

**COMPREHENSIVE
TRAINING SOLUTIONS**



CAPABILITY STATEMENT

**WHEN LIVES
ARE ON THE LINE**

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INTRODUCTION



Comprehensive training solutions when lives are on the line

Advanced Interactive Solutions Ltd specialises in the design, construction, fit-out, operation and maintenance of advanced training facilities and firing ranges for Military, Police and Special Forces.

AIS has the experience and skills to manage all stages of project development; starting with training needs analysis, scheme and detailed design of architectural and structural elements and building services, and the selection of training equipment and simulators; construction, installation and commissioning of the specialist fit-out and range systems; end-user training, and the long term maintenance of equipment and specialist systems.

Working directly for governments or through formally approved contractors and consultants, each skill may be offered independently or linked to provide a comprehensive turnkey operation.

With an unrivalled portfolio of firearms training facilities completed all around the world, coupled with our intimate knowledge of construction in Asia, enables us to offer the highest standards of specialist service.

AIS has previously undertaken consultancy, design and the specialist fit-out of many shooting ranges and Close Quarters Battle (CQB) buildings in the United Kingdom, the Middle East and Southeast Asia.

CQB ranges have been built for, amongst many others, the UK Ministry of Defence and the Hong Kong Police.

AIS provides a comprehensive and professional service to ensure that you receive a training facility of the very highest quality.

Extensive in-house experience in range design, bullet traps and ballistic protection, simulation technology, targetry equipment, and safety and monitoring systems means that all your requirements can be dealt with by one company.

We strive to provide safe, innovative training facilities that meet all recognised international and local standards.



Advanced Interactive Solutions Ltd is a wholly-owned subsidiary of Advanced Interactive Systems, Inc. of the USA. As a member of the AIS International Division, the UK office is responsible for operational delivery and business development within the UK and Europe.



Company history

The Nitor Group was created in 1982 as a UK-based company comprising multi-disciplined consulting engineers and military experts specialising in the design of shooting ranges and parachute training systems. Consultancy services included the full study of threat analysis to determine training requirements, schematic and outline proposals, multi-disciplined design work and detailed equipment specifications.

In the mid 1980's the Nitor Group expanded to undertake the role of Prime Contractor for specialised training facilities involving complex turnkey requirements. One of Nitor's prime skills is finding bespoke solutions to complex problems.

As a result of an increasing workload in Southeast Asia and the Middle East, subsidiary companies were formed in Singapore and the United Arab Emirates.

At the end of the 1990's the Nitor Group was purchased by Advanced Interactive Systems, Inc.

Advanced Interactive Systems (AIS) is a high-tech firearms simulator company based in Seattle, WA. The AIS group includes Shooting Ranges International, a leading modular range manufacturer. AIS, in turn, is owned by one of the most respected investment groupings in the US, with wide ranging interests including Colt Defense LLC.

Advanced Interactive Solutions Ltd is a subsidiary of AIS, operating in the UK as the headquarters for the UK, Europe and Middle East regions.

The AIS group of companies brings together an unprecedented portfolio of leading-edge training systems and services for military, law enforcement and security customers. This has been recognised by the United States military with the award of an Indefinite Delivery/Indefinite Quantity (ID/IQ) contract to AIS for the Simulation, Training and Instrumentation Omnibus Contract (STOC II) through PEOSTRI.

Our aim is to provide the latest technology and services to meet virtually any professional or commercial training requirement on a global basis, and offer customers a clear choice for a one-stop service to meet their training, simulation and security needs.



Organisation

Advanced Interactive Solutions Ltd is a wholly-owned subsidiary of Advanced Interactive Systems, Inc. based in Seattle, WA. Advanced Interactive Systems also maintains offices in the United Arab Emirates and Singapore.

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CORE CAPABILITIES



Indoor shooting ranges

AIS has a proven track record as range design consultant and contractor for a variety of indoor shooting ranges, including 100m tactical drive-in ranges for Military and Police units.

Our team of range designers, architects, project managers and engineers work closely with end users to analyse their training needs. This analysis is used to develop the final design and deliver a safe, effective training facility.

Our designs incorporate the most advanced range equipment available in the market today. From bullet traps and bullet protection systems to safety and monitoring equipment, air-handling plant, access control systems, force-tracking, targetry and simulation equipment, we specialise in integrating these technologies to give you a safe range environment that leverages on the latest technological advances to maximise the training experience.



We can provide

- Bullet traps
- Acoustic materials
- Anti-ricochet floors, walls and ceilings
- Ventilation systems to remove lead-in-air
- Lighting systems to simulate day, dusk and moonlight
- Specialist distraction lighting
- Bulletproof doors and windows
- Video monitoring
- Access control systems
- PA and intercom
- Electronic targetry and video simulation systems

Outdoor shooting ranges

AIS has extensive experience in Range Danger Area (RDA) templating, design, construction and fit-out of all kinds of outdoor ranges, from regular 25m Barrack ranges to 600m gallery ranges, through to large-scale Military Operations in Urban Terrain (MOUT) and Urban Operations ranges, as well as other specialist outdoor ranges. All designs are undertaken in accordance with JSP403.

All elements of the design—bullet catchers, ballistic protection, targetry equipment, and the safety and monitoring systems—are considered to ensure safe range operation. We specialise in integrating the latest technologies into our range designs to give you a safe, effective range environment that maximises the training experience without compromising on safety.



We can design and build

- Conventional gallery and open ranges for pistols and rifles
- Baffled ranges
- Tank ranges
- Bullet catchers
- Electronic targetry
- Automatic marking systems
- Shooter's monitors
- Video monitoring
- PA and communications systems
- Lightning protection
- Perimeter safety systems
- Control and support buildings

Close Quarters Battle Houses

AIS has been at the forefront of Close Quarters Battle (CQB) house design and fit-out for over 30 years, having delivered a number of the world's most sophisticated live-fire training facilities to various Special Forces.

AIS has designed and constructed a wide range of CQB facilities, incorporating land, aviation and maritime-based training functions tailor made to meet end users specific needs and to accommodate the latest tactics and weapon systems.

Our CQB's range from simple open-top shoot houses all the way through to fully ventilated tactical assault houses, incorporating the latest safety and monitoring systems, firearms simulators, targetry, force-tracking systems and AAR suites.

- Close Quarters Battle (CQB) houses
- Full-size training mock-ups (aircraft, ships, oil rigs, etc.)
- Mechanical and/or Explosive Method of Entry (MOE) buildings
- Aviation, maritime and littoral options
- Re-locatable partition systems
- Safety and video monitoring systems
- Bulletproof doors and windows
- Force-tracking systems with full After Action Review capabilities
- Fully ventilated and/or air-conditioned
- Ballistically rated to 5.56mm ammunition
- Tactical assault options (Quickrange)



AIS has the skills and experience to design effective training solutions to meet the evolving demands of today's security professionals in a flexible and safe manner.



Specialist Training Facilities

AIS has the capability to design, fabricate, deliver and install bespoke facilities together with simulation and training solutions.

We have designed and constructed a wide range of specialist facilities including full-size vehicle and aircraft mock-ups, urban ranges with house and building façades, driver training areas, Close Quarters Battle houses, Method of Entry buildings, sniper towers, parachute trainers and counter terrorist training camps.

AIS has the skills and experience to design effective solutions to meet your training requirements.

- Close Quarters Battle (CQB) houses
- Method of Entry (MOE) buildings
- Maritime counter-terrorist facilities
- Urban ranges and training villages
- Partition ranges
- Live-fire full size mock-ups (aircraft, ships, oil rigs, etc.)
- Sniper and commando towers
- Trainasiums and battle skills fitness training solutions
- Live-fire drive-in ranges and driver training circuits
- Modular live-fire shooting ranges (QuickRange)



Aircraft Mock-ups

AIS has designed, fabricated and delivered a range of bespoke aircraft mock-ups to many customers around the world. Client requirements have varied from part-task trainers to full-scale aircraft with internal ballistic fit-out to incorporate live-fire shooting.

Our aircraft mock-ups feature realistic passenger and cargo doors to give assault teams a training environment where they can practice door-opening techniques and entry drills.

Anti-ricochet seats and bullet protection systems provide a safe environment for trainees to shoot, whilst preventing rounds from leaving the aircraft.

Custom-made ventilation systems—with HEPA filtration systems—remove lead-in-air from the cabin.

Each project is tailored to the end user's specific needs. We start with a training needs analysis to establish the requirements for the aircraft mock-up. This is followed by a systematic design process leading to the development of a full bespoke solution.

We have delivered mock-ups of Boeing 747, 777 and Airbus A340 aircraft. Other aircraft mock-ups are available.

AIS offers a full turnkey design and build service that delivers a complete training solution to your site.

Aircraft mock-up features

- Full-scale or part-task fuselage
- Reclaimed interior or mock-up seating, lockers and interior doors
- Realistic passenger and cargo doors
- Bullet protection systems and anti-ricochet finishes
- Air-conditioning and mechanical ventilation
- Safety and monitoring systems
- Live or laser-fire judgemental training simulators for aircraft security personnel



Firearms Training Simulators

PRISim Suite

The AIS PRISim Suite® marksmanship and judgemental training simulators use high-definition video and computer generated images to create realistic training theatres for all aspects of firearms handling. Simulators are available for live firing, or for laser fire using modified or facsimile weapons fitted with AIS laser inserts.

Marksmanship Trainer

The advanced features built into PRISim Suite make it a viable tool for sniper training. With accurate external ballistics modelling, simulated wind, and the ability to combine high-definition video with animated computer graphics, PRISim Suite can generate highly realistic scenarios for the most demanding training applications.

Judgement Trainer

The PRISim Suite judgemental trainers provide interactive, branching video scenarios that require trainees to make decisions during potentially life-threatening situations. The simulator can capture video of the trainee and the instructor can play back the recording, giving the trainee immediate feedback on their performance.



Portable and fixed systems

PRISim Suite is available in several configurations: a highly portable laptop trainer; a classroom-based desktop simulator; a live-fire training system for an indoor range; and it can be fitted inside a live-fire modular QuickRange® container.

Recoil kits

We can supply recoil kits to convert the most popular handguns and rifles into simulator weapons using CO2 gas to create recoil. We also offer a bespoke service to convert existing small arms weapons into simulator weapons.

ShootBack

Cover and concealment techniques can be learnt and practised with the patented ShootBack® system. The ShootBack cannon fires nylon projectiles at the trainee. The firing of the cannon can be synchronised with the hostile actions of the video actors on the screen.

English not your first language?

We can tailor PRISim Suite to run in your own language. We can also provide pre-recorded video scenarios dubbed into other languages.



QuickRange®

QuickRange® is a complete full service prefabricated live-fire shooting range that can be delivered to your location ready to use.

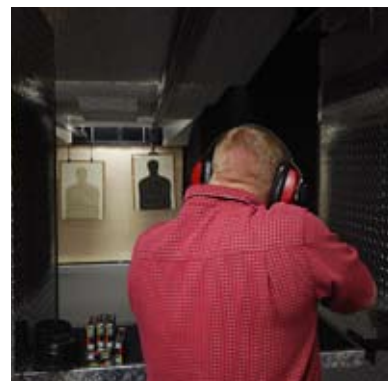
QuickRange eliminates the time needed to design and construct a traditional shooting range. It is the ideal solution for military, law enforcement and security agencies that do not have their own purpose-built facilities for live-fire training. Each QuickRange is a self-contained two-lane shooting range in a bulletproof container, complete with shooting stalls, bullet traps, lighting and HVAC system.

QuickRange is available in lengths from 12 to 50 metres or more, and is customisable for style and convenience. Modules can be linked together to provide a complete range with multiple lanes.

QuickRange is handcrafted to the highest specifications and delivered fully assembled. With its customisable size, you can put it almost anywhere. Every QuickRange meets OSHA, NIOSH and EPA regulations for safety, noise reduction and air-quality, through the use of anechoic foam and HVAC systems fitted with HEPA filters.

QuickRange can be supplied with a two-lane target retrieval system. The motor for the retrieval system is controlled from the shooting stall, allowing each shooter to set the target distance independently. The entire system is designed and fabricated to ensure durable and continuous operation.

QuickRange can also be fitted with the PRISim Suite® live-fire judgement training simulator. PRISim Suite gives trainees feedback to learn and confirm correct behaviours and to grow more confident in their ability to make decisions under extreme pressure.



Professional Services

Design & Project Management

The design of each range or training complex begins with a training needs analysis to understand the client's training requirements. This leads to the development of schematic and outline proposals.

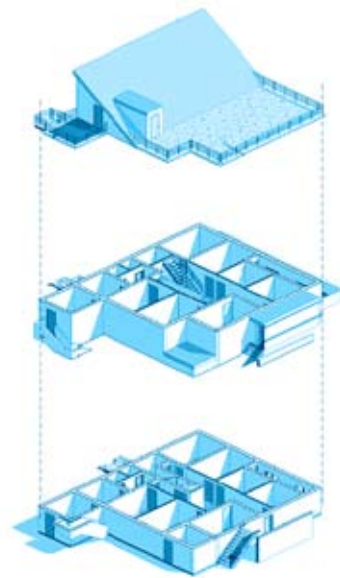
Once the initial design is approved, we develop full and detailed construction drawings and provide equipment specifications to match training needs.

With a detailed design complete, the project can move to the tendering phase. Our project management team can generate tender documentation, provide contract supervision and assist with the assessment of potential suppliers and contractors.

Construction & Fit-out

Our team of professional project managers and subject matter experts bring a wealth of experience and knowledge to manage the construction and fit-out of each range or training complex.

Having completed a large number of ranges in many countries around the globe, we have the experience to manage projects of all sizes; from range refurbishments and upgrading to the construction of major Police and Military training camps. Our project managers can supervise construction of the building infrastructure works and co-ordinate the installation of lighting, electrical, ventilation and bullet protection systems.



Specialist Fit-out

AIS puts range safety above all other considerations when it comes to the design and fit-out of our shooting ranges.

We follow international standards, including the UK MoD Joint Services Publication 403 guidelines, for the design and construction of our ballistic protection systems.

Selecting the right kind of bullet trap is dependent on the type of range involved, the ammunition to be fired and the anticipated range usage. AIS has the experience and knowledge to be able to match the right bullet trap to your training requirements and still meet your budget.

The careful selection of ballistic materials, combined with extensive testing using the same or similar rounds under controlled conditions, ensures that the risk of backslash and ricochets is minimised. All of our protection systems undergo thorough testing to ensure they are safe for use.

For indoor shooting ranges, the management of lead-in-air is crucial to the health and safety of all range users—especially firearms instructors—as well as protecting the environment.

Our subject matter experts can provide complete M&E designs to ensure that a constant flow of air through the live firing areas reduces the chances of lead dust building up on the range floor.

Using HEPA filters within extract plant means 99.95% of all contaminants are trapped in the system and not released to the atmosphere. Integrated warning systems provide feedback to range staff in the event of plant failure.

Noise pollution is another area that can have a great impact on range users. We combine acoustic materials with innovative design to prevent the transmission of high-impact noise from the live firing areas to control rooms and other non-live firing areas within the range building.

Safety and monitoring systems remain key components of any shooting range or live firing facility. AIS can integrate access control systems with bullet-proof doors, to manage and control access to the live firing areas.

In the event of an emergency, integrated e-stop mechanisms release the magnetically locked doors, enabling all personnel to quickly evacuate the range.

Using an internal and external video monitoring system provides an extra layer of safety. Range staff can monitor training activities inside the range, and still be notified of any perimeter security breaches outside the range.

AIS can supply non bullet-proof and bullet-proof partition systems to enable CQB-like tactical training within large indoor ranges. These partition systems can be used to form rooms of varying sizes, with reusable doors and windows to allow trainees to practice tactics and room-entry drills.



Range Maintenance

Maintenance & Support

AIS provides comprehensive range maintenance services for all types of ranges. From small 25-metre ranges to large urban training areas, we have the expertise to operate, deploy and maintain all kinds of target equipment and range systems.

Regular preventative maintenance ensures that equipment runs smoothly and range utilisation is maximised.

Our team of specialist technicians provide technical support, which means a faster response time and therefore less range downtime.

HVAC Systems

The importance of maintaining a good, clean supply of fresh air in indoor ranges cannot be understated. Air-handling systems are specially designed to manage this critical component, and ensure that lead-in-air levels are not allowed to exceed prescribed limits.

With our extensive experience and knowledge AIS knows how to properly maintain these critical systems with regular maintenance, replacing filters, and testing to make sure that systems perform as designed to give you a safe working environment for training.

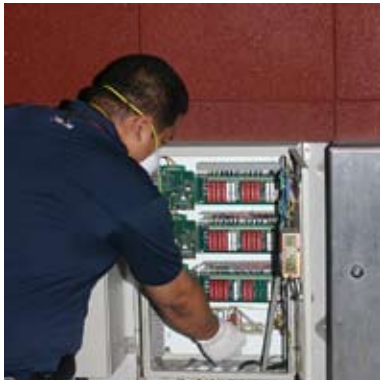
Electronic Targetry Systems

AIS has extensive experience in supporting and maintaining all kinds of electronic targetry.

We have worked with most of the major targetry system suppliers.

We can supply spare parts and perform repairs on most types of targetry systems for infantry, armour and aircraft training ranges.

We can also offer upgrades to legacy targetry equipment to keep these systems operational, even after the OEM has stopped providing support.



PROJECT REFERENCE



Special Forces Tactical Range

AIS was appointed as the specialist range designer and specialist fit-out contractor for a live-fire indoor tactical shooting range for a Special Forces unit in Southeast Asia. The building was completed in 2010.

- Project value: USD 15 million
- Project duration: 24 months

The design included elevated and depressed firing over 100 metres, drive-in capability, 180-degree engagement, specialist mock-ups and re-locatable partition system to create bespoke training scenarios. The tactical range features the latest in electronic targetry and eight live-fire PRISim Suite® training simulators for marksmanship and judgemental firearms training.

Force-tracking technology combined with the video monitoring system allows soldier movements to be tracked in real-time. These can be later reviewed in the dedicated After Action Review suite. The tactical range features both sound and lighting distraction systems to immerse trainees into the battlefield scenario.

AIS completed the architectural, structural and M&E designs. AIS also completed the specialist range design, including the ballistic design, specialist range ventilation system and range safety system. AIS supervised the construction works and then carried out the ballistic fit-out and commissioning of the entire facility. We are currently operating and maintaining the tactical range.



Special Forces CQB

AIS was the appointed specialist contractor for the initial design, fit-out and subsequent upgrading of a Close Quarters Battle (CQB) building for a Special Forces unit in Southeast Asia.

- Project value: USD 6 million
- Project duration: two phases, each of 24 months

The original building was completed in 1992, with work on a second phase of additions and alterations commencing in 1999. This multi-storey CQB building was commissioned in 2000.

The customer required a modern CQB facility to provide indoor training using live-fire weapons. The customer wanted flexibility to deploy portable target mechanisms in corridors and rooms without compromising on safety.

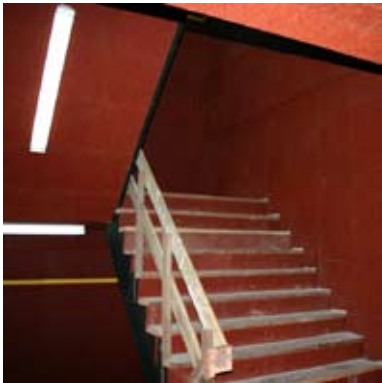
The scope of work for this project included:

- design of all architectural, structural and civil works
- provision of air-conditioning and building services
- bullet protection systems and anti-ricochet finishes
- public address and video monitoring systems
- safety and access-control systems
- electronic targetry equipment
- live-fire aircraft mock-up

Two live-fire PRISim® judgemental training simulators, a shipside mock-up with diving pool, and a ship's bridge were added to the CQB building during the second phase upgrading works.

The judgemental trainers were linked to form a PRISim duelling system for real-time training in hostage rescue techniques and hostage negotiation. A package of locally-filmed video scenarios was developed to enhance the training value of the simulators.

In 2011 AIS continues to provide regular de-leading and range cleaning services for the CQB building.



Special Forces Facility

AIS provided the specialist design and fit-out of a 3-storey CQB building and several small arms outdoor ranges for a military commando organisation in Southeast Asia.

- Project value: USD 7 million
- Project duration: 18 months

The customer required a modern CQB facility to provide all-weather training to its military officers using live and non-live-fire weapons. The design of the facility needed to accommodate firearms training at all levels, from basic marksmanship training to advanced level tactical training and firing at very close quarters. Two state-of-the-art judgemental training systems were required to enhance officers' competency in judgement skills and to practice rules of engagement.

AIS were the appointed specialist contractor for the design and fit-out of the CQB building and the outdoor ranges. The project was completed and commissioned in December 2004. AIS supplied all of the specialist range systems including:

- air-conditioning and mechanical ventilation equipment, small power systems and lighting within the CQB building,
- bullet protection systems and anti-ricochet finishes,
- targetry equipment for the CQB building and the outdoor ranges,
- two PRISim® judgemental training systems.

The camp now provides a modern and state-of-the-art training complex complete with both indoor and outdoor small arms shooting ranges, and a CQB facility with a basement floor area for conducting VIP and Close Protection training.



Training facilities

- 3-storey CQB building for practising Small Team and Multiple Team Assaults, Method of Entry (MOE) techniques using dedicated MOE modules, VIP and Close Protection training, hostage rescue and hostage negotiation, and tactical training in large-scale partition rooms
- 25-metre indoor range for pistols and sub-machine guns; for day and night shooting
- Two 6-lane 25-metre outdoor ranges
- 600-metre outdoor gallery range, configured as 12-lanes at the 300-metre firing point and 6-lanes at the 600-metre firing position
- A live-fire single-screen PRISim judgemental training system
- A laser-fire single-screen PRISim judgemental training system with ShootBack® and simulated fanny pack pistols and MP5 weapons
- PRISim duelling system links the two simulators for real-time training in hostage rescue techniques and hostage negotiation



Indoor Shooting Range

AIS was the lead joint-venture partner in the design and construction of an indoor shooting range complex in Southeast Asia. The project was completed and commissioned in 1999.

- Project value: USD 11.5 million
- Project duration: 24 months

The customer required a modern, integrated facility to provide all-weather training for elite officers using weapons with live rounds, from pistols and rifles to general purpose machine guns. The design of the facility needed to accommodate firearms training at many levels, with officers undergoing basic law enforcement training and then progressing to advanced level tactical training and firing at very close quarters. Following a training needs analysis, AIS designed two indoor shooting ranges and a multi-storey Close Quarters Battle building.

The customer recognised the benefits of using simulation technology to create a more flexible environment for marksmanship training within the confines of the larger of the two indoor ranges. With this in mind, a live-fire simulation system capable of displaying targets at up to 300-metres was added to the requirement.

AIS and its project partner were awarded a full turnkey design and build contract incorporating all building and specialist works.

AIS specifically provided:

- all air-conditioning and building services,
- bullet protection systems and anti-ricochet finishes,
- computerised targetry equipment,
- public address and communication systems,
- safety and monitoring systems, and
- computer simulation and projection systems.

In 2012 AIS continues to provide de-leading and range cleaning of the indoor ranges and CQB building, as well as maintenance and support for the targetry equipment, safety and monitoring systems, and the live-fire simulation systems.

Indoor shooting range features

- 25-metre indoor range for pistols and sub-machine guns, with a specialised lighting system for night shooting
- 100-metre indoor range for rifles and GPMG, with a multi-lane PRISim® system capable of simulating targets at up to 300-metres
- 3-storey CQB building for practising Small Team Assaults, Method of Entry techniques, hostage rescue and hostage negotiation
- Live-fire three-screen PRISim judgemental training system and a live-fire single-screen PRISim judgemental training system
- PRISim duelling system links the two simulators for real-time training in hostage rescue techniques and hostage negotiation



Special Operations Training Centre

AIS developed a comprehensive master plan design for what would become the King Abdullah II Special Operations Training Centre in Jordan. AIS carried out a detailed needs analysis to determine the training requirements for this multi-role training facility.

- Project value: estimated USD 100 million
- Project duration: 24 months

The customer required a state-of-the-art master plan design for a live-fire urban and counter-terrorist training centre. AIS conducted training needs analysis, including detailed studies of life-cycle operation and long term maintenance.

As a key member of a world-class total solution project team, AIS validated the client's training needs and developed an integrated solution based upon three specialist training centres.

The three centres would provide training in:

- Urban Operations and Close Quarters Battle,
- maritime counter terrorism, and
- marksmanship and live-fire tactical training.

The design also provided individual components to support training for counter terrorism, internal security, peacekeeping operations, joint operations and NBC warfare.

The master plan covered all aspects of counter-terrorist training, including a large live-fire urban village, multiple outdoor ranges, CQB houses, an explosive Method of Entry (MOE) building, grenade ranges, aircraft and train mock-ups, a driver-training track, sniper training facility, and a maritime ship's side mock-up.



Counter-Terrorism Training Complex

Following a worldwide pre-selection process, AIS was awarded a fixed price turnkey contract to design and build a state-of-the-art training complex.

- Project value: USD 20 million
- Project duration: 20 months

A key requirement was the ability to train and shoot in confined spaces using 5.56mm NATO ammunition. The client provided a bare desert site with no road access, water, power or telephone, and gave AIS just twenty months to complete the project.

AIS conducted a full threat analysis, and then developed a unique tailored design including whole site modelling and models of individual facilities. Many of the requirements had never been achieved anywhere in the world at the time, necessitating unique designs with rigorous testing. The highly sensitive nature of the project required total secrecy, even from other armed forces within the country.

AIS constructed a multi-range complex with building façades, aircraft and vehicle mock-ups, a multi-purpose simulation range equipped with live-fire duelling, CQB rooms and a single-storey commando training structure.

AIS also developed, tested and built the world's first re-configurable CQB room units, designed to capture 5.56mm ball ammunition. The modular design of these CQB room units allowed them to be lifted with a crane and stacked up to three storeys high. AIS completed the project on time and within the budget.



Special Forces Facility Gulf

After a worldwide pre-selection process by the Ministry of Interior, AIS was pre-qualified as the specialist range contractor for a prestigious training centre to be built in Kuwait.

■ Project value: USD 300 million

In November 2006, AIS was awarded a USD 11 million contract to supply materials and equipment for the specialist fit-out of multiple ranges, several CQB houses and an urban training facility.

The training centre features:

- multiple outdoor ranges
- an indoor range complex
- CQB houses
- an urban training facility with building façades
- live and laser-fire simulation systems
- bulletproof partition systems
- electronic targetry systems
- video monitoring and safety systems
- an aircraft mock-up
- range management systems.

The project was completed in 2011.



747 Aircraft Mock-up

As part of a large scale Special Forces training facility for a Ministry of Interior in the Middle East, AIS was awarded a project to design, fabricate and deliver a full-scale, live-fire Boeing 747 twin-deck aircraft mock-up.

■ Project value: USD 5 million

The 747 aircraft mock-up was installed on a hydraulic jacking system within an air-conditioned indoor battle hall. The aircraft mock-up is ballistically rated to 9mm Ball ammunition and incorporates the following features:

- full scale twin-deck fuselage
- realistic door access
- anti-ricochet interior to include cockpit, first, business and economy class seating, lockers, service areas and toilets
- bullet protection systems and anti-ricochet finishes
- air-conditioning and mechanical ventilation
- safety and monitoring systems
- electronic targetry systems.

The project was completed in 2005.



Home Team Academy

The Singapore Police Force embarked on the construction of a new law enforcement training village to replace their existing Police Academy, which was built in the 1950s. The new Home Team Academy has all modern training facilities and amenities and features a comprehensive range complex complete with indoor shooting ranges, electronic targetry and judgemental simulation systems.

- Project value: USD 6 million
- Project duration: 15 months
- Project partners: Intraco Limited

The customer required a modern indoor shooting range complex that could provide training to law enforcement officers using a variety of small arms, ranging from .38 revolvers and 9mm pistols up to 5.56mm rifles. A key requirement was to provide computerised targetry systems to train officers in basic and advanced weapons handling, marksmanship and judgemental skills.

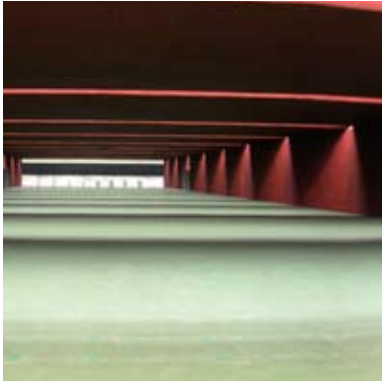
AIS, working in partnership with Intraco—a local main contractor—was appointed the specialist fit-out contractor for the indoor range complex. Work commenced in 2005, with project completion in the second quarter of 2006.

AIS provided the bullet protection systems and anti-ricochet finishes, bullet traps for both the 25-metre and 100-metre ranges, various types of targetry equipment.

In 2012 AIS continues to provide de-leading and range cleaning of all indoor ranges, as well as maintenance and support for the electronic targetry, safety, monitoring and simulation systems.

Range complex features

- 100-metre walk down range
- 100-metre range that can be configured as a 25-metre indoor range
- Three 25-metre ranges, each with 12 lanes of retrievable targets
- Two live-fire PRISim® judgemental training simulators
- A laser-fire PRISim simulation room with ShootBack®



Police Specialist Training Centre

Recognising the new opportunities provided by the British Government's Private Finance Initiative, AIS initially advised the Metropolitan Police Authority and later the operating contractor regarding the design, construction, finance and operation of the Metropolitan Police Specialist Training Centre (MPSTC) in Gravesend.

- Project value: USD 100m (PPP/PFI/lease back)
- Project duration: 24 months

The MPSTC was opened in 2003 to provide London's officers with firearms and public order training, which would help to maintain the Metropolitan Police Service's worldwide reputation as a leading law enforcement agency.

AIS provided all specialist firearms-related design, fit-out of the live-fire ranges with internal ballistic and anti-ricochet finishes, simulation and targetry equipment, and range sound systems.

In 2010, AIS was awarded a further contract to upgrade the specialist indoor shooting ranges and simulation systems.

Training centre features

- Specialist indoor and outdoor live-fire shooting ranges
- An assault house for practising Method of Entry (MOE) techniques
- An urban range with simulated road configurations and house façades
- An outdoor public order training facility with road patterns and house façades
- Train, subway and aircraft mock-ups
- Search houses
- A widescreen PRISim® simulator for live-fire judgmental training
- A single-screen laser-fire PRISim simulator with converted MP5 and Glock 17 firearms
- Classrooms with extensive IT equipment
- Accommodation for over 300 officers, and leisure facilities

The upgraded training simulators feature:

- High-definition projection systems providing widescreen images
- Additional support for standard issue firearms and less-lethal devices (Taser and OC spray)
- Export of scenario performance and debrief forms in a self-contained file for viewing on a remote PC
- Laser-based 3D virtual environments simulating indoor and outdoor ranges
- Course editor for creating bespoke training exercises



Middle East Police Force

In 2007 a Middle East Police Force appointed AIS as a specialist consultant to undertake a review of their firearms training requirements. The study, in conjunction with a survey of their existing shooting ranges, was then developed into a costed plan of recommendations for upgrading the shooting ranges to comply with international standards in range design and safety.

- Project value: Confidential
- Project duration: two phases

In the first of two phases, AIS conducted a series of interviews with end-users to determine the types of training required. AIS also carried out site surveys of four existing outdoor ranges, to determine if the current facilities met the training requirements. At the end of this phase, AIS produced a detailed report on the conditions of the four shooting ranges.

During the second phase, AIS analysed the data taken from the interviews and surveys and used it to write a report containing a list of recommendations for upgrading the existing shooting ranges. The report re-stated the client’s training objectives and design requirements, and concluded with a detailed road map for the development of future facilities to meet the end-users training needs.



Police Training Centre

In 2008 AIS was appointed as the specialist consultant to develop a police training centre for a Middle East police force. The training centre would focus on the application of scenario-based training for more than 20 end-user groups, drawn from a 30,000 strong police force.

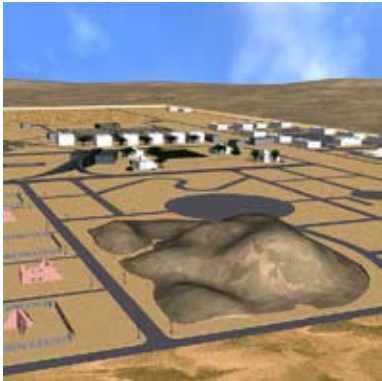
■ Project value: Confidential

AIS undertook interviews with all end-user groups, using the data it collected to form a comprehensive picture of the police force's current training needs. AIS produced a training needs review report, which described existing training practices, current levels of throughput, and the relationships between end-users. The training needs review concluded with a client brief, outlining requirements for a new training centre. This led to the development of a site master plan.

The site master plan called for an area of approximately 2-million square metres, consisting of fifteen zones, with facilities in each zone targeted towards the needs of a specific group of end-users. The site layout was arranged to maximise the number of zones where training could take place concurrently, and give end-users the opportunity to share training areas for the conduct of joint training exercises.

A key feature of the training centre is a 300 x 300-metre urban area mock-up. The urban area mock-up is divided into smaller zones, allowing up to nine concurrent training exercises to run simultaneously.

When the project is completed, the training centre will have full administration facilities and provide high-quality accommodation for up to 400 personnel.



Tactical Training Centre

The Cleveland Police Authority and Durham Police Authority decided to combine their budgetary resources to build a state-of-the-art training facility in the north east of England. The Tactical Training Centre opened in April 2000.

- Project value: USD 14.5 million
- Project duration: 12 months

The centrepiece of the Police Tactical Training Centre is a 100-metre indoor drive-in range designed for live firing. This indoor range features electronic targetry systems and an 8-lane live-fire marksmanship training simulator.

AIS supplied a separate laser-fire PRISim® simulator with integrated ShootBack® cannon for judgement and use-of-force training. For close protection training, interactive video situations can be projected on to multiple screens, allowing officers to practise their shoot/no shoot skills.

AIS provided all specialist firearms-related design, fit-out of the live-fire ranges with ballistic and anti-ricochet finishes, and all simulation training, targetry equipment and range sound systems.

In 2010 AIS upgraded the existing marksmanship training simulator to a 16-metre widescreen simulation system. The new simulator projects high-definition targets on to the screen for classification shooting. This comprehensive upgrade of the facilities included:

- Advanced shot detection system for the live-fire simulators
- Wireless control and monitoring systems
- Additional judgement training capabilities
- Use of less-lethal devices such as OC spray and Taser
- Un-tethered laser recoil weapon conversions
- Lighting and CCTV system upgrades.

Training centre features

- 8-lane 100-metre indoor range, with drive-in access for armed response vehicles
- 30-metre range with video projection system for simulating real-life scenarios
- 70-foot high abseiling tower
- Tactical House for officers to practise entering and search drills in low-light conditions or complete darkness
- Classrooms and a lecture room incorporating multi-media and computer based training



NYPD Police Academy

In April 2007 Mayor Bloomberg announced that the New York Police Department’s training academy, shooting range and driver training facility would be consolidated and moved to a new campus to be built in College Point, Queens.

■ Project value: USD 1 billion

The new Police Academy will replace the existing Manhattan facility—opened in 1964—as the current site was inadequate for the quality of training and number of personnel required for future development of firearms training, driver training, and simulated training environments.

The new facilities will support an ideal curriculum, with increased emphasis on:

- scenario-based training
- tactical training
- computer based training
- COBRA training.

The NYPD has training needs for up to 54,000 officers and civilians.

The New York City Office of Management and Budget (OMB) was mandated to provide a Value Engineering review of the new Police Academy. In support of this requirement, AIS were appointed as the specialist range consultant for the Value Engineering team, led by US Cost, with experts drawn from all relevant disciplines.

As the specialist range consultant, AIS leveraged on more than 20-years of experience in the design-and-build of shooting ranges, and on its familiarity with large urban ranges, to undertake a series of Value Engineering studies in order to identify potential improvements and cost savings in the original architectural design and layout. The choice of range configurations, range finishes and training aids was also scrutinised.

The new Police Academy will provide the NYPD with additional benefits through the consolidation of multiple training facilities into a dedicated training centre.



Modular QuickRange

As part of their continuous improvement in training provision, a Middle East Police Force identified the need for indoor shooting range facilities at various locations within their country. To meet this requirement, AIS provided the client with a series of modular Quick Range pre fabricated ranges in 2008 and 2010. The pre fabricated ranges were procured from AIS's standard range of pre fabricated container ranges manufactured by AIS in our dedicated production facility in Las Vegas, Nevada.

- Project value: Confidential
- Project duration: 2 Phases - 2008/2010

The ranges were provided with the following specifications:-

- Live Fire Prisms Suite Marksmanship and Judgemental training software
- Retrievable target systems
- Tactical configuration allowing walk down training from 25 metres to 5 metres
- Full ballistic containment for up to 5.56mm weapon types
- Extreme Climate air conditioning system with HEPA filtration for exhaust systems
- Patented vertical snail bullet trap with lead collection

Following contract award, the units were manufactured in Las Vegas and then shipped from Houston via sea freight to port. During the manufacture period, the end user presintalled foundations and arranged for permanent power to be provided to the job site. On arrival at Port, the Quick Range modules were transported to the individual job sites and installed by an AIS installation team. AIS installed each range within a period of 4 days from initial offloading to live fire acceptance by the end user.



COMPLETED PROJECTS



List of completed projects

AIS and our associate companies and partners maintain a high level of security and a strict policy of confidentiality for all clients.

In the lists below and on the following pages, we do not reveal the names of our clients nor contract values without authorisation.

Completed projects

Region / Country	Description	Ref.
Europe	Supply of 82 Laser Fire Simulation Systems with weapon recoil kits for a European Police Force.	2718
		5530
Southeast Asia	Supplied two 8-lane laser-fire simulation systems with recoil kits to a maritime Armed Force.	5710
Southeast Asia	Supplied four 8-lane laser-fire simulation systems with dry-fire weapon conversions and recoil kits to the Ministry of Public Security.	448
Middle East	VIP training centre, consisting of a CQB house, driver training track, target facades, parade square, administration buildings, a 50-metre live-fire range, PRISim® and Sky Marshal simulation systems.	436
Middle East	Detailed design of a Counter Terrorism Training Complex featuring live-fire urban built-up areas, CQB houses, indoor and outdoor ranges, live-fire aircraft mock-ups, driver training circuit, simulation systems, targetry and command and control systems.	2483
Middle East	Supplied live and laser-fire simulation systems to an International Sports Club.	1278
Middle East	Supplied three 25-metre QuickRange modular shooting ranges, equipped with live-fire simulation systems, to a Police force.	1253
Middle East	Specialist fit-out of eight 40-metre basement ranges with electronic targetry and live-fire simulation systems.	1180
USA	Provided support to a major Architectural and Engineering (A&E) consultancy, to deliver a Masterplan for a large multi-range Counter Terrorism and MOUT facility.	2296
Europe	Supplied a dual-screen live and laser-fire simulation system to a Government agency.	1117
Middle East	Design and supply of an aircraft mock-up, and the design of several indoor, outdoor and tactical shooting ranges, an urban training village and supply of simulation systems for a Special Forces unit.	

Completed projects

Region / Country	Description	Ref.
Southeast Asia	Design, supervision and specialist fit-out of the first phase of a 100-metre indoor range. The range features eight live-fire simulation systems, portable electronic target systems, a force-tracking system, specialist lighting, partitions and AAR facilities.	5185
Southeast Asia	Specialist fit-out of a multi-storey range complex within a law enforcement academy. The range complex featured two 100-metre indoor ranges, and three 25-metre indoor ranges with overhead retrievable targets. Supplied ballistic protection systems and bullet traps.	5128
UK	Supply and installation of an 8 lane, 18 metre wide panoramic Marksman live fire system, with single screen laser fire systems and professional authoring station together with design and fit-out of specialist ballistic components including traps, lighting systems and CCTV systems.	336
Middle East	Master plan and detailed design for a state-of-the-art tactical training centre. The design incorporated traditional firing ranges, live-fire and manoeuvre areas, vehicle and aircraft mock-ups, an urban assault complex, CQB house, a shipside facility, demolition ranges and a sniper range.	2174
Southeast Asia	Design and fit-out of a CQB training complex, two pistol ranges and a 600-metre gallery range. The CQB training complex featured an indoor 25-metre range with electronic targetry, a live-fire simulation range and laser-fire simulation room.	719
Southeast Asia	Supply and installation of 24 laser-fire simulation systems with over 200 weapon conversions to the Armed Forces of a Southeast Asian country.	155
UK	Design and fit-out of a £40 million Firearms and Public Order training complex for the Metropolitan Police. The training complex includes two urban ranges, aircraft, subway and train mock-ups, CQB ranges, a 50-metre drive-in range, a 600-metre outdoor range, mobile sniper tower, assault and search buildings, and two interactive video ranges.	316
Southeast Asia	Turnkey design and build of an £8 million indoor shooting range complex. The range complex featured multimedia weapons trainers and a CQB house.	997
Southeast Asia	Design, supervision and fit-out of a three-storey CQB complex with enclosed ship side mock-up, diving pool, oil rig mock-up, ship's bridge, re-configurable partition system and two live-fire simulation systems with duelling. Supplied specialist ballistic protection systems, bullet traps, electronic targetry and audio-visual equipment.	663

Completed aircraft mock-up projects

Region / Country	Description	Ref.
UK	Narrow body aircraft mock-up approximately 40 metres in length inclusive of wing studs, fully functioning doors and cockpit.	316
Middle East	Turn-key contract for the design, construction, installation and supervision of a multi-range complex inclusive of external attack mock-up buildings, and aircraft, bus and car mock-ups. The A310 Airbus aircraft mock-up includes anti-ricochet finishes, crew stations, anti-ricochet seats, functioning doors and hatches, opening lockers and simulated lighting.	061
Southeast Asia	Two-storey CQB house for external and internal attack including an elevated Airbus A320 aircraft mock-up and other specialist facilities. The aircraft mock-up includes bullet proof steel linings, anti-ricochet finishes, cockpit, crew stations, anti-ricochet seats, functioning doors and hatches, ventilation systems and a distraction sound system.	237
Southeast Asia	Design of a range complex for a Southeast Asian Armed Force on a coastal site. The range complex features land and sea assault facilities including a live-fire urban range, several CQB houses, and aircraft, ship and oil-rig mock-ups. The B747 aircraft mock-up was designed for live-fire attack.	186
Southeast Asia	Design and construction of a Close Quarters Battle facility for internal and external attack, including a large hall, helicopter mock-up and live-fire dueling facility. The facility features a wide-body mock-up of a 747/Tristar/Airbus with movable seat configurations.	280
Middle East	Design and construction of a wide-body Boeing 777/Airbus A340 aircraft mock-up for a Ministry of Interior training facility. The aircraft mock-up has a variety of aircraft door mock-ups for practising assault techniques.	1117
North America	Mock-up Boeing aircraft interior complete with two-way interactive judgement training simulator for training Air Marshals. The mock-up realistically simulates the central section of the aircraft.	NA
Middle East	Live-fire Boeing 747 aircraft mock-up within a CQB range complex. The aircraft mock-up includes real 747 doors, bullet proof steel linings, anti-ricochet finishes, crew stations, anti-ricochet seats, functioning doors, simulated lighting, distraction system, public address, video monitoring system and electronic targets.	1058

QUALITY ASSURANCE



QA Certification

AIS is registered and operates to BS5750 Part1/ISO9001/ EN29001 Quality Management Systems. The AIS QA system has evolved from established practices of companies within the AIS group and all policy and procedures are open to independent audit inspections if required. In addition our Singapore office is certified for both ISO9001 and OHSAS18001 for a range of professional and specialist works.

The nominated Quality Assurance Manager will ensure that the project is conducted in accordance with the agreed Quality Plan and will independently audit project activities and will highlight to the Project Manager any deviations from standards and controls likely to affect final quality. The Quality Manager will have a formal, independent reporting chain to the Technical Director for the project.



Achilles Accreditation



AIS hold an Achilles Building Confidence accreditation. This accreditation helps AIS in attracting new business. Achilles monitor AIS and encourage company improvements in areas such as quality and environment. With the accreditation also comes a reduction in the need to pre-qualify for a number of projects and clients along with showing corporate social responsibility.



Certificate of Accreditation

This is to certify that:

Advanced Interactive Solutions Ltd.

Achilles ID: 301340

have successfully achieved the BuildingConfidence accreditation standard, having completed an online pre-qualification questionnaire and been subject to an onsite audit.

Signed:

Handwritten signature of Richard Elliott in blue ink.

Richard Elliott
BuildingConfidence Steering Group
Chairman
British Land

Handwritten signature of Philip Foster in black ink.

Philip Foster
Director, Construction
Achilles Information Ltd

Issue Date: 04/12/2011
Expiry Date:† 06/10/2012
Certificate Number: 301340/2308

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