

**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**  
**Target Simulation Dome of WTD 81 Greeding – 41-channel Full-dome Projection System**

**Customer**

Bundeswehr Technical Center for Information Technology and Electronics (WTD 81) on behalf of e.sigma Systems GmbH.

**Project**

Renewal of the projection system in the target simulation dome (ZSD), consisting of 41 high-resolution laser projectors and an autocalibration system. The unique ZSD has a height of 25 meters and a width of 46 meters, the inner projection surface has a diameter of 40 meters and is 2200 sqm in size.



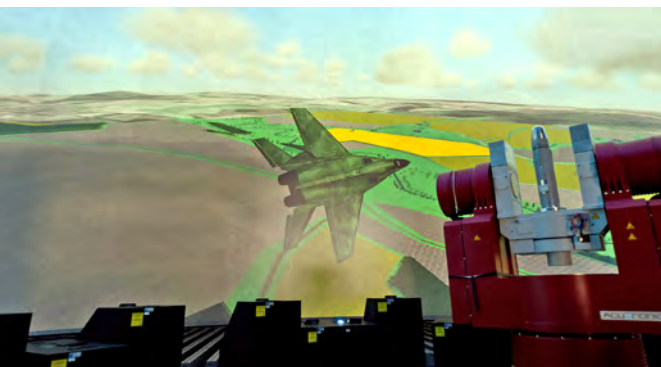
**Project Details**

The Bundeswehr Technical Center for Information Technology and Electronics (WTD 81) in Greeding operates a unique target simulation dome having a height of 25 meters and a diameter of 46 meters. In the dome, the accuracy of weapon systems and individual components – from tanks to missiles – is tested in realistic 3D simulations of battlefield scenarios in the optical as well as in the infrared spectral range.

The large projection inside is 40 meters in diameter, having a screen surface of 2200 sqm. The projection surface consists of 90,000 thin octagonal stainless steel plates and demands a great deal of the projection system design, but also of the calibration.

During the project, the entire infrared projection system of the target simulation dome was renewed. Our services included planning, delivery, installation and commissioning of the projection system including calibration with domeprojection.com ProjectionTools within less than 2 months conversion time.

Our scope of supply included 41 high-resolution laser projectors, the housings for 3 projectors and associated image generators, which were supplied by our client e.sigma Systems, as well as the customised system for automatic calibration of the projection system.



Leading Provider of Next Generation Visual Display Systems



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### The WTD 81 of the Bundeswehr in Greding, Bavaria

The Bundeswehr Technical Center for Information Technology and Electronics (WTD 81) is part of the BAAINBw. It is located in Greding (Bavaria) and was founded in the early sixties.

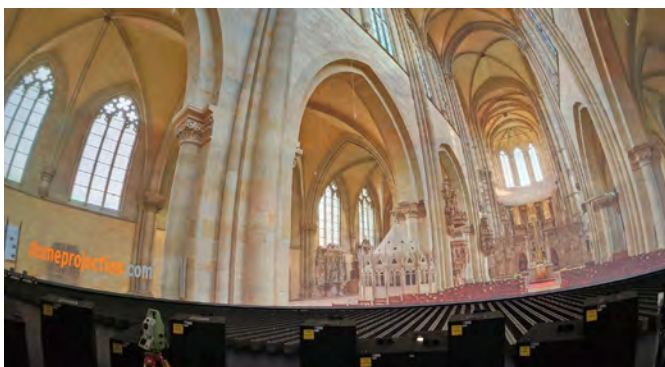
The target simulation dome (ZSD) of WTD 81 with an outside diameter of approximately 46 meters is one of the world's largest self-supporting dome structures in prefabricated construction.

The ZSD provides an environment for Hardware in the Loop (HIL) simulations of optical and optronic components and systems. The device serves the realistic simulation of battlefield scenarios in the optical and infrared spectral range. It is used to assess the performance of modern weapon systems and components for combating ground, air and sea targets. A further task area is the investigation of guided missiles, in particular their homing heads. The projection screen of the ZSD has special reflection characteristics that make it possible to reflect both static and moving signatures of targets with almost 100% in the entire spectral range.

In addition, investigations are carried out into the interferentiality of weapon systems and missiles in order to be able to make assessments about the effectiveness of interfering measures of electronic warfare.

### Videolink with OLD (!) visual:

<https://youtu.be/Ut8BQX1fnKc>



### 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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