



High Fidelity Aerial Refueling Training and Simulation



QuantaDyn Corporation has been active in state-of-the-art aerial refueling trainer development since its inception. QuantaDyn delivered the initial two Boom Operator Weapon System Trainers (BOWST), to the Air Education Training Command (AETC), the Boom Operator Simulation System (BOSS) prototype to the Air National Guard (ANG), and 28 Micro BOSS devices to the ANG and the Air Force Reserves. These devices provide enhanced training to meet boom operator's needs and streamline training schedules without jeopardizing safety of flight.

QuantaDyn has pioneered Aerial Refueling over Distributed Mission Operations (DMO) and was successful in networking the KC-10 BOT and the KC-10 WST at Travis AFB to achieve the first virtual contact with fuel transfer over DMO between two high fidelity, in-service training simulators. QuantaDyn has continued their AR over DMO efforts by developing the AR DMO test bed system for the ANG BOSS production devices and will be providing expertise to Northrop Grumman for the refinement of the MAF DMO AR standards under direction of the ANG.

QuantaDyn has completed a contract to develop an air refueling curriculum and Allied Tactical Publication 56 (ATP-56) compliant Boom Operator training courseware for initial qualification training of Boom Operators. QuantaDyn used the curriculum and

courseware, along with a suite of QuantaDyn developed Aerial Refueling Trainer (ART) devices to successfully conduct high quality boom operator training for a cadre of foreign students.

QuantaDyn provided AR subject matter expertise during development, validation, and certification testing of the boom refueling system on the Airbus Multi Role Tanker Transport (MRTT). The QuantaDyn boom SME conducted nearly 100 hours of flight testing in the aircraft to become one of the few flight test boom operators in the world to be qualified on the KC-135, the KC-10, and the MRTT (a.k.a. KC-30) tanker boom systems.

Our corporate expertise includes the following AR training areas:

- Extensive knowledge of ATP 56 Air Refueling procedures.
- Initial qualification and continuation training requirements for KC-135 boom operators IAW USAF directives (AFI 11-2KC-135 Vol. 1, AFI 11-202 Vol. 1).
- ARASQ certification requirements for tanker & receiver trainers
- Distributed Mission Operations (DMO) allowing world-wide virtual refueling training



PROVEN

RELIABLE

INTEROPERABLE

SCALABLE

MODULAR

About QuantaDyn Corporation

QuantaDyn supplies simulation and training systems to the U.S. military and coalition partners around the world. Our goal is to provide modern, innovative answers to training needs, while taking full advantage of commercial-off-the-shelf (COTS) technology. Our experience includes virtually all phases of training device development for Joint Fires as well as both fixed and rotary wing aircraft for use on military and commercial programs.



QuantaDyn Corporation

is a privately held small business that specializes in modeling and simulation. The company was founded to advance the state-of-the-art in training systems by employing strong fundamental design concepts and innovative engineering coupled with the latest in computing platform technology. As a result, we deliver high fidelity, robust, open architecture non-proprietary hardware and software solutions for our customers.

Our areas of expertise include:

- **System Upgrades, Rehosts and Conversions** - Our solutions involve open architecture, non-proprietary hardware and software, allowing customers to take full advantage of any future technological advances.
- **Aerodynamic Modeling and Validation** - We have extensive experience in fixed and rotary wing flight dynamic modeling, with customers in the military and commercial fields. We have experience working with FAA Level C and D certification. Our validation experience has allowed us to develop a Universal Automatic Fidelity Test System (UAFT) product that provides a single solution for flight dynamic model development and validation.
- **Cueing System Development and Integration** - We have been the prime integrators for various visual system integrations, control loading systems, aural systems, and motion systems.
- **IOS Development** - Our extensive corporate experience has covered IOS design and integration of graphical displays, maps, and cockpit repeaters. We have also developed debrief systems for a number of applications.
- **Avionics Simulation/Stimulation/Emulation** - QuantaDyn has integrated a wide variety of military and commercial avionics into real time simulation models including Mission Computers, Display Electronics Units, Multi Function Displays, Ground Proximity Warning Systems, and Traffic Collision and Avoidance Systems.
- **Simulator Networking** - We are fluent in HLA, DIS and DMO. Currently we are involved in developing the networking standards necessary for aerial refueling training.
- **Hardware Design, Specification, and Analysis** - We have considerable experience in selecting and developing computer, electronic, and mechanical hardware designs and systems for training use.



Our corporate expertise covers all aspects of training and simulation. Please contact us to discuss your current needs.