

Maintenance training solutions

The simulation advantage



CAE has developed innovative solutions, integrating state-of-the-art virtual environments for the full spectrum of maintenance training and operations lifecycle. We provide widely accessible, highly operational low cost solutions that are based on leveraging our high-fidelity simulation. Our instructional strategy is based on integrating this level D simulation within a wide spectrum of blended training solutions early in a technician's training lifecycle. This provides flexibility and access to operations with less dependency on aircraft and high-end training devices.

CAE's simulation-based maintenance solutions lead to:

- Improved aircraft turn-around times related to faults.
- Reduced operational costs related to no-fault-founds.
- Reduced operational costs related to out of service hours.
- Reduced operational costs related to improved accuracy of ETRs (estimated time of return).
- Reduced repeat write-up rates.
- Reduced training costs due to improved employee engagement.

CAE can provide full turnkey solutions for your training establishment, including delivery by one of our numerous instructors, in one of our 24 locations around the world or at your facility. We can also provide subsets of these solutions to meet your specific needs.

Products overview

Our solutions cover multiple types of training and operational needs from the full spectrum of a technician's career progression, such as:

- Ab-initio training
- Gap training
- Aircraft type specific training
- Speciality courses training
- Continuous / refresher training
- Operational troubleshooting

These solutions can be provided through various delivery methods. They include instructor-led, self-paced "CBT" or self-paced practice and troubleshooting. CAE provides all the building blocks necessary to meet the needs of regulatory authorities as they relate to your maintenance training and operations, such as simulation, courseware, documentation, delivery infrastructure and course management applications. We have over 50 courseware/curriculum developers including ISD, multimedia and technical experts.

Synthetic training components

CAE provides a virtual maintenance trainer (VMT) that allows access to all aircraft panels and controls from the cockpit environment. It also allows access to cockpit initiated BITE, virtual test equipment, active schematics, LRUs, and a suite of malfunctions and component locations. This aircraft simulation presents the student with a full spectrum of systems, procedures and troubleshooting training opportunities.

The virtual system trainer (VST) is a VMT with a tree-based course structure providing easy management and integration of multiple training media. This media may include PowerPoint presentations, manuals, photos and videos. Customer specific learning materials can easily be added and integrated within this simulation environment. The VST can be used locally or on the web in a classroom setting or a standalone student setting in a single or multi-screen environment. The same material is available in the classroom and can be reviewed by the student after class.



Synthetic training components

Animated schematics, that is schematics that react to manipulation of virtual cockpit controls, are provided as part of the simulation or sometimes as standalone components.

We also include 3D virtual environments, which enable the instructor to address aircraft components from any angle, perform virtual maintenance procedures such as removal and installation, show the interaction of internal components in context, and provide construction details with multiple angle cutaway capabilities.



Training delivery methods

Instructor-led solutions: Using the VST, we integrate full-fidelity simulation into instructor-led curriculum to allow the instructor to cover aspects of aircraft systems operation interactively with active schematics. The VST provides a streamlined lesson structure for easier management of instructor-led lessons. This same structure also provides an easy method to build and track lessons for quality assurance and authority certification purposes. Instructor-led lessons also utilize 3D models to prepare students for advanced hard trainers or the actual aircraft. Dependent on your needs, CAE can provide instructor services.



Self-paced courseware: CAE's simulation-based courseware revolutionizes traditional CBT in that it exposes trainees to real-world aircraft interaction. Not only do we provide system knowledge, we also incorporate practical and skills-based learning to take the trainee beyond the schoolhouse. This courseware is deployed through the web, in the school room, and to remote bases, allowing a large body of technicians to learn at their own pace. CAE's courseware can be launched through our LMS or any other SCORM compliant LMS allowing for detailed tracking and reporting of student activities.



Practice/troubleshooting tools: Using our synthetic environments in scenario-based exercises, CAE exposes technicians to realistic aircraft faults in a semi-structured environment such that they can rapidly gain the knowledge required to become subject matter experts in aircraft systems. These tools can be made available through all stages of a technician's lifecycle, providing the structure necessary to keep students on track, without curtailing exploratory learning. Troubleshooting practice tools reinforce the fundamentals of fault finding logic required for those malfunctions that are not easily detected with today's advanced built-in test equipment. Virtual 3D components and systems allow procedure familiarization in both a training and operational environment.



Services

CAE has courseware development specialists with extensive subject matter expertise in instructional design, multimedia design, simulation-based training methodology, aviation training and web technology. We can offer you this expertise for:

Curriculum design - analyze your curriculum, content and delivery methods to derive the optimal solution to efficiently meet your web (and non-web) requirements.

Courseware development - develop new courses to address your needs or integrate simulation with your existing materials or web enable your existing courseware. Training can be customized to comply with company technical manuals.

Learning management system (LMS) - lessons can be launched via an LMS allowing trainers to supervise and track learner success in real time. We also provide LMS support, services and consulting for your deployed training needs.

Hosting and web support - provide the infrastructure to host and maintain your web lessons and the resources to ensure servers are up and running when needed. Self-paced modules can be available locally on PCs or delivered on the web.



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