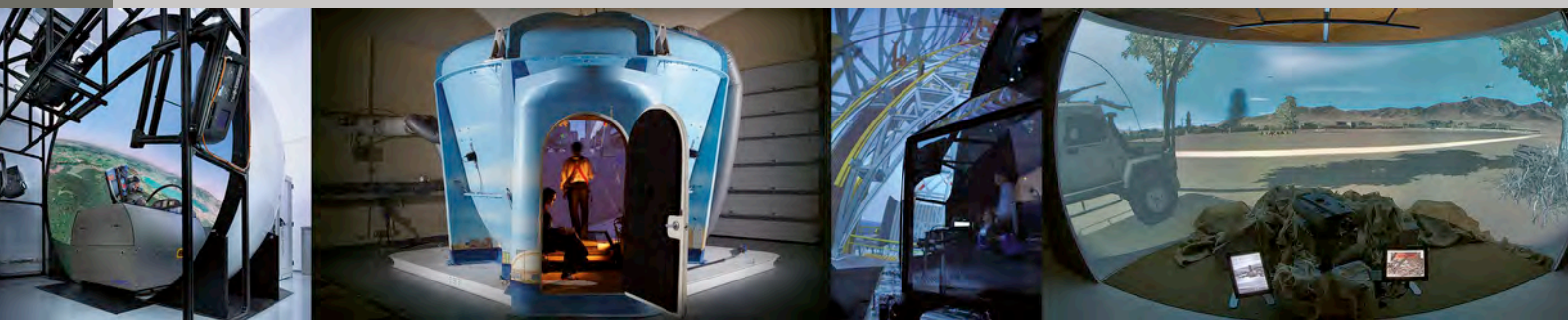
Eight years later we upgraded the projection again to a new state-of-the-art by installing 18 Barco 4k laser-phosphor projectors.



*Leading Provider of Next Generation Visual Display Systems*

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### About DFS Deutsche Flugsicherung GmbH

DFS Deutsche Flugsicherung GmbH, the German air navigation service provider, is a State-owned company under private law with 5,500 employees. DFS ensures the safe and punctual flow of air traffic over Germany. Staff coordinate up to 10,000 aircraft movements in German airspace every day, and more than three million movements every year. This makes Germany the country with the highest traffic volume in Europe. DFS operates control centres in Langen, Bremen, Karlsruhe and Munich. In addition, DFS is represented in the Eurocontrol Centre in Maastricht, the Netherlands, and in the control towers of the 16 international German airports. DFS provides training and consultancy services around the world and develops and sells air traffic management systems. The portfolio also comprises flight-relevant data, aeronautical publications and aeronautical information services. DFS has the following business units: Control Centre, Tower, Aeronautical Solutions and Aeronautical Information Management.

**Videolink:** <https://youtu.be/3ppXtLIWKaM>



### 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:

- **CONSULTING**
- **CONCEPT AND DESIGN**
- **APPLICATION DEVELOPMENT**
- **CONSTRUCTION AND INSTALLATION**
- **ADVANCED SOLUTIONS FOR NVG STIMULATION**
- **FULLDOME SYSTEMS**
- **TURNKEY DIGITAL CINEMA**
- **AFTER SALES SERVICES**
  - training
  - maintenance and support
  - tailored service-level-agreements (SLA)
  - spareparts supply

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