



Training Systems Integrator



Training-Centric, Comprehensive, Proven

Increased operational tempos combined with limited personnel and budget pressures have prompted defence and security forces around the world to seek reliable partners who can help develop, manage and deliver the training systems required to support today's complex platforms and operations. It has never been more important for defence forces to seriously consider a more integrated and "holistic" approach to training.

To help manage the complexities and challenges, many training programs are calling for an industry partner to help design and manage the total training enterprise. CAE refers to this approach as a training systems integrator (TSI). Although different countries may use different terms, and the duties and responsibilities of the industry lead may be slightly different, the overall intent is to maximize commonality for increased efficiencies, cost savings, and most importantly, enhanced capability for mission preparedness. A training systems integrator will address the overall live-virtual-constructive (LVC) domain to deliver comprehensive training – from undergraduate individual training all the way through to operational, multi-service and joint mission training.





As an independent training systems integrator for the air, land, sea and public safety domains, CAE has proven experience and an exemplary track record of planning, delivering and operating comprehensive training systems and training centres. The company has an unparalleled global footprint, a heritage of training technology innovation, and all the requisite skills of a training systems integrator – all from the perspective of an “honest broker” who is independent from the platform for which training is required.

CAE's experience and capabilities as a training systems integrator include:

- ✓ training needs analysis;
- ✓ media evaluation and optimization;
- ✓ knowledge and skills transfer;
- ✓ instructional systems design;
- ✓ courseware;
- ✓ training devices;
- ✓ classroom, simulator, and live instruction;
- ✓ learning management information systems;
- ✓ facilities;
- ✓ maintenance support services;
- ✓ logistics support;
- ✓ configuration management;
- ✓ technology insertion; and
- ✓ financing.

Sophisticated simulators are often the high-profile centerpiece of a training system, but they are only one part of a seamless solution for delivering a fully trained and operationally-ready soldier, sailor, aircrew, or public safety professional. Producing a world-class training system requires a comprehensive understanding of every facet of training ... and the expertise to integrate all those components to work together flawlessly.

CAE is your training systems integration partner throughout the training lifecycle, beginning with requirements definition and an analysis of alternatives through to design and delivery of the training solution. Year after year, our comprehensive solution will ensure training with current technologies and a continued return on your investment. When your requirement is maximum training value to produce a prepared and mission ready defence and security force, consider CAE as your training partner of choice.

Training System Innovation

CAE has a long history of engineering excellence, constantly innovating in training device design, visual and sensor systems, common synthetic environments and databases, weapons platform performance fidelity, cross-platform interoperability and networking, distance learning alternatives, and much more. Your integrated training system can benefit from the deep training knowledge base we've built across several decades, as well as breakthrough technologies related to training and simulation that our staff is constantly developing.

Training System Integrity

The training system integrator deals with multiple “make or buy” decisions for the various components of the overall training system. CAE pledges that every decision will be based on the best possible training solution for the customer's requirements, including best-in-class industry and academia partners where appropriate.

Training System Independence

Original equipment manufacturers (OEMs) are naturally focused on the weapons platform they are developing. Training is only one element of myriad program details ... and certainly not always the OEM's primary concern. CAE is platform-agnostic. Our core business and total focus is training. Our key objective is to deliver the most effective training enterprise to meet your operational needs.

The Benefits of an Independent Training Systems Integrator Partner

In many countries, platform-based acquisition of training systems has created stovepipes, which in turn leads to much higher costs and significant waste. At the same time, the lack of interoperable training systems impact negatively on preparedness and readiness. These stovepipes lead to a divergent training enterprise and no consistency in the training infrastructure. An ideal partner is one held to a standard of performance-based accountability. With CAE as an independent training systems integrator, defence and security forces can capitalize on a range of benefits.

Lower Cost

Your training enterprise will benefit from CAE's expertise, experience and efficiencies gained from being one of the world's largest companies focused on training and simulation. We will optimize the entire training enterprise without relegating the training system to a subordinate element of the weapons platform support package.

One Contract

CAE manages the entire industry team and has access to a global network of suppliers and partners. This means there is no need for you to devote extra resources to manage multiple contracts or subcontractors. As training objectives evolve, as a partner we evolve with you, and have a broad range of skills and experience to align the industry team effort.

Financing Flexibility

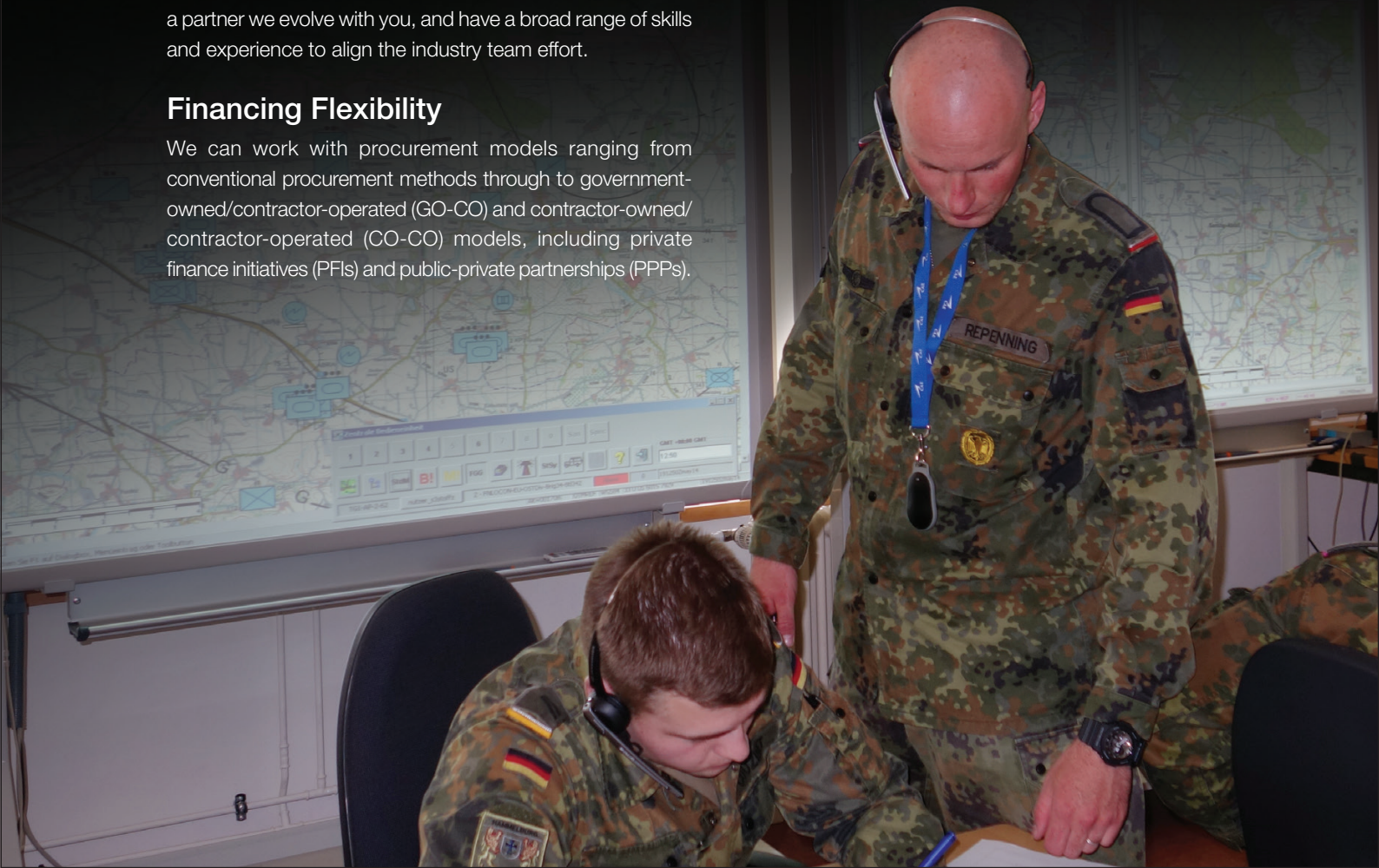
We can work with procurement models ranging from conventional procurement methods through to government-owned/contractor-operated (GO-CO) and contractor-owned/contractor-operated (CO-CO) models, including private finance initiatives (PFIs) and public-private partnerships (PPPs).

Free Up Military Personnel

Since we manage training tasks, your highly trained, combat-ready personnel are available for operational assignments instead of temporary training duty.

Mitigate Risk

Our involvement with your training requirement is ongoing, so we become a risk-sharing partner. Our success is vested in the effectiveness of your training program to produce prepared and mission ready personnel.





Continuity

Instead of military personnel who move in and out of the training system, our personnel accumulate a “corporate memory” and provide standardization and continuity to the program management and instruction cadre, from ab-initio training all the way through operational training.

Access a Wealth of Expertise

Your training system will leverage almost 70 years of specialization in training processes and learning methodologies to deliver the skill sets required.

Commonality and Scalability

Maximizing commonality across the training enterprise in areas such as training management information systems, synthetic environment databases, and courseware delivers a range of benefits. It also helps make your overall training system more scalable for the inevitable changes and evolving requirements that will arise over the long life of the training system.

Training is CAE’s Core Competency

Ideally, training systems integration begins at the design stage. But CAE understands that most militaries have existing infrastructure and investments, so we can adapt and integrate existing systems with new technology and capability.

CAE uses a holistic approach, working with you to define a comprehensive training program that addresses your operational needs and doctrine. Then we create the overall training solution, including training devices and other tools, in a collaborative effort that ensures integration at every phase, from concept to delivery to ongoing operation and support.

Training systems integration ensures there are no gaps in training needs, and no disconnects between platforms. The result is a truly seamless, cohesive, and optimized turnkey training program delivering on the mission readiness of the entire team, including operational crews, combat systems operators and maintenance technicians.

Whether your training system is intended for individuals, crews, squadrons, joint services, or coalitions, CAE has the technology expertise and integration experience to produce and manage a world-class turnkey training solution.



Unmatched Training System Experience



The knowledge, skills and processes required of an expert training systems integrator applies across domains such as air, land, sea and public safety. Our training systems integrator portfolio includes experience designing leading-edge training solutions across domains, including armoured vehicles and tanks for land forces; the full spectrum of platforms for air forces; integrated command and control naval warfare training systems; and comprehensive simulation-based training programs for public safety and emergency management.

Canada's Operational Training Systems Provider (OTSP)

In Canada, CAE has overall responsibility for designing, developing, and executing the turnkey training required for Canada's fleets of CC-130J and CH-147 aircraft. By working closely with CAE as the training systems integrator, Canada has consolidated resources, alleviated duplication of effort, and is now leveraging a world-class aircrew training capability that relies heavily on virtual training in support of the Royal Canadian Air Force's Simulation Strategy 2025. This has enabled Canada's Department of National Defence (DND) to make a more efficient use of funding while reducing risks and saving money over the life of the 20-year program. In addition, the OTSP program allows Canada to develop training systems and processes that are flexible and can be integrated with existing and future aircrew and maintenance training programs. In fact, Canada has begun to upgrade their legacy training systems to a common synthetic environment that will support a more networked, interoperable virtual training environment.

CAE Brunei Multi-Purpose Training Centre (MPTC)

The CAE Brunei MPTC is a joint venture of CAE and the Government of Brunei that was established in 2012 and officially began training in 2014. The CAE Brunei MPTC is focused on being a world-class training systems integrator while partnering with other best-in-class organizations to deliver a range of turnkey training solutions for aviation, defence, emergency/crisis management, healthcare and other market segments. The full scope and scale of CAE's training systems integration expertise and experience can be seen in the CAE Brunei MPTC, ranging from the innovative financing and partnering agreement with the Government of Brunei all the way through the comprehensive, integrated training programs offered at the facility. For example, the CAE Brunei MPTC's Emergency Management Centre of Excellence will be supporting the Brunei Ministry of Home Affairs and Brunei National Disaster Management Centre (NDMC), as well as other Association of Southeast Asia Nations (ASEAN), in training and preparing for various forms of local and regional emergencies and disasters. The CAE Brunei MPTC is developing a comprehensive emergency management training program that includes structured emergency management training as well as virtual emergency threat and response scenarios at the national and regional levels.

MSHATF – The Model of Success

CAE's Medium Support Helicopter Aircrew Training Facility (MSHATF) is regarded as the model of success for private finance initiative (PFI) military training delivery. Now in operation for more than 15 years, the MSHATF encompasses design, construction, financing, management, and operation of a purpose-built training centre at Royal Air Force Base Benson in Oxfordshire, England. Aircrews from the RAF, the Canadian Forces, the Royal Netherlands Air Force, as well as crews from the Middle East and Asia, are provided comprehensive and flexible turnkey pilot, navigator and crew member training for the AW101 Merlin, Boeing CH-47 Chinook, and Airbus Helicopters Puma. The facility comprises a state-of-the-art computer-based ground school, six dynamic mission simulators, a tactical control centre where virtually any type of mission can be staged (including collective multi-aircraft, multi-force exercises set in different parts of the world), a training management information system, and a team of highly experienced ex-military instructors. The MSHATF has played a key role in pre-deployment training for a number of military aircrews supporting allied operations over the past decade.



A Full Range of Training Services

There are numerous examples where CAE plays a lead or key role in developing and delivering comprehensive training services for defence and security customers around the world.

- ✓ CAE has developed a comprehensive, simulation-based Naval Warfare Training System for the Swedish Navy that includes simulation software, hardware, wargaming consoles, and instructor operator stations that will be used to train and educate Swedish Navy sailors and officers in naval tactics, procedures and doctrine.
- ✓ The NH90 helicopter program is Europe's largest-ever helicopter program. Germany, the single biggest customer for the NH90, has contracted the NH90 training to Helicopter Flight Training Services (HFTS) GmbH, a partnership among CAE, Airbus Helicopters, Rheinmetall Defence Electronics, and Thales.
- ✓ The Rotorsim consortium, owned equally by CAE and AgustaWestland, delivers comprehensive synthetic training for the full range of AgustaWestland helicopters, including the AW109, AW139, AW169, AW189 and naval variant of the NH90.
- ✓ CAE owns and operates a comprehensive training center in Tampa, Florida, USA for C-130H pilots, flight engineers, loadmasters, and maintenance technicians. Customers include the US Air Force Reserves, US Air National Guard, US Coast Guard, US Navy Reserves and more than 20 international militaries.
- ✓ CAE Australia provides comprehensive training to Royal Australian Air Force (RAAF) C-130J aircrews at RAAF Base Richmond. The training includes classroom and simulator instruction, as well as live (airborne) training. By taking over responsibility for live training, CAE helped the Australian Defence Force achieve an objective to enable uniformed personnel to support the ever-increasing operational tempo being faced by all coalition forces. CAE has also supported the RAAF's participation in Coalition Virtual Flag, one of the world's largest live and virtual air combat exercises.
- ✓ CAE operates the world's largest pilot training network with more than 65 training centre locations where more than 120,000 crewmembers train annually. CAE's aircraft type-specific training courses include initial, recurrent, refresher, upgrade, transition, supplemental and advanced courses for pilots in all segments of civil aviation.

Conclusion

Defence and security forces the world over are facing new demands and threats, while many at the same time are addressing budget challenges. There are defence training programs in the formative stages around the world and the common thread is most are looking for an industry partner to help serve as the training systems integrator. With all the requisite capabilities, CAE is the ideal training systems integration company, leading the way in partnering to provide innovative, interoperable, highly immersive and cost-effective turnkey training solutions.



Training Systems Integrator

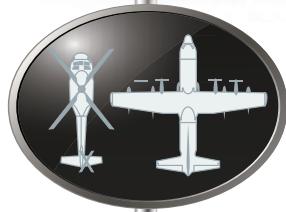


Training Centre

AIR

- Instructional systems design
- Classroom and simulator instruction
- Live flying training and instruction
- Maintenance and logistics support
- Operations
- Distributed training
- Lifecycle support and technology insertion
- Financing

Services



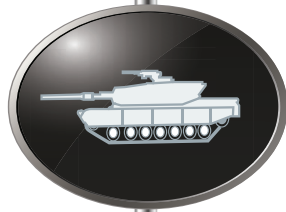
Products

- Courseware
- Learning management information systems
- Desktop and part-task trainers
- Flight training devices
- Full-mission simulators

LAND

- Instructional systems design
- Classroom and simulator instruction
- Maintenance and logistics support
- Operations
- Distributed training
- Lifecycle support and technology insertion
- Financing

Services



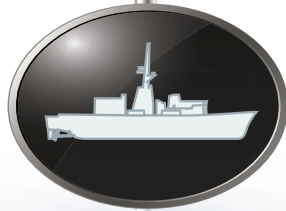
Products

- Courseware
- Learning management information systems
- Desktop and part-task trainers
- Combat skills training devices
- Constructive simulation for command and staff training

SEA

- Instructional systems design
- Classroom and simulator instruction
- Maintenance and logistics support
- Operations
- Distributed training
- Lifecycle support and technology insertion
- Financing

Services



Products

- Courseware
- Learning management information systems
- Tactical and operational trainers
- Naval tactics and wargaming systems

Integrated, Interoperable, Immersive
Leveraging a Common Environment and Infrastructure

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